ICM2018

SAN FRANCISCO
JULY 15-20, 2018

21ST INTERNATIONAL CONFERENCE ON MAGNETISM

PROGRAM

MOSCONE CENTER
icm2018sf.org

AIP Publishing

IEEE MAGNETICS

IUPAP

TABLE OF CONTENTS

General Conference Information.....ii

Exhibitors, Sponsors and Supporters xii

Program-at-a-Glance xx

Monday 1

Tuesday.....74

Wednesday.....152

Thursday 188

Friday 269

Index 320

GENERAL CONFERENCE INFORMATION

SCOPE OF THE CONFERENCE

The 21st International Conference on Magnetism (ICM2018) is sponsored jointly by the International Union of Pure and Applied Physics (IUPAP), AIP Publishing, and the IEEE Magnetics Society in cooperation with the American Physical Society. ICM2018 will be run concurrently with the International Conference on Strongly Correlated Electron Systems (SCES2018). ICM2018 is a major international conference series, held every three years, most recently in Barcelona, Busan, Karlsruhe, and Kyoto, and covers both fundamental and applied research related to magnetism. The technical program will include plenary lectures, invited and contributed oral presentations, and poster sessions, with about 1800 presentations overall. This Conference provides an outstanding opportunity for worldwide participants to share their research with the largest and broadest collection of magnetism researchers assembled in one place, and to learn about the latest results.

SAN FRANCISCO, CALIFORNIA

Welcome to San Francisco, the City by the Bay! This cool northern California city truly has it all. Nightlife, arts and culture, world-class dining and shopping, historic cable cars to take you around the city, unique neighborhoods to explore, including the Mission District, Chinatown, the Presidio, Haight-Ashbury, North Beach, Nob Hill and Union Square, and a seemingly endless list of attractions to visit in and around the Bay Area. Find out more at www.sftravel.com.

All sessions will be held at the Moscone Center South, located in the urban heart of San Francisco's downtown district and just a quick walk from the San Francisco Marriott Marquis, the Conference Hotel. A block of discounted hotel rooms has been reserved at the Marriott for $224/night, with a limited umber of student rate rooms available as well. Please support our efforts to keep registration fees low by booking your room here. Discounted rates are available until June 15, 2018 at www.icm2018sf.org under "Travel Guide/ Hotel Information".

SPECIAL CONFERENCE SESSIONS

Pre-Conference Tutorials

Pre-registration is NOT required for these events.

Computational Micromagnetics with JOOMMF

Sunday, July 15 1:30 pm - 5:00 pm
Room 307/308, Level Three

Speakers: Marijan Beg, *European XFEL GmbH*

This workshop will provide a brief introduction to computational micromagnetics. We will introduce and teach the use of a Python interface to drive the OOMMF simulation package. At the beginning, we will provide a lecture style introduction, which is followed by practical exercises where attendees will have an opportunity to carry out small micromagnetic calculations, modify given examples and ask more specific questions.

Entrepreneurship Tutorial—*From Concepts to Products: Pathways to Success*

Sunday, July 15 1:30 pm - 3:00 pm
Room 104, Lobby Level

Supported in part by:

Moderator: Tom Coughlin, *Coughlin Associates*

Speakers: Han Jin, *Lucid VR*
Andrew Kent, *Spin Transfer Technologies*

Here in Silicon Valley, starting new companies is a way of life. Many software projects require minimal capital investments, but that is often not the case with hardware. So, how do you get started if you have an idea for a hardware product and how do you fund your venture and find customers? Learn from our panelists how they tackled the challenges of taking hardware products to market and what they learned along the way.

Resume Writing Tutorial—*Presenting Your Best Self to Hiring Managers in Industry, Government and Academia*

Sunday, July 15 3:30 pm - 5:00 pm
Room 104, Lobby Level

Speakers: Liesl Folks, *University of Buffalo*
Tom Thomson, *University of Manchester*

If you'd like a job at some point, it is almost a certainty that you will need to write a resume or curriculum vitae that will make a compelling case for you to be interviewed. Learn from our panelists what works and what mistakes they regularly see on resumes.

Opening Session

Monday, July 16 8:00 am - 8:30 am
Esplanade Ballroom, Upper Mezzanine Level

Chair: Kai Liu, *University of California, Davis and Georgetown University*

Welcome: Allan MacDonald, General Chair, ICM2018
University of Texas at Austin

Presentation of the 2018 IUPAP Magnetism Award and Néel Medal:

Presented by: Burkard Hillebrands, Chair, IUPAP C9 Commission, *Technische Universität Kaiserslautern*

Dr. Samuel D. Bader, *Argonne National Laboratory*

Prof. Ramamoorthy Ramesh, *University of California, Berkeley*

Prof. Kang L. Wang, *University of California, Los Angeles*

Presentation of the 2018 IUPAP Young Scientist Prize in Magnetism:

2016: **Wei Han,** *Peking University*
2017: **Luqiao Liu,** *Massachusetts Institute of Technology*
2018: **Shinichiro Seki,** *RIKEN*

Prize Talks

Monday, July 16 8:30 am - 10:00 am
Esplanade Ballroom, Upper Mezzanine Level

Chair: Burkard Hillebrands, Chair, IUPAP C9 Commission, *Technische Universität Kaiserslautern*

Dr. Samuel D. Bader, *Argonne National Laboratory*

"For outstanding and sustained experimental contributions to the field of magnetic surfaces, films, and nanostructures".

AA-01 The Marriage of Ferromagnetism and Superconductivity: A New Twist.

Prof. Ramamoorthy Ramesh, *University of California, Berkeley*

"For groundbreaking discoveries in novel multiferroic and magnetoelectric materials and their applications in future technologies".

AA-02 Electric Field Control of Magnetism

Prof. Kang L. Wang, *University of California, Los Angeles*

"For the discovery of chiral Majorana fermions and outstanding contributions to topological spintronics".

AA-03 Topology in Spintronics: Majorana, etc.

Symposia

1:30 pm - 3:00 pm
Esplanade 157, Upper Mezzanine Level

Monday **D1** Spin Currents and Magnonic Condensates in Magnetic Insulator
Chair: Oksana Chubykalo-Fesenko, *Instituto de Ciencia de Materiales de Madrid*

Tuesday **J1** Computing with Spintronic Devices
Chair: Chih-Huang Lai, *National Tsing Hua University*

Thursday **S1** New Routes and Materials Toward Quantum Criticality
Chair: Stephen Julian, *University of Toronto*

Friday **Y1** Emerging Phenomena in Van der Waals Magnets
Chair: Steven May, *Drexel University*

Plenary Sessions

11:30 am - 12:30 pm
Esplanade Ballroom, Upper Mezzanine Level

Tuesday **I1-01** Spin-Orbit Torques: Discoveries, Advances and Possibilities
Chair: Allan MacDonald, *University of Texas at Austin*
Speaker: Robert Buhrman, *Cornell University*

Wednesday **O1-01** Antiferromagnetic Spintronics
Chair: Laura Heyderman, *Paul Scherrer Institute*
Speaker: Tomas Jungwirth, *Academy of Sciences of the Czech Republic*

Thursday **R1-01** Topological Weyl Magnets: From Multipole to Room Temperature Functions
Chair: Leon Balents, *University of California at Santa Barbara*
Speaker: Satoru Nakatsuji, *The University of Tokyo*

Friday **X1-01** Hidden Magnetic Order in Multiferroics and Superconductors
Chair: Mark Stiles, *National Institute of Standards and Technology*
Speaker: Nicola Spaldin, *ETH Zurich*

Lunch with the Experts

Tuesday, July 17 and Thursday, July 19
12:30 pm - 1:30 pm
Rotunda, Upper Mezzanine Level

Students and post-doctoral researchers who have registered in advance for this event will enjoy an intimate lunch and discussion with their selected expert. This event will be held on Tuesday and Thursday in the Rotunda on the Mezzanine Level of the Moscone Center. Lunch will be served. **You must register in advance to attend this event as space is extremely limited.**

Experts:

Tuesday
James Analytis, *University of California at Berkeley*
Wei Han, *Peking University*
Jean Anne Incorvia, *University of Texas at Austin*
Natalia Perkins, *University of Minnesota*

Thursday
Paulo Freitas, *International Iberian Nanotechnology Laboratory*
Christian Ruegg, *Paul Scherrer Institut and the University of Geneva*
Suchitra Sebastian, *Cambridge University*
Yayoi Takamura, *University of California at Davis*
Roser Valenti, *University of Frankfurt*
Stephen Wilson, *University of California at Santa Barbara*

Student Presentation Award Session and Networking Reception

Thursday, July 19
6:30 pm - 8:30 pm
Esplanade 160 and Rotunda, Upper Mezzanine Level

Supported by:

Attendees are invited to attend a special session featuring the finalists for the Best Student Presentation Award, sponsored by Evico Magnetics. This competition recognizes and encourages excellence in graduate studies in the field of magnetism. There will be a US $1000 one-year fellowship for the winner and US $250 one-year fellowships for the remaining finalists. Each finalist will give a 10-minute talk, which will be evaluated by a panel of judges.

Immediately following this session, there will be a networking reception with light refreshments, and the winner of the Best Student Presentation Award will be announced at 8:00 pm. **Don't forget to come support the students!**

Co-Chair: Alexander Grutter, *National Institute of Standards and Technology*

Co-Chair: Julia Mundy, *Harvard University*

Finalists:

Jiarui Li, *Massachusetts Institute of Technology*

Y8-04 Imaging Scale-invariant Magnetic Textures in a Strongly Correlated Oxide

Alejandro Ruiz, *University of California at Berkeley*

B14-06 Hidden Ferromagnetism in the Kitaev Honeycomb Iridates

Lourdes Marcano Prieto, *Universidad del País Vasco*

L1-11 On the Magnetic Anisotropy of Co-doped Magnetosome Chains

Michael Harder, *University of Manitoba, Winnipeg*

Q2-08 Level Attraction and Synchronization in Hybridized Magnon-Photon Systems

Libor Šmejkal, *Johannes Gutenberg University*

G6-01 Classification of Topological Antiferromagnets for Spintronics

Closing Session

Friday, July 20
5:00 pm - 5:30 pm
Esplanade 152, Upper Mezzanine Level

Chair: Allan MacDonald, General Chair, ICM2018
University of Texas at Austin

SPECIAL CONFERENCE EVENTS

Welcome Reception—Neighborhoods of San Francisco

Sunday, July 15
5:00 pm - 6:30 pm
Moscone Center South Lobby

Conference attendees are invited to attend a Welcome Reception, sponsored by the IEEE Magnetics Society. This reception will be held immediately following the Tutorial Sessions at the Moscone Center in beautiful downtown San Francisco. The Moscone Center is located just a five-minute walk from the San Francisco Marriott through the blooming Yerba Buena Gardens. You will enjoy an authentic taste of the city of San Francisco, with samplings from its most famous neighborhoods such as North Beach, Chinatown and Ghirardelli Square. And of course, there will be a fantastic selection of California wines and local beers on tap. Don't miss this kickoff event—it's a great way to start your week at ICM2018.

Women in Magnetism Networking Event

Monday, July 16
6:30 pm - 8:00 pm
Rotunda, Upper Mezzanine Level

Expand your professional network! Don't miss the Women in Magnetism Networking Event, sponsored by the IEEE Magnetics Society. This is an opportunity to become acquainted with women in the profession and to discuss a range of topics including leadership, work-life balance, and professional development. All graduate students, researchers and retirees are encouraged to attend.

Banquet at the Exploratorium

Tuesday, July 17
7:00 pm - 10:00 pm
Exploratorium at Pier 15
www.exploratorium.edu

ICM2018 attendees and their guests are invited to attend a banquet event at the famed **Exploratorium** at Pier 15. This is an event not to be missed! You will have private access to all of the amazing hands-on exhibits in the Bechtel Central Gallery of the museum, heralded as an ongoing exploration of science, art and human perception. Entertainment will be provided by the daring aerialists from Earth Circus Productions. **Don't miss this exciting night on Pier 15!**

TICKET REQUIRED. This event is **NOT** included in your Conference registration or Companion Ticket. You must purchase a ticket to attend. Tickets are $100 each, and $60 for students.

Magnetism as Art Showcase

ICM2018 will host a Magnetism as Art Showcase to highlight the beauty of magnetism and magnetic materials. Selected submissions will be displayed at the Conference, and all submissions will be posted to the Conference Facebook Page. Prizes will be awarded by a panel of judges as well as by popular vote. The winners will be recognized at the Student Presentation Award Session on Thursday evening. **Don't forget to take a look at the selected submissions on display and vote for your favorite! Submit your ballot by 12:30 pm on Thursday, July 19 for the Peoples' Choice Award.**

Bierstuben

Join us Monday, Tuesday, and Thursday evenings from 5:00 pm - 6:30 pm in the Exhibit Hall for a taste of the best local beers as you network among the poster sessions and exhibits.

Coffee and Tea

Complimentary coffee and tea service will be available daily in the Moscone South Lobby and also in the Exhibit Hall.

REGISTRATION

The Registration Desk, located in the Moscone South Lobby, will be open during the following hours:

Sunday	12:00 pm - 6:30 pm
Monday	7:00 am - 6:30 pm
Tuesday	7:00 am - 6:30 pm
Wednesday	8:00 am - 12:30 pm
Thursday	8:00 am - 6:30 pm
Friday	8:00 am - 3:30 pm

Onsite Registration Rates:

Full	$830 USD
Student	$395 USD
Companion Ticket*	$225 USD

*Companion Tickets include access to the Welcome Reception, daily coffee, breaks, and Bierstuben at the Moscone Center. Companion Tickets **DO NOT** include access to the Banquet at the Exploratorium. Those tickets must be purchased separately. Banquet Tickets are $100 each, and $60 for students.

CAMERA, CELL PHONE AND VIDEO RECORDING POLICIES

By you: Recording (audio, video, still photography, etc.) of sessions is strictly prohibited whether intended for distribution, publication, copyright, or personal use. Attendees violating this policy may be asked to leave the session.

Of you: By registering for this meeting, all attendees acknowledge that they may be photographed by the ICM2018 personnel while at events, and that those photos may be used for promotional purposes, in ICM2018 publications and websites, and on social media sites.

SESSION CHAIRS

Poster and Oral Session Chairs should attend the Session Chair Breakfast at 7:15 am **on the day of their session** in Esplanade 151 on the Upper Mezzanine Level. Timer slides will be pre-loaded onto the session laptops in each oral session room, however, Session Chairs should bring their laptop as well to be used as a backup for presentations if needed.

SPEAKER REHEARSAL ROOM

Presenters may use the Speaker Rehearsal Room in Room 312 on Level 3 to practice their presentations with the provided audiovisual equipment (LCD projector and screen). This room is available Sunday at 1:00 pm until Friday at 1:00 pm.

ORAL SESSIONS

Ten simultaneous oral sessions will be held Monday through Friday.

Speakers must bring their presentation on their own laptop computer. If you cannot bring your laptop with you for any reason, you should alert your Session Chair and arrange to share your presentation by email.

In each session room there will be a multi-port switchbox so that speakers can connect their laptop during the question period of the previous speaker. Each speaker will be responsible for promptly connecting to the projector and switching to the correct input port. **The presentation timer will begin immediately after the introduction by the Session Chair. No extra time will be given in the event of technical difficulties as session timing must be strictly maintained.** Speakers are strongly encouraged to test their laptop connections and screen resolution settings in the Speaker Rehearsal Room prior to the start of the session.

If audiovisual assistance is needed during an oral session, Session Chairs should contact the audiovisual technician located in the hallway outside their session rooms. Contact information for technicians will also be available on the Session Chair's table at the front of the room.

POSTER SESSIONS

Poster sessions will be held Monday through Friday in the San Francisco Ballroom.

Poster presenters should set up their materials at least 30 minutes before their session starts and must be present at their poster for the duration of the session. Presenters must remove all of their materials promptly at the end of their session. Any poster materials not removed will be discarded.

BEST POSTER PRESENTATION AWARD

Supported by:

APS physics GMAG MAGNETISM

All posters that meet the requirements and guidelines described on the Conference website are eligible for this award. It is required that the presenting author be registered for the Conference and be present for the duration of the poster session to present details and answer questions. Nominations will be made by the Poster Session Chairs. Selections will be based on the level of the research, quality of the poster, and clarity of the presentation. The award will be given at the end of each poster session. The winning presenters will be given a commemorative prize and certificate. A ribbon will also be attached to the winning posters which will be prominently displayed for the remainder of the Conference.

PUBLICATIONS

The Conference papers will be published as special issues of *AIP Advances* in late 2018 and *IEEE Transactions on Magnetics (TMAG)* in February 2019. Entire sessions will be assigned to one of these journals by the Publication co-chairs. Invited papers will be published in the Journal to which their session is assigned by the publication co-chairs.

AIP Advances is a peer-reviewed, fully open access, multidisciplinary journal covering all areas of the physical sciences (experimental, theoretical, and applied). AIP Advances' inclusive scope and publication standards make it an excellent outlet for scientists across the physical sciences. To learn more about the journal, visit aipadvances.aip.org. All AIP Advances papers will be **open access at no additional cost to the authors.**

IEEE *Transactions on Magnetics* publishes research in science and technology related to the basic physics and engineering of magnetism, magnetic materials, applied magnetics, magnetic devices, and magnetic data storage. Conference related papers are reviewed to the same high standards as regular submissions to the journal. Details of the journal can be found by visiting http://ieeexplore.ieee.org/xpl/aboutJournal.jsp?punumber=20.

To check the status of their papers, authors should refer to the PXP submission site at http://mmm.peerx-press.org. For all other publications questions, visit the Conference Office in Room 310.

STUDENT TRAVEL SUPPORT

Travel grants are offered to a limited number of students who are presenting at the Conference. Students must apply online and the grants are used to offset travel expenses. This program is for students who have not previously received a Conference or IEEE Magnetics Society travel grant. Only one application per research group is accepted. Postdoctoral fellows and non-students are not eligible. The recipients for this Conference have already been informed about their selection.

CHILD CARE SUPPORT

Child care grants are offered to a limited number of attendees who are bringing young children to the Conference or who incur extra expenses in leaving their children at home. The recipients for this Conference have already been informed about their selection and are required to submit receipts for their reimbursable expenses.

CONFERENCE ORGANIZATION

PLANNING COMMITTEE

General Chair ..... Allan MacDonald
Secretary General ..... Liesl Folks
Co-Treasurers ..... Petru Andrei
Julie Borchers
Program Chair ..... Mark Stiles
Associate Program Chairs ..... Leon Balents,
Laura Heyderman, Hideo Ohno

Program Committee Members:

Topic 1: Strongly Correlated Electrons Systems (SCES) • Stephen Julian, Dai Aoki, Federico Becca, Silke Buehler-Paschen, Premi Chandra, Piers Coleman, Hae-Young Kee, Mireille Lavagna, Alessandra Lanzara, Yuji Matsuda, Catherine Pépin, Srinivas Raghu, Qimiao Si, Kai Sun, Joe Thompson, Ashvin Vishwanath, Fa Wang, Steffen Wirth, Huiqiu Yuan

Topic 2: Spin-Systems and Magnetic Structures • Steven May, Christian Batista, Collin Broholm, Gang Chen, Rebecca Flint, Tatiana Guidi, Kristjan Haule, Bella Lake, Philippe Mendels, Hatsumi Mori, Masaki Oshikawa, William Ratcliff, Kate Ross, Matthew Stone, Hirokazu Tsunetsugu, Roser Valenti, Andrew Wills, Stephen Wilson, Xiaoshan Xu, Igor Zaliznyak

Topic 3: Spintronics, Magnetization Dynamics, and Micromagnetics • Oksana Chubykalo-Fesenko, Antonio Azevedo, Christian Back, Vincent Baltz, Gerrit Bauer, Sug-Bong Choe, Andrii V. Chumak, Giovanni Finocchio, Pietro Gambardella, Julie Grollier, Masamitsu Hayashi, Axel Hoffmann, Andrew Kent, Alexey Kimel, Hitoshi Kubota, Xinyu Liu, Aurelien Manchon, Eduardo Martínez, Andrzej Maziewski, Hiroshi Naganuma, Junsaku Nitta, Teruo Ono, Masashi Shiraishi, Tom Silva, Yaroslav Tserkovnyak, Maxim Tsoi, Jianhua Zhao

Topic 4: Nanomagnetism • Peter Fischer, Jayasimha Atulasimha, Andris Bakuzis, Jeyadevan Balachandran, Kristen Buchanan, Everett Carpenter, Jose de la Venta, Haifeng Ding, Cindi Dennis, Hans Fangohr, Amalio Fernandez Pacheco, Ioanna Giouroudi, Gerardo Goya, Mitsuteru Inoue, David Lederman, Vitaliy Lomakin, Ferran Macià, Chris Marrows, Stéphane Mangin, Martina Müller, Volker Neu, Vivian Ng, Charudatta Phatak, Francesco Pineider, Dirk Sander, Ivan Schuller, Walther Schwarzacher, Ralph Skomski, Robert Stamps, Tom Thomson, Dan Wei, Jürgen Weizenecker, Yizheng Wu

Topic 5: Magnetic Materials and Technologies • Chih-Huang Lai, Elke Arenholz, Eric Fullerton, Donald Gardner, Oliver Gutfleisch, Ravi Hadimani, Atsufumi Hirohata, Kyung-Jin Lee, Yossi Paltiel, Valerie Pierre, Stefania Pizzini, Philip Pong, Bethanie Stadler, Thomas Schrefl, Nian X. Sun, Rie Y. Umetsu, Zhidong Zhang

Publication Co-Chairs ..... Hari Srikanth
and Thomas Thomson
Publications Editors ..... Eun Ah Kim, Chris Binek,
Alina Deac, Nicola Morley,
Mike Osofsky, Davide Peddis,
Monserrat Rivas, Ken-ichi
Uchida, Thomas Woodcock
Industry Liaison ..... Tiffany Santos
Publicity Chair ..... Philip Pong
Best Student Presentation
Awards Co-Chairs ..... Alexander Grutter
and Julia Mundy
Best Poster Presentation
Awards Chair ..... Barry Zink
Student Travel/Child Care
Grant Awards Chair ..... Barry Zink
Magnetism as Art Showcase Chair ... Yayoi Takamura
Conference Manager ..... Molly Bartkowski
Abstracts/Publications Manager ..... Regina Mohr
Exhibits Manager ..... Jennifer Fiske

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IEEE Magnetics Society ..... Rudolf Schäfer
IUPAP ..... Burkard Hillebrands

#ICM2018

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Like our Facebook page
www.facebook.com/ICMConf

ADDITIONAL INFORMATION

To join our mailing list, visit www.icm2018sf.org or contact info@icm2018sf.org.

EXHIBITORS *(As of June 1, 2018)*

An exhibition of magnetism-related services, equipment, materials, and software will be held at the Moscone Center:

Monday	10:00 am - 11:30 am 1:30 pm - 6:30 pm
Tuesday	10:00 am - 11:30 am 1:30 pm - 6:30 pm
Wednesday	10:00 am - 11:30 am
Thursday	10:00 am - 11:30 am 1:30 pm - 6:30 pm

APS physics PHYSICAL REVIEW JOURNALS

Booth 19

The American Physical Society (APS) is a nonprofit membership organization that publishes the Physical Review journals, the world's most widely read physics research and review journals. Throughout 2018, APS is celebrating the 125th anniversary of the Physical Review journals. Please stop by our booth in the exhibit hall to learn more about the prestigious collection of journals.

Contact: Kenneth Newberry
Email: Newberry@aps.org
Website: www.aps.org

attocube WITTENSTEIN Group

Booth 1

attocube is the technology leader for cryogenic measurement instrumentation, including low vibration closed-cycle cryostats, a cryo-optical table and various low temperature & high magnetic field compatible measurement inserts, allowing for research techniques such as AFM, MFM, SHPM, confocal & RAMAN microscopy. In cooperation with SPECS Zurich, attocube now offers a powerful all-in-one solution for transport measurements. The software integration of the dry cryostat attoDRY2100, a 3D sample rotator and a powerful measurement electronic (Nanonis Tramea™) combines generic, yet automatable measurement routines with unprecedented speed and signal quality. Nano-precise piezo positioning stages and laser displacement sensors with picometer resolution complete attocube's portfolio.

Contact: Johanna Kelkile
Email: info@attocube.com
Website: www.attocube.com

CAMBRIDGE UNIVERSITY PRESS

Booth 11

Cambridge University Press's publishing in books and journals combines state-of-the-art content with the highest standards of scholarship, writing and production. Visit our stand to browse new titles, available at a 20% discount, and to pick up sample copies of our journals.

Contact: Kamini Ramphal
Email: kramphal@cambridge.org
Website: www.cambridge.org/academic

ELSEVIER

Booth 20

Elsevier is a world-leading provider of information solutions designed to enhance the performance of science and technology professionals. Amongst the almost 2,960 journals (most of which offer open access options) and 48,300 book titles we publish, no fewer than 100 journals are in Physics or a related field. Visit us at the Elsevier booth and meet our publisher to ask any questions you may have about submitting research to our journals. In addition, learn more about our author services, open access options and content innovation.

Contact: Kinga Rietveld
Email: k.rietveld@elsevier.com
Website: www.elsevier.com/physics

HINDS™ INSTRUMENTS

Booth 3

Hinds Instruments' products for Magneto Optic Kerr Effect (MOKE) experiments are the Hysteresis Looper and MOKE kits. The Hysteresis Looper allows the user to plot hysteresis loops and determine coercivity values within the magnetic field range of 0 to 2400 Gauss. The MOKE kit options include photo detectors, lock-in amplifiers, and photoelastic modulators (PEMS) that allow experimenters to build their own MOKE system. A Polar orientation module is available for those working with ultra low-temperature environments. With all options the robustness and convenience of Hinds PEM technology allows sensitive detection of magneto-optic signals produced by thin magnetic films.

Contact: Connie Wimmer
Email: sales@hindsinstruments.com
Website: www.hindsinstruments.com

IOP Publishing

Booth 6

IOP Publishing is a society-owned scientific publisher, providing impact, recognition and value for the scientific community. Wholly owned by the UK Institute of Physics, we work closely with researchers, academics, and partners worldwide to produce academic journals, ebooks, conference series, and digital products, covering the latest and best research in the physical sciences and beyond.

Contact: Lisa Searle
Email: lisa.searle@iop.org
Website: www.iop.org

Lake Shore Cryotronics

Booth 4

A leading innovator in solutions for measuring materials under controlled magnetic field and temperature conditions, Lake Shore offers electromagnet-based VSMs for characterizing magnetic properties over a 4.2 K to 1273 K temperature range and fields to 3.42 T. Among these: the award-winning 8600 Series VSM, which combines high sensitivity (15 nemu), measurement speed (10 ms/pt), and simple operation in a system capable of characterizing a broad range of materials with unprecedented ease. Also available: magnetic test and measurement instruments, including teslameters/gaussmeters, and cryogenic probe stations with integrated vertical and horizontal field magnets for on-wafer magneto-transport, DC, RF, or microwave measurements.

Contact: Brad Dodrill
Email: sales@lakeshore.com
Website: www.lakeshore.com

Kurt J. Lesker Company

Booth 2

A fully integrated manufacturer of thin film deposition systems, vacuum components and materials. Our new High-Power IMPULSE™ Magnetron (HiPIM's) power supply and TORUS® Mag Keeper magnetron combination delivers films with better adhesion, improved grain structure and fewer defects than conventional sputtering. This advanced cathode is also available in an ultra-high vacuum version. Lesker's thin film deposition systems include the improved Pro-Line PVD 75, enhanced for flexibility of layout, deposition, operation and expansion. Our eKLipse™ control software makes recipe development and execution easy. Materials for research include: Co, Fe, Ir, Ni, Pt; and alloys and oxides such as Permalloy, $BiFeO_3$, YIG, FeCoMn, MoS_2, Fe_3O_4, and LaSrMnO.

Contact: Bill Zinn
Email: billz@lesker.com
Website: www.lesker.com

MicroSense

Booth 12

MicroSense is a leading manufacturer of magnetic measurement systems for both research and production quality control. MicroSense VSM have the highest Signal to Noise Ratio (SNR) and the highest magnetic field in the smallest footprint of any horizontal field VSM and the largest number of available options including MOKE, FMR, MR, Torque etc. MicroSense also offers a range of non-contact, in-line (full wafer or disk) research and production magnetic metrology systems for in-plane and perpendicular MRAM, hard disk and recording head process control. MicroSense was the first to introduce a 300 mm ready non-contact magnetic property measurement tool for MRAM.

Contact: Erik Samwel
Email: esamwel@microsense.net
Website: www.microsense.net

MTI KJ Group

Booth 5

MTI Corporation has been providing a total solution for materials research labs since 1995. MTI supplies ceramic, crystal, metallic substrates from A-Z and Nano-powder. MTI also provides laboratory R&D equipment including alloy melting, casting, annealing, sectioning, polishing, mixing machines, high temperature muffle and tube furnaces, pressing machines, film coaters, high vacuum systems, high pressure furnaces, RTP furnaces, hydrogen furnaces, as well as compact XRD/XRF for Metallographic analysis and the Amorphous Metallic Material Research Equipment.

Contact: Andy Huang
Email: andy@mtixtl.com
Website: www.mtixtl.com

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nanoscan

Booth 8

NanoScan is a member of the IonTof group of companies. We are specialized in high-vacuum Scanning Probe Microscopes and our flagship microscope, the VLS-80, offers a high-end standalone solution for high-vacuum SPM. It runs all SPM modes of imaging and is equipped with two phase-locked loops to enable dual frequency modes. Magnetic imaging is a key strength of the VLS-80, with 550 mT out-of-plane, 200 mT in-plane magnetic field options and 10-nm lateral resolution guaranteed; an industry best. The large stage offers excellent positioning repeatability over the complete range of 100mm x 100mm.

Contact: Marco Corbetta
Email: m.corbetta@nanoscan.ch
Website: www.nanoscan.ch

OXFORD INSTRUMENTS

The Business of Science®

Booth 10

Oxford Instruments NanoScience designs, supplies and supports market-leading research tools that enable quantum technologies, new materials and device development in the physical sciences. Our tools support research down to the atomic scale through creation of high performance, cryogen free low temperature and magnetic environments, based upon our core technologies in low and ultra-low temperatures, high magnetic fields and system integration, with ever-increasing levels of experimental and measurement readiness. Oxford Instruments NanoScience is a part of the Oxford Instruments plc group.

Contact: Phil Pickering
Email: phil.pickering@oxinst.com
Website: www.oxinst.com

OXFORD UNIVERSITY PRESS

Booth 18

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Contact: Xavier McCutcheon
Email: gab.exhibitions.us@oup.com
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Quantum Design International

Booth 16

Quantum Design manufactures automated material characterization systems providing temperatures from 0.05 to 1000 K, magnetic fields up to 16 tesla, and a wide range of measurements, including: magnetometry, electrical transport, heat capacity, thermal transport, Raman spectroscopy, FMR and SPM. Instruments include the the Physical Property Measurement System (PPMS®), SQUID-based Magnetic Property Measurement System (MPMS®3), VersaLab, and PPMS DynaCool. In addition, Quantum Design manufactures helium liquifiers (ATL80, ATL160) recovery systems, and recently introduced an innovative 7 tesla magneto-optical cryostat (OptiCool™). They also distribute direct write and nano-lithography systems, NanoMOKE, FMR spectrometers, and single crystal furnaces.

Contact: Melissa Figueroa
Email: Melissa@qdusa.com
Website: www.qdusa.com

Western Digital.

Booth 13

Western Digital is the leader in high capacity hard disk drives for data centers and the inventor of helium sealed HDD technology with more than 27 million units shipped. Western Digital creates environments for data to thrive. The company is driving the innovation needed to help customers capture, preserve, access and transform an ever-increasing diversity of data. Everywhere data lives, from advanced data centers to mobile sensors to personal devices, our industry-leading solutions deliver the possibilities of data. Western Digital® data-centric solutions are marketed under the G-Technology™, HGST, SanDisk®, Tegile™, Upthere™, and WD® brands.

Contact: Lenny Sharp
Email: lenny.sharp@wdc.com
Website: www.wdc.com

CONFERENCE SUPPORTERS

Best Student Presentation Awards

evicomagnetics

The evico magnetics GmbH was founded in 2006 as a spin-off of the Leibniz Institut for Solid State and Materials Research (IFW) Dresden. The main products are: (i) Advanced magneto-optical wide-field Kerr microscope systems for the visualization of magnetic domains and magnetization processes in all kinds of magnetic materials. The Kerr microscopes also serve as magneto-optical magnetometers for the sensitive and local measurement of hysteresis loops by MOKE magnetometry. (ii) High Pressure Milling Vials with a gas temperature monitoring system for the synthesis of magnetic powders and hydrogen storage materials.

Contact: Rudolf Schaefer
Email: r.schaefer@evico-magnetics.de
Website: www.evico-magnetics.de

Best Poster Awards

APS physics GMAG MAGNETISM

The American Physical Society (APS) Topical Group on Magnetism and its Applications, or GMAG, represents one of the fastest-growing scientific sectors of the APS. Membership in GMAG—an annual investment of only $10 for APS members—not only helps you keep up with the fast-paced field of Magnetism but also provides the following features: A convenient way to connect with other members of the magnetism community; the GMAG Newsletter, distributed biannually; and the opportunity to shape the GMAG-sponsored sessions and symposia at the March Meeting, 80 sessions in all for 2016. The Magnetism sorting category received 921 abstracts, which is ~10% of all the abstracts submitted.

Contact: Chris Leighton
Email: leighton@umn.edu
Website: www.aps.org/units/gmag

General Conference Support

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The School of Engineering and Applied Sciences at the University at Buffalo tackles fundamental research and pioneers new technologies that address tough challenges faced by society. Ranked among the top engineering schools in the nation by *U.S. News & World Report*, we provide an inclusive environment that supports big thinking, creative freedom, and vast possibilities for impact for our faculty, students and alumni.

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IEEE MAGNETICS

www.ieeemagnetics.org/

The IEEE Magnetics Society is the leading international professional organization for magnetism and related professionals throughout the world. The IEEE Magnetics Society promotes the advancement of science, technology, applications and training in magnetism. It fosters presentation and exchange of information among its members and within the global technical community, including education and training of young engineers and scientists. It seeks to nurture positive interactions between all national and regional societies acting in the field of magnetism.

IUPAP

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The International Union of Pure and Applied Physics (IUPAP) was founded in 1922 with the mission to assist in the worldwide development of physics, foster international cooperation in physics, and help in the application of physics toward solving problems of concern to humanity. The Commission on Magnetism (C9) was established by IUPAP in 1957 to promote the exchange of information and views among the members of the international scientific community in the general field of Magnetism. The Commission facilitates the organization of the International Conference on Magnetism (ICM), organizes awards to recognize outstanding scientists, and promotes free circulation of scientists, among other activities.

CONFERENCE PROGRAM-AT-A-GLANCE

SUNDAY, JULY 15, 2018

1:30 pm - 5:00 pm

WS	Workshop: Computational Micromagnetics with JOOMMF	*Room 307/308*

1:30 pm - 3:00 pm

T1	Entrepreneurship Tutorial	*Room 104*

3:30 pm - 5:00 pm

T2	Resume Writing Tutorial	*Room 104*

MONDAY, JULY 16, 2018

8:00 am - 10:00 am

AA	Néel Medal Award, IUPAP Young Scientists Awards, & Prize Talks	*Esplanade Ballroom*

10:00 am - 11:30 am • Poster Sessions *San Francisco Ballroom*

B1	Antiferromagnetic Spintronics I
B2	Biomedical and Non-Biomedical Applications I
B3	CPP-GMR and Magnetic Tunnel Junctions I
B4	Spin Caloritronics I
B5	Low Temperature Measurements and Modelling
B6	Magnetic Device for Information Storage and Processing
B7	Magnetophotonics and Magnetoplasmonics I
B8	Magnon Waveguides and Devices I
B9	Materials for Energy Applications I
B10	Molecular Magnetism I
B11	Theory of Strongly Correlated Electron Systems I
B12	Quantum Spin Liquids I
B13	Rare Earth Free Permanent Magnets I
B14	Frustrated Magnetism, Including Dimers, Kitaev Models, and Shastry-Sutherland and Honeycomb Lattices
B15	Ordered Phases in SCES 1: Mostly Magnetism
B16	Topological SCES I: Magnetic Systems

11:30 am - 12:30 pm • Oral Sessions

C1	Electric Field Effects on Magnetic Systems	*Esplanade 157*
C2	Molecular Magnetism II	*Esplanade 158*
C3	Magnetic Recording	*Esplanade 159*
C4	Domain Wall Dynamics I	*Esplanade 160*
C5	Functional Materials	*Esplanade 152*
C6	Diagnostic Biomedical Applications of MNPs	*Room 105*
C7	Advanced Synthesis of Magnetic Thin Films and Multilayers I	*Room 104*
C8	Ultrafast Spectroscopy of Strongly Correlated Systems	*Room 306*
C9	New Developments in Strongly Correlated Electron Systems I	*Room 307/308*
C10	Quantum Spin Liquids II: Theory and Applications to Materials	*Room 313/314*

1:30 pm - 3:00 pm • Oral Sessions

D1	Spin Currents and Magnonic Condensates in Magnetic Insulators	*Esplanade 157*
D2	Magnetic Skyrmions and Spin Textures	*Esplanade 158*
D3	Magnetic Molecules and Organics for Bio-applications of Magnetism	*Esplanade 159*
D4	Spin Ices and Magnetic Nanoparticles I	*Esplanade 160*
D5	Rare Earth Free Permanent Magnets II	*Esplanade 152*
D6	Magnetic Semiconductors I	*Room 105*
D7	Tunnel Junctions and Spin-Torque Nano-Oscillators	*Room 104*
D8	Unconventional Superconductivity of Sr_2RuO_4	*Room 306*
D9	Electronic Structure of Heavy Fermion Systems; Properties of URu_2Si_2	*Room 307/308*
D10	Anisotropic Spin-1/2 Chains	*Room 313/314*

3:30 pm - 5:00 pm • Oral Sessions

E1	Spin-charge Conversion and Spin-orbit Torque I	*Esplanade 157*
E2	Heterostructrues and Spin-based Devices	*Esplanade 158*
E3	Imaging Magnetic Textures I	*Esplanade 159*
E4	Magnon Waveguides and Devices II	*Esplanade 160*
E5	Magnetocaloric Materials I	*Esplanade 152*
E6	Therapeutic Biomedical Applications of MNPs	*Room 105*
E7	Magnetophotonics and Magnetoplasmonics II	*Room 104*
E8	Theory of Strongly Correlated Electron Systems II	*Room 306*
E9	Quantum Critical Phenomena	*Room 307/308*
E10	B-spinels, Kagome and Triangular Related Lattices	*Room 313/314*

5:00 pm - 6:30 pm • Poster Sessions *San Francisco Ballroom*

F1	Antiferromagnetic Spintronics II
F2	Biomedical and Non-Biomedical Applications II
F3	Heavy Fermions I: Heavy Fermions and Other Novel Phases
F4	Magnetic Imaging and Associated Techniques
F5	Magnetic Semiconductors II
F6	Magnetic Tunnel Junctions I
F7	Magnetocaloric and Frustrated Systems
F8	Magnetocaloric Materials II
F9	Quasi 1D Magnetism
F10	Soft Magnetic Materials and Magnetic Shielding I
F11	Spin Ices and Magnetic Nanoparticles II
F12	Spin Structures and Transport Properties I
F13	Spin-charge Conversion and Spin-orbit Torque II
F14	Superconducting SCES I: Topological Superconductors
F15	Topological SCES II: Theory

TUESDAY, JULY 17, 2018

8:30 am - 10:00 am • Oral Sessions

G1	Magnon Transduction	*Esplanade 157*
G2	Multiferroic Magneto-optics	*Esplanade 158*
G3	Soft Magnetic Materials and Magnetic Shielding II	*Esplanade 159*
G4	Advances with Nanoparticles I	*Esplanade 160*
G5	Magnetocaloric Materials III	*Esplanade 152*
G6	Antiferromagnetic Spintronics: Theory	*Room 105*
G7	Electric Field Control of Magnetic Systems	*Room 104*
G8	Quantum Spin Liquids III	*Room 306*
G9	Superconductivity in Ferromagnetic Heavy Fermion Systems	*Room 307/308*
G10	Spin-1 Chains and Frustrated Spin-1/2 Chains	*Room 313/314*

10:00 am - 11:30 am • Poster Sessions — *San Francisco Ballroom*

H1	Advances with Nanoparticles II
H2	Anisotropy in Magnetic Thin Films
H3	Frustrated 1D Magnets, Spin-ladders and S=1 Chains
H4	Hard Magnetic Films
H5	Heavy Fermions II: Ferromagnetic and Metamagnetic Systems
H6	Magnetocaloric Materials IV
H7	Ordered Phases in SCES II: Magnetism and Other
H8	Quantum Spin Liquids IV
H9	Soft Magnetic Materials and Magnetic Shielding III
H10	Spin Magnetoresistance I
H11	Spin-charge Conversion and Spin-orbit Torque III
H12	Spin-orbit, Kondo & Heavy Fermion Magnetism
H13	Superconducting SCES II: Heavy Fermion Superconductors
H14	Superconducting SCES III: Novel Materials
H15	Theory and Simulation of Magnetic Systems I
H16	Ultrafast Magnetism and THz Spintronics I

11:30 am - 12:30 pm

I1	Plenary I: Spin-Orbit Torques: Discoveries, Advances and Possibilities	*Esplanade Ballroom*

1:30 pm - 3:00 pm • Oral Sessions

J1	Computing with Spintronic Devices	*Esplanade 157*
J2	Molecular Magnetism III	*Esplanade 158*
J3	Quantum Spin Liquids VI: Kagome and Triangular Systems	*Esplanade 159*
J4	Advances with Nanoparticles III	*Esplanade 160*
J5	Magnetocaloric Materials V	*Esplanade 152*
J6	Vortex and Skyrmion Dynamics I	*Room 105*
J7	Semiconductor and Organic Spintronics I	*Room 104*
J8	Heavy Fermions III: Novel Results from High Field Measurement	*Room 306*
J9	Superconductivity and Quantum Criticality	*Room 307/308*
J10	Quantum Spin Liquids V: Kitaev Spin Liquids	*Room 313/314*

3:30 pm - 5:00 pm • Oral Sessions

K1	Spin Pumping	*Esplanade 157*
K2	Thin Films, Surfaces and Heterostructures	*Esplanade 158*
K3	Imaging Magnetic Textures II	*Esplanade 159*
K4	Magnetoresistance and Hall Effects	*Esplanade 160*
K5	Materials for Energy Applications II	*Esplanade 152*
K6	Spin Ices and Magnetic Nanoparticles III	*Room 105*
K7	Theory and Modelling of Nanomagnets I	*Room 104*
K8	Topological Semimetals in Kondo Systems	*Room 306*
K9	Superconductivity in 115's and Other Heavy Fermion Systems	*Room 307/308*
K10	Dimers in Frustrated Magnets: Shastry-Sutherland Lattices and Beyond	*Room 313/314*

5:00 pm - 6:30 pm • Poster Sessions — *San Francisco Ballroom*

L1	Advances with Nanoparticles IV
L2	Anisotropy Engineering of Magnetic Thin Films and Multilayers I
L3	Bulk Device Measurements and Designs
L4	Chirality, Criticality and Other Features
L5	Heavy Fermions IV: Novel Materials
L6	Magnetic Semiconductors III
L7	Magnetocaloric Materials VI
L8	Magnon Spintronics and Condensates
L9	Spin-Torque Nano-Oscillators
L10	Quantum Spin Liquids VII
L11	Skyrmions I
L12	Spin Structures and Transport Properties II
L13	New Magnetic Materials I
L14	Superconducting SCES IV: Novel Materials
L15	Topological SCES III: TM Pnictides and Chalcogenides
L16	Two Dimensional Frustrated Lattices

WEDNESDAY, JULY 18, 2018

8:30 am - 10:00 am • Oral Sessions

M1	Spin Diffusion and Relaxation	*Esplanade 157*
M2	Functional Multiferroics I	*Esplanade 158*
M3	New Sensors and New Probes	*Esplanade 159*
M4	Magnetic Configuration and Application of Nanowires and Nanotubes	*Esplanade 160*
M5	Rare Earth Transition Metal Permanent Magnets I	*Esplanade 152*
M6	Domain Wall Dynamics II	*Room 105*
M7	Spin Caloritronics II	*Room 104*
M8	Mott Insulator-to-metal Transition	*Room 306*
M9	Unconventional Superconductors	*Room 307/308*
M10	Pyrochlores and Magnetic Fragmentation	*Room 313/314*

WEDNESDAY, JULY 18, 2018 *(Continued)*

10:00 am - 11:30 am • Poster Sessions *San Francisco Ballroom*

N1	Cylindrical Nanostructures: Properties and Applications
N2	Electric Field Effects and Magnetic Switching I
N3	Kondo Insulators, Kondo Semimetals, Doped Graphene
N4	Magnon Bandstructure Engineering
N5	New Magnetic Materials II
N6	Quantum and Low-Dimensional Magnetism I
N7	Quantum Critical SCES I: Oxides, Thin Films, Mott Transition
N8	Rare Earth Transition Metal Permanent Magnets II
N9	Soft Magnetic Materials and Magnetic Shielding IV
N10	Spin Magnetoresistance II
N11	Superconducting SCES V: Heavy Fermion Superconductors II
N12	Theory and Modelling of Nanostructures II
N13	Theory and Simulation of Magnetic Systems II
N14	Thin Film and Hybrid Nanostructures I
N15	Three Dimensional Frustrated Lattices
N16	Topological SCES IV: TM Pnictides, Chalcogenides and Related
N17	Ultrafast Magnetism and THz Spintronics II

11:30 am - 12:30 pm

O1	Plenary II: Antiferromagnetic Spintronics	*Esplanade Ballroom*

THURSDAY, JULY 19, 2018

8:30 am - 10:00 am • Oral Sessions

P1	Skyrmions II: Thin Films	*Esplanade 157*
P2	Functional Multiferroics II	*Esplanade 158*
P3	Soft Magnetic Materials and Magnetic Shielding V	*Esplanade 159*
P4	Spin-charge Conversion and Spin-orbit Torque IV	*Esplanade 160*
P5	Rare Earth Transition Metal Permanent Magnets III	*Esplanade 152*
P6	Exchange Bias and Exchange Springs I	*Room 105*
P7	Surface and Interface Effects I	*Room 104*
P8	Frustration and Quantum Phase Transitions in Heavy Fermions and Beyond	*Room 306*
P9	Topological Insulators in Strongly Correlated Matter	*Room 307/308*
P10	Frustrated Magnetism	*Room 313/314*

10:00 am - 11:30 am • Poster Sessions *San Francisco Ballroom*

Q1	Domain Wall Dynamics III
Q2	Ferromagnetic Resonance and Magnon Hybridization
Q3	Itinerant Magnetism I
Q4	Magnetoelastic and Magnetomechanical I
Q5	Multiferroics I
Q6	New Developments in SCES: Materials
Q7	New Magnetic Materials III
Q8	Novel Applications of Magnetic Thin Films and Multilayers I
Q9	Permanent Magnets in the $ThMn_{12}$ Structure
Q10	Quantum Critical SCES II: Other Systems
Q11	Soft Magnetic Materials and Magnetic Shielding VI
Q12	Spin Structures and Transport Properties III
Q13	Spin-charge Conversion and Spin-orbit Torque V
Q14	Surface and Interface Effects II
Q15	Theory and Modelling of Nanostructures III
Q16	Topological SCES V: Topological Kondo Systems

11:30 am - 12:30 pm

R1	Plenary III: Topological Weyl Magnets: From Multipole to Room Temperature Functions	*Esplanade Ballroom*

1:30 pm - 3:00 pm • Oral Sessions

S1	New Routes and Materials Toward Quantum Criticality	*Esplanade 157*
S2	Multiferroic and Functional Materials I	*Esplanade 158*
S3	New Magnetic Materials IV	*Esplanade 159*
S4	Anisotropy Engineering of Magnetic Thin Films and Multilayers II	*Esplanade 160*
S5	Magnetoelastic and Magnetomechanical II	*Esplanade 152*
S6	Domain Wall Dynamics IV	*Room 105*
S7	Ultrafast Magnetism and THz Spintronics III	*Room 104*
S8	Non-centro-symmetric Superconductors	*Room 306*
S9	Topological States in Transition Metal and Organic Systems	*Room 307/308*
S10	Theory and Simulation of Magnetic Systems III	*Room 313/314*

3:30 pm - 5:00 pm • Oral Sessions

T1	Magnon Waveguides and Devices III	*Esplanade 157*
T2	Anomalous Hall Effect and Itinerant Magnets	*Esplanade 158*
T3	New Instruments and New Techniques	*Esplanade 159*
T4	Topological Insulators and Spin-magnetoresistance	*Esplanade 160*
T5	New Magnetic Materials V	*Esplanade 152*
T6	Novel Applications of Magnetic Thin Films and Multilayers II	*Room 105*
T7	Surface and Interface Effects III	*Room 104*
T8	Iron Superconductors: Nematicity and Superconductivity	*Room 306*
T9	Heavy Fermions V: Experiment and Theory	*Room 307/308*
T10	Magnetism of 4d/5d and Spin-Orbital Systems	*Room 313/314*

5:00 pm - 6:30 pm • Poster Sessions *San Francisco Ballroom*

U1	Domain Wall Dynamics V
U2	Electric Field Effects and Magnetic Switching II
U3	Exchange Bias and Exchange Springs II
U4	Surface and Interface Effects IV
U5	Magnetic Tunnel Junctions II
U6	Magnetoelastic and Magnetomechanical III
U7	Multiferroic and Functional Materials II

THURSDAY, JULY 19, 2018 *(Continued)*

5:00 pm - 6:30 pm • Poster Sessions — *San Francisco Ballroom*

U8 Multiferroics II

U9 Novel Applications of Magnetic Thin Films and Multilayers III

U10 New Magnetic Measurement Methods

U11 Multipolar SCES 1: 1-2-20 Materials

U12 Quantum Critical SCES III: Heavy fermion and TM compounds

U13 Superconducting SCES VI: FeSe and Other Iron-based Superconductors

U14 Heavy Fermions VI: Theory and Experiment

U15 Thin Films, Nano- & Heterostructures

U16 Vortex and Skyrmion Dynamics II

FRIDAY, JULY 20, 2018

8:30 am - 10:00 am • Oral Sessions

V1 CPP-GMR and Magnetic Tunnel Junctions II — *Esplanade 157*

V2 Novel Multiferroics — *Esplanade 158*

V3 MRAM — *Esplanade 159*

V4 Thin Film and Hybrid Nanostructures II — *Esplanade 160*

V5 New Magnetic Materials VI — *Esplanade 152*

V6 Magnetic Semiconductors IV — *Room 105*

V7 Ultrafast Magnetism and THz Spintronics IV — *Room 104*

V8 Non-equilibrium Phenomena in Strongly Correlated Systems — *Room 306*

V9 Stripes, Magnetism, and High Temperature Superconductivity — *Room 307/308*

V10 Quantum and Low-Dimensional Magnetism II — *Room 313/314*

10:00 am - 11:30 am • Poster Sessions — *San Francisco Ballroom*

W1 3D Printing and Applications of Permanent Magnets

W2 Advanced Synthesis of Magnetic Thin Films and Multilayers II

W3 Exchange Bias and Exchange Springs III

W4 Magnetic Structures and Magnetic Phase Diagrams

W5 Multiferroics III

W6 Multipolar SCES 2: Other Materials, Mostly Heavy Fermion

W7 Non-equilibrium Strongly Correlated Electron Systems

W8 Semiconductor and Organic Spintronics II

W9 Skyrmions III

W10 Soft Magnetic Materials and Magnetic Shielding VII

W11 Spin Structures and Transport Properties IV

W12 Spin Transport, Relaxation and Diffusion

W13 Superconducting SCES VII: Cuprates

W14 Superconducting SCES VIII: 122 Iron-based Superconductors

W15 Surface and Interface Effects V

11:30 am - 12:30 pm

X1 Plenary IV: Hidden Magnetic Order in Multiferroics and Superconductors — *Esplanade Ballroom*

1:30 pm - 3:00 pm • Oral Sessions

Y1 Emerging Phenomena in Van der Waals Magnets — *Esplanade 157*

Y2 Theory and Simulation of Magnetic Systems IV — *Esplanade 158*

Y4 Thin Film and Hybrid Nanostructures III — *Esplanade 160*

Y5 First Principle Simulation of Hard Magnetic Properties — *Esplanade 152*

Y6 Antiferromagnetic Spintronics: Experiment — *Room 105*

Y7 Voltage Controlled Magnetic Dynamics — *Room 104*

Y8 New Developments in Strongly Correlated Electron Systems II — *Room 306*

Y9 Heavy Fermions VII: Multipolar Materials — *Room 307/308*

Y10 Magnetism and Topological Phases — *Room 313/314*

3:30 pm - 5:00 pm • Oral Sessions

Z1 Skyrmions IV: Bulk Materials — *Esplanade 157*

Z2 Novel Magnetic Structures and Materials — *Esplanade 158*

Z4 Spin-charge Conversion and Spin-orbit Torque VI — *Esplanade 160*

Z5 New Magnetic Materials VII — *Esplanade 152*

Z6 Exchange Bias and Exchange Springs IV — *Room 105*

Z7 Surface and Interface Effects VI — *Room 104*

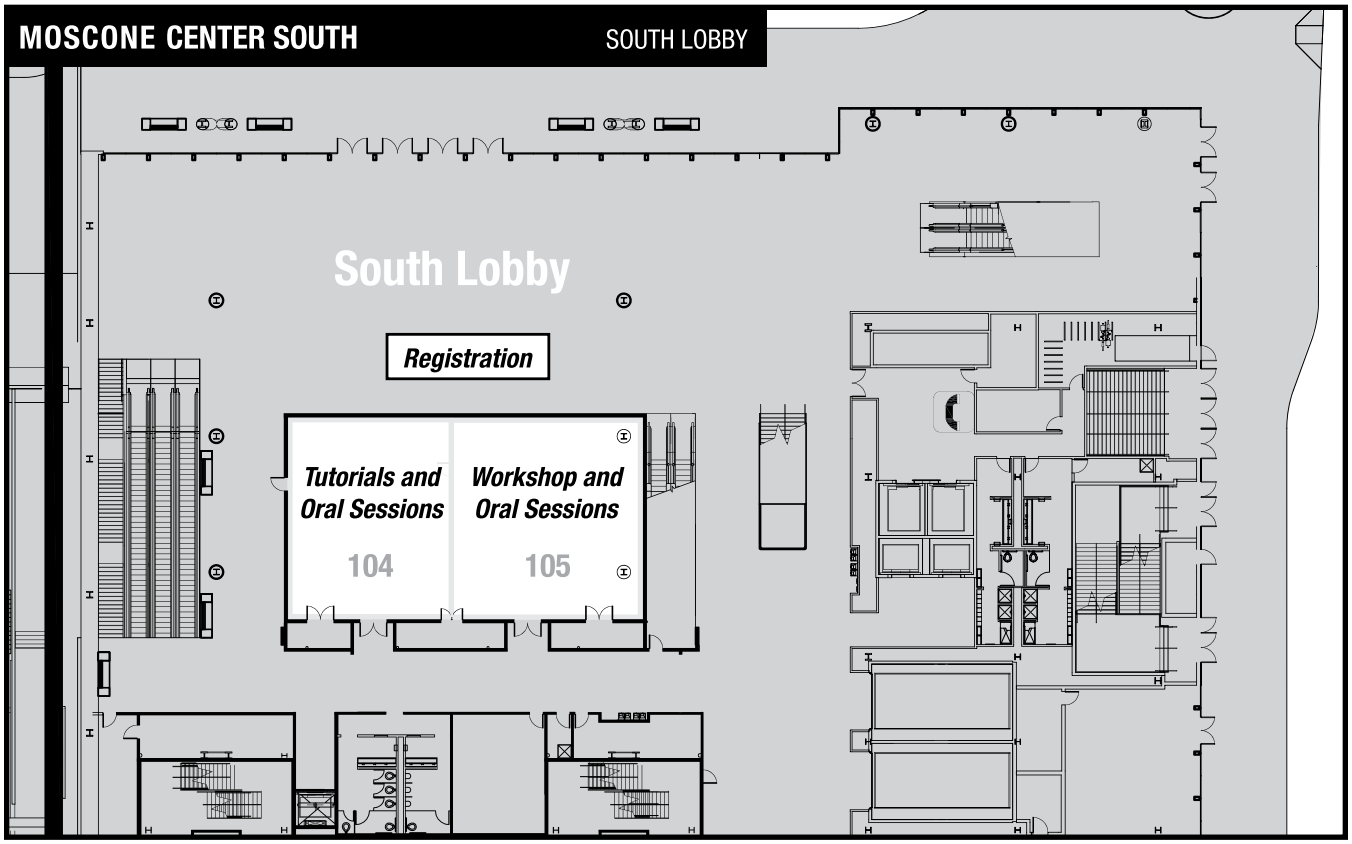
Z8 Strange Metal, Underdoped Cuprates, Superconducting Interfaces — *Room 306*

Z9 Heavy Fermions VIII: Novel Experiments — *Room 307/308*

Z10 Itinerant Magnetism II — *Room 313/314*

5:00 pm - 5:30 pm

ZZ Closing — *Esplanade 152*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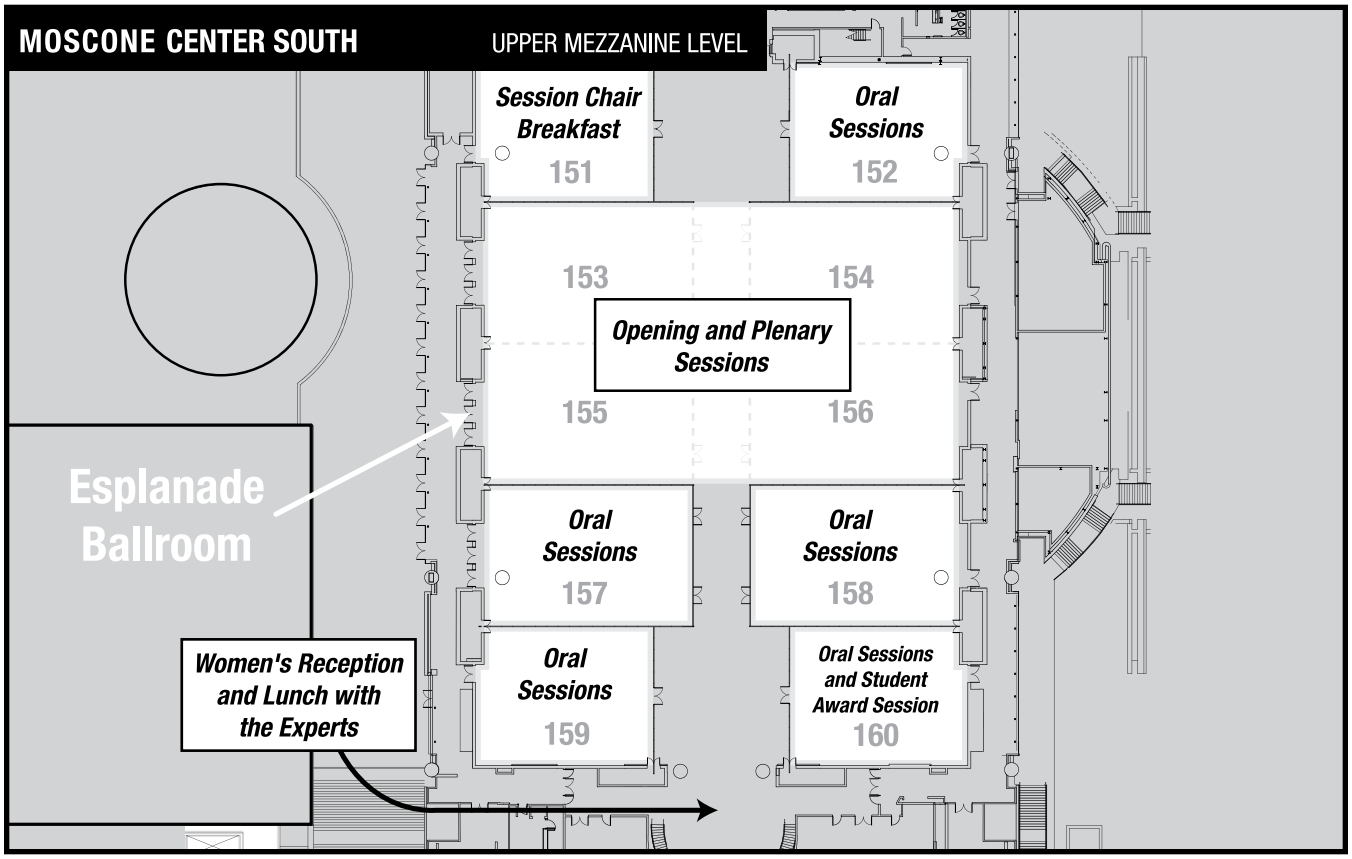
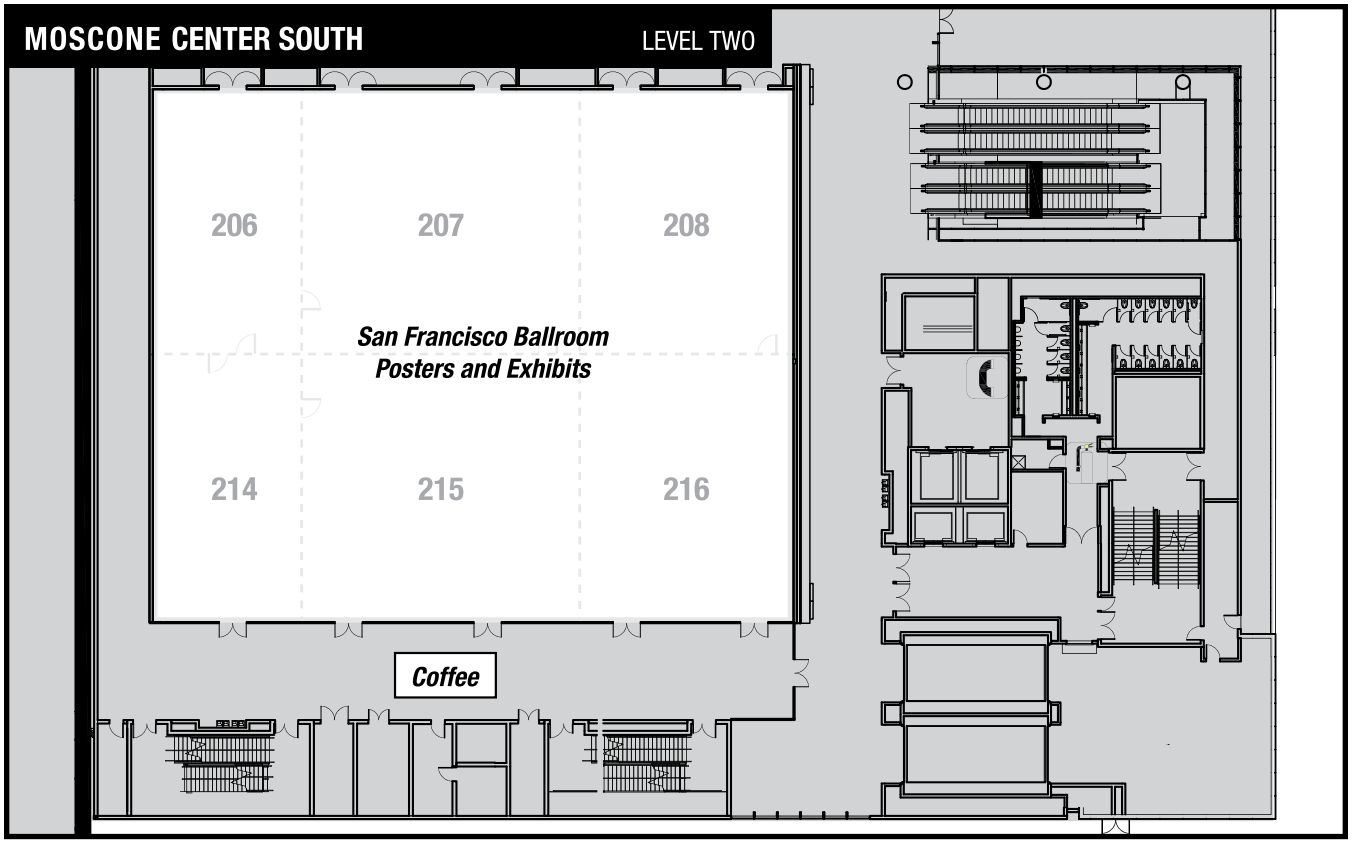
South Lobby
Registration
Tutorials and Oral Sessions
104
Workshop and Oral Sessions
105


MOSCONE CENTER SOUTH
UPPER MEZZANINE LEVEL
Session Chair Breakfast
151
Oral Sessions
152
153
154
Opening and Plenary Sessions
155
156
Esplanade Ballroom
Oral Sessions
157
Oral Sessions
158
Women's Reception and Lunch with the Experts
Oral Sessions
159
Oral Sessions and Student Award Session
160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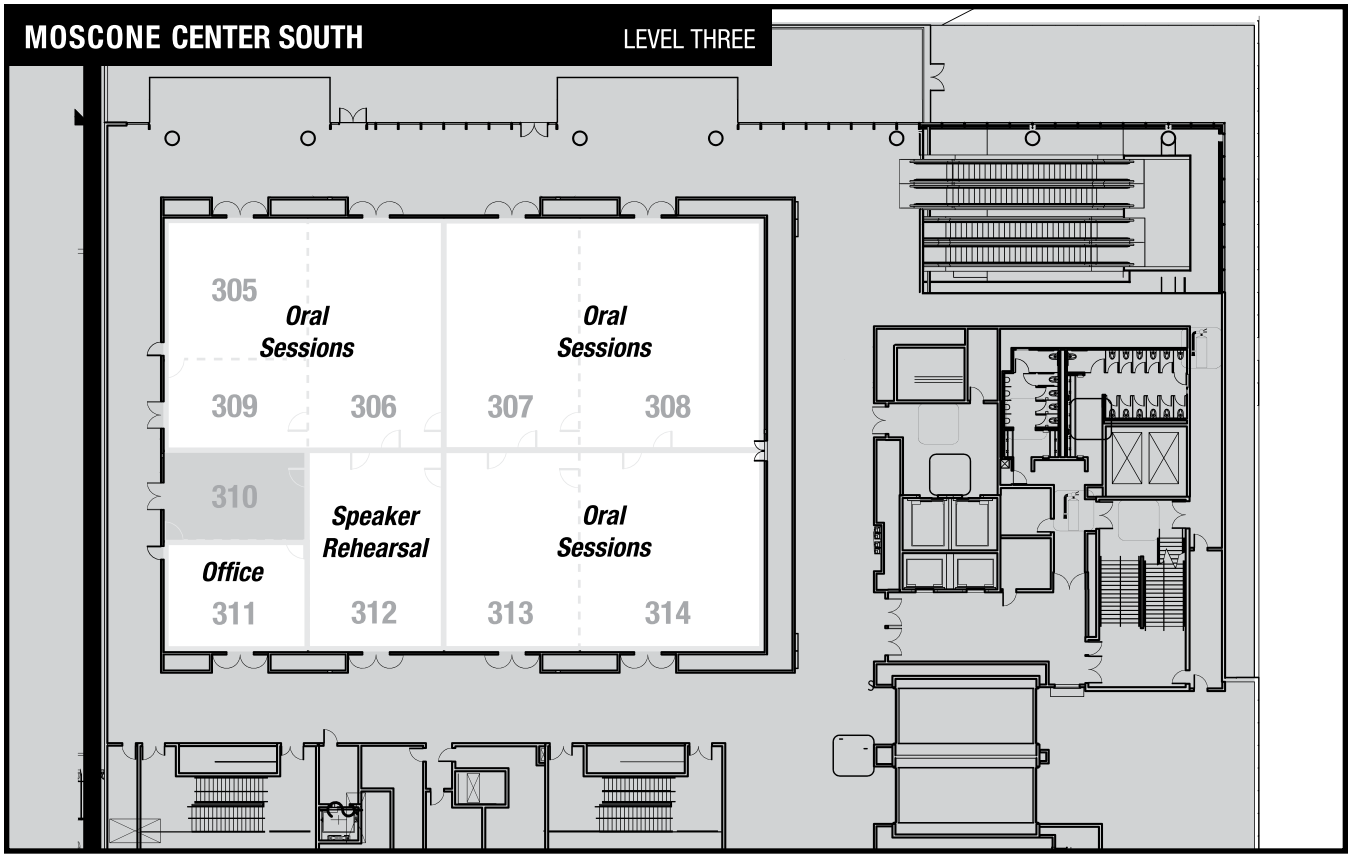
LEVEL TWO
206
207
208
San Francisco Ballroom
Posters and Exhibits
214
215
216
Coffee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LEVEL THREE
305
Oral
Sessions
Oral
Sessions
309
306
307
308
310
Speaker
Rehearsal
Oral
Sessions
Office
311
312
313
314

MONDAY
MORNING
8:00

ESPLANADE BALLROOM

Session AA

2018 IUPAP MAGNETISM AWARD AND NÉEL MEDAL AWARD CEREMONY & PRIZE TALKS

Burkard Hillebrands, Co-Chair
TU Kaiserslautern, Kaiserslautern, Germany
Kai Liu, Co-Chair
University of California, Davis, Davis, CA, United States
Allan MacDonald, Co-Chair
University of Texas at Austin, Austin, TX, United States

8:00

Welcome

Presentation of 2018 IUPAP Magnetism Award and Néel Medal

Presentation of 2016, 2017, and 2018 IUPAP Young Scientist Prizes in the field of Magnetism

AA-01. **The Marriage of Ferromagnetism and Superconductivity: A New Twist.** ***(Invited)*** *S.D. Bader*[1] *1. Argonne National Laboratory, Bridgman, MI, United States*

AA-02. **Electric Field Control of Magnetism.** ***(Invited)*** *R. Ramesh*[1] *1. Physics / MSE, UC Berkeley, Berkeley, CA, United States*

AA-03. **Topology in Spintronics: Majorana, etc.** ***(Invited)*** *K. Wang*[1] *1. Departments of Electrical and Computer Engineering, Materials Science and Engineering, Physics and Astronomy, UCLA, Los Angeles, CA, United States*

MONDAY
MORNING
10:00

SAN FRANCISCO BALLROOM

Session B1

ANTIFERROMAGNETIC SPINTRONICS I (Poster Session)

Vincent Baltz, Chair
SPINTEC, Grenoble, France

B1-01. **Withdrawn**

B1-02. **Gilbert damping constant in exchange biased ferromagnetic/antiferromagnetic bilayers.** *T. Ikebuchi*[1], T. Moriyama[1], H. Mizuno[1], K. Oda[1] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Uji, Japan*

B1-03. **Manipulation of spin current in antiferromagnetic insulator.** *D. Hou*[1] *1. AIMR, Tohoku University, Sendai, Japan*

B1-04. **Finite Size Effects in Antiferromagnetic Materials.** *S. Jenkins*[1], R. Chantrell[1] and R.F. Evans[1] *1. Department of Physics, University of York, York, United Kingdom*

B1-05. **Field-driven antiferromagnetic domain switching in single crystalline CoO(001) film.** *J. Xu*[1], M. Jia[2], G. Chen[3], Q. Li[4], A.T. N'Diaye[5], E. Arenholz[6] and Y. Wu[7] *1. Department of Physics, Fudan University, Shanghai, China; 2. Fudan University, Shanghai, China; 3. Lawrence Berkeley National Laboratory, Davis, CA, United States; 4. Physics, University of California, Berkeley, Berkeley, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. LBNL, Berkeley, CA, United States; 7. Physics Department, Fudan University, Shanghai, China*

B1-06. **X-Ray Linear Dichroism for Probing Magnetic Dynamics in the Low-Damping Ferrimagnetic Insulator Yttrium Iron Garnet.** *J. Bailey*[1,2], J. Förster[3], S. Finizio[2], M. Weigand[3], J. Gräfe[3], C. Dubs[4], J. Raabe[2], G. Aeppli[2], G.A. Schütz[3] and S. Wintz[2] *1. Institut de Physique, EPF Lausanne, Lausanne, Switzerland; 2. Paul Scherrer Institut, Villigen PSI, Switzerland; 3. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 4. INNOVENT e.V, Jena, Germany*

B1-07. **Spin-orbit torque of PtMn/CoFeB evaluated by extended harmonic Hall measurement.** *R. Itoh*[1], Y. Takeuchi[1], S. Duttagupta[2], S. Fukami[1,3] and H. Ohno[1,3] *1. Lab. for Nanoelectronics and Spintronics, RIEC, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 3. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan*

B1-08. **Probing the Energy Barrier for Resistive Switching in Antiferromagnetic $Sr_3Ir_2O_7$.** *M.C. Williamson*[1,2], S. Shen[1,2], G. Cao[3], J. Zhou[2], J. Goodenough[2] and M. Tsoi[1,2] *1. Physics, University of Texas at Austin, Austin, TX, United States; 2. Texas Materials Institute, Austin, TX, United States; 3. Physics, University of Colorado, Boulder, CO, United States*

B1-09. **Heat Assisted Switching of AFM CuMnAs Memory Cell.** *Z. Kašpar*[1,2], K. Olejník[1], V. Novák[1] and T. Jungwirth[1,3] *1. Academy of Sciences of the Czech Republic, Prague, Czechia; 2. Charles University in Prague, Prague, Czechia; 3. School of Physics and Astronomy, Nottingham, United Kingdom*

B1-10. **Nanoscale Imaging of Antiferromagnetic Order using Single-spin Magnetometry.** *B. Shields*[1], P. Appel[1], T. Kosub[2], N. Hedrich[1], J. Fassbender[2], R. Huebner[2], D. Makarov[2] and P. Maletinsky[1] *1. Physics, University of Basel, Basel, Switzerland; 2. Helmholtz-Zentrum Dresden-Rossendorf e.V., Dresden, Germany*

B1-11. **Material Systems for Skyrmions in Co-based Ferro-/Antiferromagnetically Coupled Multilayers.** H. Jia[1], *B. Zimmermann*[1] and S. Blügel[1] *1. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany*

MONDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session B2
BIOMEDICAL AND NON-BIOMEDICAL APPLICATIONS I (Poster Session)

Ahmed El-Gendy, Chair
University of Texas at El Paso, El Paso, TX, United States

B2-01. **Magnetic Design of Multi-Component Nanoprobes for Biomolecular Diagnostics.** *H. Brueckl*[1], A. Shoshi[1], M. Haslinger[2], T. Mitteramskogler[2], M. Muehlberger[2], J. Schotter[3] and S. Schrittwieser[3] *1. Department for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, Austria; 2. PROFACTOR GmbH, Steyr/Gleink, Austria; 3. AIT Austrian Institute of Technology, Vienna, Austria*

B2-02. **Optimization of a Biosensor based on Superparamagnetic Particles-labelling by Electromagnetic Simulation.** *A. García-Arribas*[1,2], M. Quintana[1,2], E. Fernández[2], J. Feuchtwanger[1], M. Fernández-Gubieda[1,2], J.C. Martínez-García[3] and M. Rivas[3] *1. Departamento de Electricidad y Electrónica, Universidad del País Vasco, UPV/EHU, Leioa, Spain; 2. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 3. Departmento de Física, Universidad de Oviedo, Gijón, Spain*

B2-03. **T_1, T_2 and T_2* relaxations in MRI based on Gd_5Si_4 nanoparticles of varying sizes.** *S. Hunagund*[1], J. Rosenberg[2], S.M. Harstad[3], S. Gupta[4], V. Pecharsky[4,5], A.A. El-Gendy[7] and R.L. Hadimani[6] *1. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Florida State University, The National High Magnetic Field Laboratory, Tallahassee, FL, United States; 3. Mechanical and Nuclear engineering, Virginia Commonwealth University, Richmond, VA, United States; 4. Iowa State University, Ames Laboratory, US Department of Energy, Ames, IA, United States; 5. Dept. of Material Science and Engineering, Iowa State University, Ames, IA, United States; 6. Department of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 7. Physics, University of Texas at El Paso, El Paso, TX, United States*

B2-04. **Influence of pH on Dynamic Magnetic Susceptibility of Iron-oxide Nanoparticles in a Chitosan Hydrogel Matrix.** *M.C. Villamin*[1] and Y. Kitamoto[1] *1. Materials Science and Engineering, Tokyo Institute of Technology, Yokohama, Japan*

B2-05. **Study of Magneto-Optical Nanocapsule as Promising Temperature Sensor in Magnetohyperthermia.** *L.C. Figueiredo*[2], B. Sikora[1], P. Kowalik[1], T.D. Castro[2], S.W. da Silva[2], E. Mosiniewicz-Szablewska[1] and P.C. Morais[2] *1. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 2. Institute of Physics, University of Brasília, Brasília, Brazil*

B2-06. **Specific Loss Power of Gd_5Si_4 for Self-regulating Magnetic Hyperthermia: Effects of Particle Size.** *Z. Boekelheide*[1], Z.A. Hussein[1], S. Hunagund[2], S.M. Harstad[2], A.A. El-Gendy[3] and R.L. Hadimani[2] *1. Lafayette College, Easton, PA, United States; 2. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 3. Physics, University of Texas at El Paso, El Paso, TX, United States*

B2-07. **Magnetic ZnO@Fe_3O_4 Core-Shell Nanostructure for Magnetic Hyperthermia and Bio-imaging applications.** *J. Gupta*[1,2], K. Barick[1], P. Hassan[1] and D. Bahadur[2] *1. Chemistry Division, Bhabha Atomic Reseach Centre Trombay, Mumbai, India; 2. Department of Metallurgical Engineering & Materials Science, Indian Institute of Technology Bombay, Mumabi, India*

B2-08. **Targeting and killing of Acute Myeloid Leukemia Cells by Functionalized Nanowires and Magnetic field.** *N. Alsharif*[1], J.E. Perez[2], Y. Ghosheh[1], F. Aleisa[1], A.I. Martínez-Banderas[1], J. Merzaban[1], T. Ravasi[1] and J. Kosel[2] *1. King Abdullah University of Science and Technology, division of Biological and Environmental Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, Thuwal, Saudi Arabia; 2. King Abdullah University of Science and Technology, division of Computer, Electrical and Mathematical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, Thuwal, Saudi Arabia*

B2-09. **Magnetic Nanoparticle Distribution in PNIPAM Microgels and the Magnetic Response.** *M.U. Witt*[1], S. Hinrichs[2], M. Hermes[3], B. Fischer[2], A. Schmidt[3] and R. von Klitzing[1] *1. Solid State Physics, Technical University Darmstadt, Darmstadt, Germany; 2. Physical Chemistry, University of Hamburg, Hamburg, Germany; 3. Physical Chemestry, University of Cologne, Köln, Germany*

B2-10. **Fe_3O_4@Astragalus Polysaccharides Core-Shell Nanoparticles for Treating Iron Deficiency Anemia and Magnetic Resonance Imaging.** K. Wang[1], *X. Xu*[1] and Y. Jiang[1] *1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China*

Session B3
CPP-GMR AND MAGNETIC TUNNEL JUNCTIONS I (Poster Session)

Atsufumi Hirohata, Chair
University of York, York, United Kingdom

B3-01. **Quantization Effects in Novel Magnetic Nanobridge Based STT-MRAM Cell Driven by Gate-All-Around Vertical Select Nanowire Transistor.** *G.D. Demin*[1,2], A.F. Popkov[1,2] and A.V. Popov[2] *1. Laboratory of Physics of Magnetic Heterostructures and spintronics for energy-efficiency information technologies, Moscow Institute of Physics and Technology (State University), Dolgoprudny, Russian Federation; 2. Laboratory of Research of nano- and microsystem devices, National Research University of Electronic Technology (MIET), Moscow, Russian Federation*

B3-02. **Reducing the switching current with a Dzyaloshinskii-Moriya interaction in nanomagnet with perpendicular anisotropy.** S. Takamatsu[1], K. Yamada[2] and *Y. Nakatani*[1] *1. University of Electro-communications, Tokyo, Japan; 2. Gifu University, Gifu, Japan*

B3-03. **Perpendicular magnetic tunnel junctions using the ultrathin electrode of $D0_{22}$ or $L1_0$ MnGa and the effect of the Mn modifications.** *K. Suzuki*[1], Y. Miura[2], R. Ranjbar[1], L. Bainsla[3], A. Ono[1], Y. Sasaki[4] and S. Mizukami[1] *1. WPI-AIMR, Tohoku University, Sendai, Japan; 2. Electrical Engineering and Electronics, Kyoto Institute of Technology, Kyoto, Japan; 3. WPI AIMR, Tohoku University, Sendai, Japan; 4. Department of Applied Physics, Tohoku University, Sendai, Japan*

B3-04. **Optimization of half-Heusler PtMnSb alloy films for spintronic device applications.** *Z. Wen*[1,2], T. Kubota[1,2] and K. Takanashi[1,2] *1. Center for Spintronics Research Network (CSRN), Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

B3-05. **Bias Dependence of Magnetoresistance in MTJ Containing Ferromagnetic Insulator.** K. Sate[1], S. Honda[1,2], Y. Kayama[3], Y. Sonobe[3] and *H. Itoh*[1,2] *1. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 3. Samsung R&D Institute Japan, Yokohama, Japan*

B3-06. **Withdrawn**

B3-07. **Withdrawn**

Session B4
SPIN CALORITRONICS I (Poster Session)

Toeno Van der Sar, Chair
Delft University of Technology, Delft, Netherlands

B4-01. **Thermal contribution to the Spin-Torque-Diode Sensitivity Induced by the Tunnel Magneto-Seebeck Effect in Magnetic Tunnel Junctions.** *G.D. Demin[1,2] 1. Laboratory of Physics of Magnetic Heterostructures and spintronics for energy-efficiency information technologies, Moscow Institute of Physics and Technology (State University), Moscow, Zelenograd, Russian Federation; 2. Laboratory of Research of nano- and microsystem devices, National Research University of Electronic Technology (MIET), Moscow, Russian Federation*

B4-02. **Dephasing assisted spin transport.** *S. Borlenghi*[1], S. Iubini[2] and A. Delin[1] *1. Department of materials and nano-physics, KTH Royal Institute of Technology, Stockholm, Sweden; 2. Dipartimento di Fisica e Astronomia, Università di Firenze, Florence, Italy*

B4-03. **Bose-Einstein Condensation of Magnons by Instant Cooling.** *M. Schneider*[1], T. Brächer[1], V. Lauer[1], P. Pirro[1], A.A. Serga[1], B. Heinz[1], Q. Wang[1], D.A. Bozhko[1], H. Musiienko-Shmarova[1], T. Meyer[1], F. Heussner[1], S. Keller[1], B. Lägel[1], T. Löber[1], V. Tyberkevych[2], A.N. Slavin[2], C. Dubs[3], B. Hillebrands[1] and A. Chumak[1] *1. Fachbereich Physik, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, Oakland University, Rochester, MI, United States; 3. Innovent e.V., Technologieentwicklung, Jena, Germany*

B4-04. **Observation of Longitudinal Spin Seebeck Voltage in Chemically Synthesized $Y_3Fe_5O_{12}$ Films.** *K. Yamada*[1], Y. Kurokawa[2], K. Kogiso[1], H. Yuasa[2] and M. Shima[1] *1. Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University, Gifu City, Japan; 2. Graduate School and Faculty of Information Science and Electrnical Engineering, Kyushu University, Fukuoka, Japan*

B4-05. **Withdrawn**

B4-06. **Withdrawn**

B4-07. **Scaling Of The Spin Seebeck Effect In Bulk And Thin Films.** K. Morrison[1], *C. Cox*[1] and A. Caruana[2] *1. Physics, Loughborough University, Loughborough, United Kingdom; 2. ISIS Neutron Source, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom*

B4-08. **Withdrawn**

B4-09. **Spin Seebeck Effect and Anisotropy in Magnetic Oxides.** V. Kalappattil[1], R. Das[1], M. Phan[1] and *H. Srikanth*[1] *1. Department of Physics, University of South Florida, Tampa, FL, United States*

Session B5
LOW TEMPERATURE MEASUREMENTS AND MODELLING (Poster Session)

Takahide Kubota, Chair
Tohoku University, Sendai, Japan

B5-01. **Improvement of reproducibility of magnetic moment detected by a SQUID magnetometer and radial offset measurement using a YIG sphere.** *N. Matsumoto*[1], C. Dennis[2] and R.D. Shull[2] *1. National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Materials Science and Engineering Division, Material Measurement Laboratory, National Institute of Standards and Technology (NIST), Gaithersburg, MD, United States*

B5-02. **Withdrawn**

B5-03. **Using the Standard Linear Ramps of the CMS Superconducting Magnet for Measuring the Magnetic Flux Density in the Steel Flux Return Yoke.** *V. Klyukhin*[1,2], B. Curé[2], N. Amapane[3], A. Ball[2], A. Gaddi[2], H. Gerwig[2], A. Hervé[4], R. Loveless[4] and M. Mulders[2] *1. Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russian Federation; 2. CERN, Geneva 23, Switzerland; 3. INFN Turin and University of Turin, Turin, Italy; 4. University of Wisconsin, Madison, WI, United States*

B5-04. **Experimental study of the double perovskite $Sr_{2-x}La_xFeMoO_6$ compound.** *B. Aguilar Reyes*[1], T. Soto Guzmán[1,5], O. Navarro Chavez[1] and J. de la Torre Medina[1] *1. Unidad Morelia Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Morelia, Mexico; 5. Facultad de Ciencias Físico Matemáticas, Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Mexico*

B5-05. **Microstructures of MnBi obtained by quenching in magnetic fields up to19 T.** *R. Kobayashi*[1], M. Yamashita[1], D. Miyazaki[1], Y. Mitsui[1], K. Takahashi[2], S. Uda[2] and K. Koyama[1] *1. Kagoshima University, Kagoshima, Japan; 2. Tohoku University, Sendi, Japan*

B5-06. **Magnetic Property Modeling of Nanocrystalline Under DC-Biased Condtion.** Y. Li[1], *H. Sun*[1], C. Zhang[1] and S. Yue[1] *1. Hebei University of Technology, Tianjin, 300130, China*

B5-07. **Design, Modeling, and Construction of an H-Shaped Dipole Electromagnet for Magnetic Materials Characterization.** *J. Baena*[1] *1. Grupo Electromagnetismo Aplicado, Departamento de Ciencias Físicas, Universidad EAFIT., Medellín, Colombia*

B5-08. **The Permeability of Vacuum and the Revised International System of Units.** *R. Goldfarb*[1] *1. NIST, Boulder, CO, United States*

Session B6
MAGNETIC DEVICE FOR INFORMATION STORAGE AND PROCESSING (Poster Session)

Se Kwon Kim, Chair
University of California, Los Angeles, Los Angeles, CA, United States

B6-01. **Unconventional Order-Disorder Phase Transition in Improper Ferroelectric Hexagonal Manganites.** *S.H. Skjaervoe*[1], Q.N. Meier[3], E.S. Bozin[4], S.J. Billinge[4,5], M. Feygenson[6,7], N.A. Spaldin[3] and S.M. Selbach[2] *1. Department of Materials Science and Engineering, Norwegian University of Science and Technology, Trondheim, Norway; 2. Department of Materials Science and Engineering, Norwegian University of Science and Technology, Trondheim, Norway; 3. Department of Materials, ETH Zürich, Zürich, Switzerland; 4. Condensed Matter Physics and Materials Science Department, Brookhaven National Laboratory, Upton, NY, United States; 5. Department of Applied Physics and Applied Mathematics, Columbia University, New York, NY, United States; 6. Jülich Centre for Neutron Science, Forschungszentrum Jülich, Jülich, Germany; 7. Chemical and Engineering Materials Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

B6-02. **Designing a majority gate using chiral magnetic solitons.** *D. Yudin*[1], M. Pereiro[2], K. Koumpouras[3], O. Eriksson[4], A. Bergman[5] and C. Adelmann[6] *1. ITMO University, Saint Petersburg, Russian Federation; 2. Physics and Astronomy, Uppsala University, Uppsala, Sweden; 3. Lulea University of Technology, Lulea, Sweden; 4. Physics and Astronomy, Uppsala University, Uppsala, Sweden; 5. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 6. UPM, Imec, Leuven, Belgium*

B6-03. **Magnetic Flux Leakage Testing of Wire Rope Defects with Instantaneous Phase Solution and Wavelet Analysis.** *E. Zhang*[1], D. Zhang[1] and S. Pan[1] *1. Harbin Institute. of Technology, Shenzhen, Shenzhen, China*

B6-04. **Thermal stability and topological protection of skyrmions in nanotracks.** *D.I. Cortés-Ortuño*[1], W. Wang[2], M. Beg[3], R.A. Pepper[1], M. Bisotti[1], R. Carey[1], M. Vousden[1], T. Kluyver[1], O. Hovorka[1] and H. Fangohr[3,1] *1. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom; 2. Department of physics, Ningbo university, Ningbo, China; 3. European XFEL GmbH, Schenefeld, Germany*

B6-05. **On Hysterisis Based Random Number Generation.** *I. Mayergoyz*[2] and C.E. Korman[1] *1. Electrical and Computer Engineering, The George Washington University, Washington, DC, United States; 2. ECE Department, University of Maryland, College Park, MD, United States*

B6-06. **Low Voltage Tunable Ferrite Phase Shifter.** *H. Izadkhah*[1], F. Lombardi[1] and C. Vittoria[1] *1. Electrical Engineering, Northeastern University, Boston, MA, United States*

B6-07. **Analysis of the Magnetization Effect of Permanent Magnets on the Nonlinear Magnetic Characteristic Distributions of a Balanced Armature Receiver.** *D. Xu*[1], Y. Jiang[2] and S. Hwang[2] *1. School of Mechatronics Engineering and Automation, Shanghai University, Shanghai, China; 2. Mechanical Engineering, Pusan National University, Busan, The Republic of Korea*

B6-08. **Spin reorientation transition in Lanthanum doped $DyFeO_3$: A Magnetic study.** *S.S. Reddy*[1], C. Reddy[1], P. Reddy[1] and V. Reddy[2] *1. Physics, Osmania University, Hyderabad, Hyderabad, India; 2. UGC DAE Consortium for Scientific Research, Indore, India*

B6-09. **Fast Electromagnetic Analysis of the 3D Magnetic Circuit of a Balanced Armature Receiver.** *D. Xu*[1], Y. Jiang[2] and S. Hwang[2] *1. School of Mechatronics Engineering and Automation, Shanghai University, Shanghai, China; 2. Mechanical Engineering, Pusan National University, Busan, The Republic of Korea*

B6-10. **Demonstration of spin-wave-based reservoir computing for next-generation machine-learning devices.** *R. Nakane*[1,2], G. Tanaka[1,2] and A. Hirose[1,2] *1. IIIEE, The University of Tokyo, Tokyo, Japan; 2. EEIS, The University of Tokyo, Tokyo, Japan*

B6-11. **Simulation and experimental tests of topological magnetic monopole in electrical circuit network.** Y. Wang[1], K. Luo[2], Y. Ji[1], *J. Lu*[1], R. Yu[2] and H. Weng[1] *1. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Physics and Technology, Wuhan University, Wuhan, China*

Session B7
MAGNETOPHOTONICS AND MAGNETOPLASMONICS I (Poster Session)

Taichi Goto, Chair
Toyohashi University of Technology, Toyohashi, Japan

B7-01. **Magneto-Controlled Diffraction Applied to Observe Dynamical Systems.** *A.P. Tufaile*[1], M. Snyder[2], T. Vanderelli[3] and A. Tufaile[1] *1. Soft Matter Lab, EACH, Universidade de Sao Paulo, Sao Paulo, Brazil; 2. Technical Space Science Center, Morehead State University, Morehead, KY, United States; 3. Ferrocell USA, Ligonier, PA, United States*

B7-02. **Optical-magnetic characteristics for dual optical window: a case of $NaGdF_4:RE^{3+}$ and $Fe_xO_y/SiO_2/NaGdF_4:RE^{3+}$ nanoparticles.** N. Shrivastava[1], G. Zoppellaro[2], C. Jacinto[3], D. Muraca[4], C. Ospina[5], J. Garcia[6], A. Louie[6] and *S.K. Sharma*[1] *1. Physics, Universidade Federal do Maranhão, Sao Luis, Brazil; 2. Regional Centre for Advanced Technologies and Materials, Palacky University, Olomouc, Czechia; 3. Federal University of Alagoas, Institute of Physics, Maceió, Brazil; 4. State University of Campinas, Institute of Physics, Campinas, Brazil; 5. Brazilian Nanotechnology National Laboratory (LNNano), Brazilian Center for Research in Energy and Materials (CNPEM), Campinas, Brazil; 6. Department of Biomedical Engineering, University of California-Davis, Davis, CA, United States*

B7-03. **Plasmon-enhanced magneto-optics on single-molecule magnets.** *F. Pineider*[1,2], A. Mekonnen[3], M. Serri[2], E. Pedrueza de Villalmanzo[4], V. Bonanni[2], E. Smetanina[4], G. Campo[2], M. Mannini[2], C. de Julián Fernández[5], C. Sangregorio[6], M. Gurioli[7], A. Dmitriev[4] and R. Sessoli[2] *1. Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy; 2. Department of Chemistry "Ugo Schiff", University of Florence, Sesto Fiorentino (FI), Italy; 3. Department of Physics, Bahir Dar University, Bahir Dar, Ethiopia; 4. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 5. IMEM-CNR, Parma, Italy; 6. ICCOM-CNR, Sesto Fiorentino (FI), Italy; 7. Department of Physics and Astronomy, University of Florence, Sesto Fiorentino (FI), Italy*

B7-04. **Withdrawn**

B7-05. **Withdrawn**

B7-06. **Colloidal Synthesis of Hybrid Magneto-Plasmonic Nanocrystals: an Improved Route for the Preparation of High-Performance Magneto-Optical Enhanced Materials.** *A. López-Ortega*[1], M. Takahashi[2], S. Maenosono[2] and P. Vavassori[3] *1. nanomagnetism, CIC nanoGUNE, Donostia – San Sebastian, Spain; 2. School of Materials Science, Japan Advanced Institute of Science and Technology, Nomi, Japan; 3. CIC nanoGUNE Consolider, San Sebastian, Spain*

Session B8
MAGNON WAVEGUIDES AND DEVICES I (Poster Session)

Thomas Brächer, Chair
TU Kaiserslautern, Kaiserslautern, Germany

B8-01. **Successive Trimming of a Permalloy Stripe to Enhance the Localized Edge Mode Spectrum Probed by Ferromagnetic Resonance.** *K. Lenz*[1], T. Schneider[1,2], G. Hlawacek[1], R. Narkowicz[1], S. Stienen[1], M. Lenz[1] and J. Lindner[1] *1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Department of Physics, Technische Universität Chemnitz, Chemnitz, Germany*

B8-02. **Magnetic behaviour investigation in micro-sized objects using simulations, conventional and spatially resolved FMR techniques.** *S. Pile*[1], T. Feggeler[2], T. Schaffers[1], R. Meckenstock[2], D. Spoddig[2], K.J. Ollefs[2], H. Ohldag[3], M. Farle[2], H. Wende[2] and A. Ney[1] *1. Institute of Semiconductor and Solid State Physics, Johannes Kepler University Linz, Linz, Austria; 2. Faculty of Physics and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Duisburg, Germany; 3. Stanford Synchrotron Radiation Laboratory, SLAC National Accelerator Laboratory, Menlo Park, CA, United States*

B8-03. **Amplification of spin waves in ultra-thin Yttrium Iron Garnet microwaveguides by the spin-orbit torque.** *M. Evelt*[1], V.E. Demidov[1], V. Bessonov[6], S. Demokritov[1], J.L. Prieto[7], M. Muñoz[5], J.B. Youssef[8], V. Naletov[9], G. de Loubens[2], O. Klein[3], M. Collet[4], K. Garcia-Hernandez[4], P. Bortolotti[4], V. Cros[4] and A. Anane[4] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Service de Physique de l'Etat Condensé, CEA Saclay, Gif-sur-Yvette, France; 3. INAC-SPINTEC, CEA/CNRS and Univ. Grenoble Alpes, Grenoble, France; 4. Unité Mixte de Physique CNRS, Thales TRT, Palaiseau, France; 5. IMM-Instituto de Microelectrónica de Madrid (CNM-CSIC), Madrid, Spain; 6. M.N. Miheev Institute of Metal Physics of Ural Branch of Russian Academy of Sciences, Yekaterinburg, Russian Federation; 7. Instituto de Sistemas Optoelectronicos y Microtecnologa (UPM), Ciudad Universitaria, Madrid, Spain; 8. Laboratoire de Magnétisme de Bretagne CNRS, Université de Bretagne Occidentale, Brest, France; 9. Institute of Physics, Kazan Federal University, Kazan, Russian Federation*

B8-04. **Spin Doppler effect induced by interfacial Dzyaloshinskii-Moriya interaction.** H. Xia[1,2], C.Y. Won[3], M. Yan[4], Y.S. Huang[1], C. Zhou[1], H. Zhao[2] and *Y. Wu*[1] *1. Physics Department, Fudan University, Shanghai, China; 2. Department of Optical Science and Engineering, Fudan University, Shanghai, China; 3. Department of Physics, College of Sciences, Kyung Hee University, Seoul, The Republic of Korea; 4. Physics, Shanghai University, Shanghai, China*

B8-05. **Reciprocity and dispersion relation of the pulse laser-induced magnetostatic surface waves in metals.** A. Kamimaki[1,2], S. Iihama[3], Y. Sasaki[1,2], Y. Ando[2] and *S. Mizukami[1,4] 1. WPI-AIMR, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 4. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

B8-06. **Magnonic waveguides with spatial variation of saturation magnetization and magnetic anisotropy.** *L. Flajsman*[1], O. Wojewoda[2], J. Gloss[3], V. Krizakova[2], M. Vanatka[1], P. Varga[1,3] and M. Urbanek[1,2] *1. CEITEC BUT, Brno, Czechia; 2. IPE, BUT, Brno, Czechia; 3. IAP, TU Wien, Vienna, Austria*

B8-07. **Transmission matrix and spinwave eigenmodes of patterned magnetic system.** *I. Purnama*[1] and C. You[1] *1. DGIST, Daegu, The Republic of Korea*

B8-08. **Fabrication and Characterization of individual sub-100 nm YIG Waveguides using Brillouin Light Scattering Microscopy.** *B. Heinz*[1], T. Brächer[1], M. Schneider[1], P. Pirro[1], Q. Wang[1], B. Lägel[1], C. Dubs[2], O. Surzhenko[2] and A. Chumak[1] *1. Fachbereich Physik, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. INNOVENT e.V. Technologieentwicklung, Jena, Germany*

B8-09. **A Luneburg Lens for Spin Waves.** *N.J. Whitehead*[1], F. Mushenok[1], S.A. Horsley[1], T.G. Philbin[1] and V. Kruglyak[1] *1. Physics and Astronomy, University of Exeter, Exeter, United Kingdom*

B8-10. **Fano-resonance based nanoscale spin-wave transducer, valve and phase shifter in Damon-Eshbach geometry.** *K.G. Fripp*[1], V.D. Poimanov[2], F. Mushenok[1], F.Y. Ogrin[1] and V. Kruglyak[1] *1. Physics And Astronomy, University of Exeter, Exeter, United Kingdom; 2. Department of Physics and Technology, Donetsk National University, Donetsk, Ukraine*

B8-11. **First Time-resolved X-ray Microscopy Imaging of Spin Waves in an Yttrium Iron Garnet Film.** *J. Förster*[1], S. Wintz[2], J. Bailey[3], H. Stoll[1], J. Gräfe[1], C. Dubs[4], D. Meertens[5], E. Josten[5], M. Weigand[1] and G.A. Schütz[1] *1. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Paul Scherrer Institut, Villigen PSI, Switzerland; 3. Institut de Physique, EPF Lausanne, Villigen PSI, Switzerland; 4. INNOVENT e.V. Technologieentwicklung Jena, Jena, Germany; 5. Ernst Ruska-Centrum für Mikroskopie und Spektroskopie mit Elektronen, Forschungszentrum Jülich GmbH, Jülich, Germany*

B8-12. **Integrated magnonic half-adder.** Q. Wang[1], T. Brächer[2], P. Pirro[1] and *A. Chumak[1] 1. TU Kaiserslautern, Kaiserslautern, Germany; 2. Physics, TU Kaiserslautern, Kaiserslautern, Germany*

B8-13. **Spin Waves Propagation in Patterned Yttrium Iron Garnet Nanostructures.** *Z. Zhang*[1,4], J. Ding[1], M. Jungfleisch[2], Y. Li[1], J.E. Pearson[1], R. Divan[3], A. Hoffmann[1], Y. Nie[4] and V. Novosad[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Center for Nanoscale Materials, Argonne National Laboratory, LEMONT, IL, United States; 4. School of Optical and Electronic Information, Huazhong University of Science & Technology, Wuhan, China*

MONDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session B9
MATERIALS FOR ENERGY APPLICATIONS I (Poster Session)

Radhika Barua, Chair
Northeastern University, Quincy, MA, United States

B9-01. **Fulvalene Magnetic Metal Halides.** *H. Gokturk*[1] *1. Ecoken, San Francisco, CA, United States*

B9-02. **Influence of Design Parameters on On-Load Demagnetization Characteristics of Switched Flux Memory Machine.** *H. Yang*[1], H. Lin[1], Z. Zhu[2] and S. Lyu[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. Department of Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom*

B9-03. **Magnetic and thermoelectric properties of Fe-Ti-Sn alloys.** T. Saito[1] and *S. Kamishima[1] 1. Chiba Institute of Technology, Chiba, Japan*

B9-04. **Changes in Microstructures and Magnetic properties of Fe-B-Cu-C Ribbons by Annealing Conditions.** *K. Lee*[1], M. Kim[1], M. Choi[1] and J. Kim[1] *1. Materials Science and Chemical Engineering, Hanyang University, Ansan, The Republic of Korea*

B9-05. **Recrystallization, texture evolution, and magnetostriction behavior of rolled $(Co_{70}Fe_{30})_{99.8}NbC_{0.2}$ sheets during low-to-high temperature heat treatments.** *Y. Zhao*[1], X. Gao[1], X. Bao[1], J. Li[1] and X. Mu[1] *1. State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, China*

B9-06. **Magnetostriction caused by crystallographic orientation and morphological alignment in $TbFe_2$ alloy.** *T. Liu*[1], M. Dong[1], P. Gao[1], Y. Xiao[1], Y. Yuan[1] and Q. Wang[1] *1. Northeastern University, China, Shenyang, China*

B9-07. **Defective Onion-Like Carbon-Coated $FeSn_2$ Nanocapsules: One-Pot Synthesis and Application as Anode Material for Lithium-Ion Batteries.** *S. Or*[1] and D. Han[1] *1. Electrical Engineering, Hong Kong Polytechnic University, Hong Kong, Hong Kong*

B9-08. **Design of a Novel Electromagnetic Energy Harvester with Dual Core for Deicing Device of Transmission Lines.** S. Paul[1], S. Bashir[1] and *J. Chang*[1] *1. Mechatronics System Research Lab, Electrical Engineering, Dong-A University, Busan, The Republic of Korea*

B9-09. **Study of dynamic behavior of magnetostrictively patterned flexible micro-wings.** *C. Cho*[1], Y. Hong[1], J. Chiao[1] and Y. Chen[1] *1. Department of Mechanical Engineering, Inha University, Incheon, The Republic of Korea*

B9-10. **Magnetostriction in Fe-Al Alloys Doped with Terbium.** *M.C. Grijalva Castillo*[1], J.S. Uribe Chavira[2], M.O. Adelani[2], C. Santillan-Rodriguez[2], R. Sáenz-Hernandez[2], M. Botello-Zubiate[2] and J. Matutes-Aquino[2] *1. CONACYT - Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Mexico; 2. Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Mexico*

B9-11. **Optimal Design Algorithm of Synchronous Reluctance Motor considering Magnetic Saturation in the Rotor.** *W. Kim*[1], S. Choi[1], H. Kong[1], D. Kim[1], J. Bae[3] and S. Lee[2] *1. Dept. of Energy IT, Gachon University, Seongnam-Si, The Republic of Korea; 2. Intelligent Information Technology Fusion, Busan University of Foreign Studies, Busan, The Republic of Korea; 3. Electrical Engineering, Dongyang Mirae University, Seoul, The Republic of Korea*

MONDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session B10
MOLECULAR MAGNETISM I (Poster Session)

Tatiana Guidi, Chair
STFC, Didoct, United Kingdom

B10-01. **Magnetism of a monolayer of Cr_{10} molecular wheels deposited on Au(111).** E. Bartolome[1], L. Ferrari[2], F. Sedona[2], J. Herrero-Albillos[3], M. Panighel[4], A. Mugarza[4,5], M.S. Sambi[2], M. Rancan[6], L. Armelao[2,6], *J. Bartolomé*[7], A.B. Arauzo[7,8] and F. Bartolome[7] *1. Escola Universitària Salesiana de Sarrià, Barcelona, Spain; 2. Scienzie Chimiche, Università di Padova, Padova, Italy; 3. Centro Universitario de la Defensa, Academia General Militar, Zaragoza, Spain; 4. Catalan Institute of Nanoscience and Nanotechnology, Barcelona, Spain; 5. ICREA, Barcelona, Spain; 6. Istituto di Chimica della Materia Condensata e di Tecnologie per l'Energia, Padova, Italy; 7. Instituto de Ciencia de Materiales de Aragón, Consejo Superior de Investigaciones Científicas, Zaragoza, Spain; 8. Servicio de Medidas Físicas, Universidad de Zaragoza, Zaragoza, Spain*

B10-02. **Canonical ensemble calculations of the magnetic susceptibility for a spin-1/2 spherical kagome cluster with Dyzloshinskii-Moriya interactions by using microcanonical thermal pure quantum states.** *K. Inoue*[1], Y. Maeda[1], H. Nakano[2] and Y. Fukumoto[1] *1. Tokyo University of Science, Noda, Chiba, Japan; 2. University of Hyogo, Ako-gun, Japan*

B10-03. **Chemical tunnel-splitting-engineering in a dysprosium-based molecular nanomagnet.** M. Sørensen[3,4], U.B. Hansen[2,1], M. Perfetti[3,4], K. Pedersen[3], E. Bartolome[5], G. Simeoni[6], H. Mutka[2], S. Rols[2], M. Jeong[7,8], I. Zivkovic[8], M. Retuerto[1,9], A.B. Arauzo[10], J. Bartolomé[10], S. Piligkos[3], L. Doerrer[11], J. van Slageren[4], H.M. Ronnow[8], *K. Lefmann*[1] and J. Bendix[3] *1. Niels Bohr Inst., Univ. Copenhagen, Copenhagen, Denmark; 2. The Insitute Laue Langevin, Grenoble, France; 3. Chemistry, University of Copenhagen, Copenhagen, Denmark; 4. Physical Chemistry, University of Stuttgart, Stuttgart, Germany; 5. Escola Universitaria Salesiana de Sarria, Barcelona, Spain; 6. FRM-II, Technical University of Munich, Munich, Germany; 7. School of Physics and Astronomy, University of Birmingham, Birmingham, United Kingdom; 8. Institute of Physics, EPFL, Lausanne, Switzerland; 9. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 10. Instituto de Ciencia de materiales de Aragon, Consejo Superior de Investigaciones Científicas, Zaragoza, Spain; 11. Chemistry, Boston University, Boston, MA, United States*

B10-04. **Structural Phases and Fe Magnetic Moment upon Oxidation of Fe-Phtalocyanine monolayers on Ag(110).** *F. Bartolome*[1,2], E. Bartolome[3], L. Hernández-López[1,2], J. Lobo-Checa[1,2], F. Sedona[4], M. Piantek[5], J. Herrero-Albillos[6], L. Garcia[1,2], M. Panighel[7,8], A. Mugarza[7,9], J. Herrero-Martin[10], D. Serrate[5], J. Bartolomé[1,2] and M.S. Sambi[4] *1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 2. Departamento de Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 3. Escuela Universitaria Salesiana de Sarrià, Barcelona, Spain; 4. Dipartimento di Scienze Chimiche, Università di Padova, Padova, Italy; 5. INA - LMA, Universidad de Zaragoza, Zaragoza, Spain; 6. Centro Universitario de la Defensa, Zaragoza, Spain; 7. Catalan Institute of Nanoscience and Nanotechnology, CSIC and The Barcelona Institute of Science and Technology, Barcelona, Spain; 8. CNR-IOM, CNR - Universita di Trieste, Trieste, Italy; 9. ICREA, Barcelona, Spain; 10. Divisió Experiments - CELLS, ALBA Synchrotron Light Source, Barcelona, Spain*

B10-05. **Transition Metal Cluster Single-Molecule Magnets from Coupling of Low-Coordinate Metal Centers.** *K. Chakarawet*[1], P.C. Bunting[1] and J. Long[1] *1. University of California, Berkeley, Berkeley, CA, United States*

B10-06. **Magnetic Properties of 2D Conductive MOFs, M-CAT-1.** *Y. Misumi*[1], Z. Zhang[1] and K. Awaga[1] *1. Nagoya University, Nagoya, Japan*

B10-07. **Quantum Spin Liquid State in an Organic Hyperkagome Lattice of Mott Dimers.** *A. Mizuno*[1], Y. Shuku[1] and K. Awaga[1] *1. Nagoya University, Nagoya, Japan*

B10-08. **Verdazyl-Pincer Ligands: Building Blocks for Molecules with Unusual Magnetic Properties.** *D.J. Brook*[1], C. Fleming[1], D. Chung[1] and R. Heindl[2] *1. Chemistry, San Jose State University, San Jose, CA, United States; 2. Physics, San Jose State University, San Jose, CA, United States*

B10-09. **Experimental Evidence for Enhancement of Quantum Coherence Near an Atomic-clock Transition in the Cr_7Mn Molecular Nanomagnet.** *J.R. Friedman*[1], C. Collett[1], K. Ellers[1], N. Russo[2], K. Kittilstved[2], G. Timco[3] and R. Winpenny[3] *1. Department of Physics and Astronomy, Amherst College, Amherst, MA, United States; 2. Department of Chemistry, University of Massachusetts, Amherst, MA, United States; 3. Chemistry, University of Manchester, Manchester, United Kingdom*

B10-10. **Photoinduced Decrease in Magnetization in Core@Shell Nanoparticles of RbCoFe@KNiCr PBA.** *J.M. Cain*[1], A.C. Felts[1], D.R. Talham[1] and M.W. Meisel[2] *1. University of Florida, Gainesville, FL, United States; 2. Department of Physics, University of Florida, Gainesville, FL, United States*

B10-11. **Chiral Effects on Magnetic Materials.** *K. Inoue*[1] *1. Chemistry, Hiroshima University, Higashihiroshima, Japan*

B10-12. **Anomalous antiferromagnetic state observed in the π-d molecular conductor λ-$(BETS)_2FeCl_4$.** *Y. Oshima*[1], T. Lee[2,1], H. Cui[1] and R. Kato[1] *1. Condensed Molecular Materials Laboratory, RIKEN, Wako-shi, Japan; 2. Hokkaido University, Sapporo, Japan*

B10-13. **Withdrawn**

MONDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session B11
THEORY OF STRONGLY CORRELATED ELECTRON SYSTEMS I
(Poster Session)

Bryan Clark, Chair
University of Illinois at Urbana-Champaign, Urbana, IL, United States

B11-01. **Withdrawn**

B11-02. **Decoding quantum criticalities from fermionic/parafermionic topological states.** *G. Zhang*[1] *1. Physics, Tsinghua University, Beijing, China*

B11-03. **Influence of La doping in the electronic and magnetic properties for the Sr_2FeMoO_6 compound.** *F. Estrada Chávez*[1,2], B. Aguilar Reyes[3], O. Navarro Chavez[3] and M. Avignon[4] *1. Facultad de Biología, Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Mexico; 2. Escuela Nacional de Estudios Superiores, Unidad Morelia, Universidad Nacional Autónoma de México, Morelia, Mexico; 3. Unidad Morelia Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Morelia, Mexico; 4. CNRS, Université Grenoble Alpes, Grenoble, France*

B11-04. **Asymmetry of the density of states and magnetic exchange interactions in Hund's metals.** *A. Katanin*[1], A. Belozerov[1,2] and V. Anisimov[1,2] *1. M.N. Miheev Institute of Metal Physics UB of RAS, Ekaterinburg, Russian Federation; 2. Ural Federal University, Ekaterinburg, Russian Federation*

B11-05. **Phenomenological Mean-Field Analysis of Metamagnetism in Heavy Fermion Compounds.** *K. Matsumoto*[1] and S. Murayama[2] *1. Graduate School of Engineering, Muroran Institute of Technology, Muroran, Japan; 2. Graduate School of Engineering, Muroran Institute of Technology, Muroran, Japan*

B11-06. **Energy of a Finite Three-Dimensional Electron Gas System.** *O. Ciftja*[1] *1. Department of Physics, Prairie View A&M University, Prairie View, TX, United States*

B11-07. **A novel solution of the 2D Hubbard model within a four-pole approximation.** A. Di Ciolo[1] and *A. Avella*[1,2] *1. Dipartimento di Fisica "E.R. Caianiello", Università degli Studi di Salerno, Fisciano, Italy; 2. UoS di Salerno, CNR-SPIN, Fisciano, Italy*

B11-08. **Dislocation-mediated quantum melting.** *A. Beekman*[1] *1. Department of Physics, Keio University, Yokohama, Japan*

B11-09. **Theory of Temperature-dependent Collective Excitations in Excitonic Insulators.** *F. Xue*[1] and A.H. MacDonald[1] *1. Physics, University of Texas at Austin, Austin, TX, United States*

MONDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session B12
QUANTUM SPIN LIQUIDS I
(Poster Session)

Arnab Banerjee, Chair
Oak Ridge National Laboratory, Knoxville, TN, United States

B12-01. **Existence of spin-liquid states in the Kitaev-Heisenberg ladder.** *C. Agrapidis*[1], J. van den Brink[1,2] and S. Nishimoto[1,2] *1. Institute for Theoretical Solid State Physics, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 2. Department of Physics, Technical University Dresden, Dresden, Germany*

B12-02. **Quantum-Disordered Ground State with Singlet Gap of the Spin-1/2 Square-Lattice Random J_1-J_2 Heisenberg Antiferromagnet $Sr_2CuTe_{1-x}W_xO_6$.** *M. Watanabe*[1], N. Kurita[1] and H. Tanaka[1] *1. Tokyo Institute of Technology, Meguro-ku, Japan*

B12-03. **Dirac and chiral quantum spin liquids on the honeycomb lattice in a magnetic field.** *Z. Liu*[1] *1. Department of Physics, Renmin University of China, Beijing, China*

B12-04. **Non-Abelian S = 1 chiral spin liquid on the kagome lattice.** *Z. Liu*[1] *1. Department of physics, Renmin University of China, Beijing, China*

B12-05. **Spin liquid on the stuffed honeycomb lattice.** *J. Sahoo*[1], D. Kochkov[2], B. Clark[2] and R. Flint[1] *1. Physics and Astronomy, Iowa State University, Ames, IA, United States; 2. Physics, University of Illinois at Urbana-Champaign, Champaign, IL, United States*

B12-06. **NMR Study of Spin-1/2 Square-Lattice Random J_1-J_2 Heisenberg Antiferromagnet $Sr_2CuTe_{1-x}W_xO_6$.** *W. Ueno*[1], K. Matsui[1], T. Goto[1], M. Watanabe[2] and H. Tanaka[2] *1. Physics Division, Sophia University, Chiyodaku, Japan; 2. Tokyo Institute of Technology, Meguro-ku, Japan*

B12-07. **A Phase Diagram for Hole-Doped Lithium Iridates.** *M. Vranas*[1], A. Ruiz[1], G. Lopez[1] and J. Analytis[1] *1. Physics, University of California, Berkeley, Berkeley, CA, United States*

B12-08. **Absence of long-range order in $K_2Ni_2(SO_4)_3$ with a novel modified hyper-kagome lattice.** *I. Zivkovic*[1], R.S. Freitas[2], V.Y. Favre[3], C. Mingee[1], P. Baker[4], C. Baines[5], H. Luetkens[6], A. Magrez[1] and H.M. Ronnow[1] *1. Institute of Physics, EPFL, Lausanne, Switzerland; 2. Departamento de Física dos Materiais e Mecânica, Instituto de Física, Universidade de São Paulo, São Paulo, Brazil; 3. Physics, EPFL, Lausanne, Switzerland; 4. ISIS, Oxford, United Kingdom; 5. PSI, Villigen, Switzerland; 6. PSI, Villigen, Switzerland*

B12-09. **Quantum spin ice under an electric field.** *S. Onoda*[1,2] *1. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan; 2. Quantum Matter Theory Research Team, RIKEN CEMS, Wako, Japan*

B12-10. **Withdrawn**

Session B13
RARE EARTH FREE PERMANENT MAGNETS I (Poster Session)

Parmanand Sharma, Co-Chair
Tohoku University, Sendai, Japan
Cajetan Nlebedim, Co-Chair
Ames Laboratory, US Department of Energy, Ames, IA, United States

B13-01. **Improved structural, magnetic and spectroscopic properties of M-type strontium hexaferrite synthesised by citrate precursor method.** *K. Rana*[1], P. Thakur[2] and A. Thakur[2] *1. Department of Physics, IEC University, Baddi, India; 2. Department of Physics, Amity University, Gurgaon, India*

B13-02. **Hard-magnetic properties of (Co, Mn) co-doped $BaFe_{12}O_{19}$ hexaferrites.** *N. Tran*[1], H. Kim[1], T. Phan[1] and B. Lee[1] *1. Department of Physics and Oxide Research Center, Hankuk University of Foreign Studies, Yongin-si, The Republic of Korea*

B13-03. **Experimental and theoretical investigation of $SrFe_{12}O_{19}$ nanopowder for permanent magnet application.** *B. Abraime*[1,2], M. Ait Tamerd[2], A. Mahmoud[3], F. Boschini[3], A. Benyoussef[1,2], M. Hamedoun[1], Y. Xiao[4], A. El Kenz[2] and O. Mounkachi[1] *1. Nanotechnology, MAScIR Foundation, Rabat, Morocco; 2. Physics department, Faculty of science, Mohamed 5 university, Rabat, Morocco; 3. GREENMAT, Institute of Chemistry B6, University of Liege, LIEGE, Belgium; 4. Jülich Centre for Neutron Science JCNS und Peter Grünberg Institut PGI JCNS-2, Jülich, Germany*

B13-04. **Enhanced Properties of MnBi synthesized via Novel Fabrication Method.** *J. Kim*[1], Y. Shin[1], C. Ahn[1], J. Choi[1], G. Hwang[1], Y. Yang[1], J. Park[1], K. Chung[1] and C. Choi[1] *1. Powder and Ceramics Division, Korea Institute of Materials Science, Changwon, The Republic of Korea*

B13-05. **Magnetovolume Effect Induced Zero Thermal Expansion in $Er_2Fe_{16.5}Cr_{0.5}$.** *S. Dan*[1], S. Mukherjee[1], C. Mazumdar[2] and R. Ranganathan[2] *1. Department of Physics, The University of Burdwan, Bankura, India; 2. Condensed Matter Physics Division, Saha Institute of Nuclear Physics, Kolkata, India*

B13-06. **Intrinsic Hard Magnetic Properties of Mn-Ga Micro-Nano Particles.** *O. Akdogan*[1,3] and N. Gunduz Akdogan[2,3] *1. Engineering and Natural Sciences-Mechatronics Engineering, Bahcesehir University, Istanbul, Turkey; 2. Piri Reis University, Istanbul, Turkey; 3. Nanotechnology Research and Application Center, Sabanci University, Istanbul, Turkey*

B13-07. **Severe Variation of Permanent Magnet Properties in Gas-Atomized MnAl Particles by Controlled Nanostructuration and Phase Transformation.** J. Rial[1], E.M. Palmero[1], J. Camarero[1], P. Švec[2], P. Švec Sr.[2] and *A. Bollero*[1] *1. Division of Permanent Magnets and Applications, IMDEA Nanoscience, Madrid, Spain; 2. Institute of Physics, Slovak Academy of Sciences, Bratislava, Slovakia*

B13-08. **In-field Annealing Effects on $L1_0$-(Mn,Zn)-Al and Mn-Al-C.** Y. Mitsui[1], R. Kobayashi[1], *A. Takaki*[1], Y. Takanaga[1], R.Y. Umetsu[2], M. Mizuguchi[3], K. Takahashi[2] and K. Koyama[1] *1. Kagoshima University, Kagoshima, Japan; 2. Tohoku Universty, Sendai, Japan; 3. Tohoku University, Sendai, Japan*

B13-09. **Withdrawn**

B13-10. **Withdrawn**

B13-11. **Magnetic Hardening and Microstructure in deformed $L1_0$-MnGa Magnet.** *Q. Lu*[1], D. Wang[1], H. Zhang[2] and Y. Ming[1] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China; 2. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China*

MONDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session B14
FRUSTRATED MAGNETISM, INCLUDING DIMERS, KITAEV MODELS, AND SHASTRY-SUTHERLAND AND HONEYCOMB LATTICES (Poster Session)

Hitoshi Ohta, Chair
Kobe University, Kobe, Japan

B14-01. **Withdrawn**

B14-02. **Phase diagram of the J_1-J_2-J_3 transverse Ising antiferromagnet on the honeycomb lattice with frustration: An effective-field study.** *A. Bobák*[1], E. Jurčišinová[2], M. Jurčišin[2,1], M. Zukovic[1] and T. Balcerzak[3] *1. Institute of Physics, P. J. Šafárik University, Košice, Slovakia; 2. Institute of Experimental Physics, Slovak Academy of Sciences, Košice, Slovakia; 3. Department of Solid State Physics, University of Lodz, Lodz, Poland*

B14-03. **Rotating magnetocaloric effect in strongly anisotropic geometrically frustrated TmB_4.** M. Orendac[1], S. Gabani[1], G. Pristas[1], E. Gazo[1], N. Shitsevalova[2], K. Siemensmeyer[3] and *K. Flachbart*[1] *1. Institute of Experimental Physics, Slovak Academy of Sciences, Kosice, Slovakia; 2. Institute for Problems of Materials Science, NASU, Kiev, Ukraine; 3. Helmholtz Zentrum Berlin, Berlin, Germany*

B14-04. **A New Constructive Method of the Quantum Dimer Model in Spin-1/2 Heisenberg Antiferromagnets with Frustration on a Diamond-Like-Decorated Square Lattice.** *Y. Hirose*[1], A. Oguchi[1], M. Tamura[1] and Y. Fukumoto[1] *1. Tokyo University of Science, Noda, Chiba, Japan*

B14-05. **Magnons in a Strongly Spin-Orbital Coupled Magnet.** *P. Maksimov*[1], S. Winter[2], K. Riedl[2], S. Chernyshev[1], A. Honecker[3] and R. Valenti[2] *1. University of California, Irvine, Irvine, CA, United States; 2. Theoretical Physics, University of Frankfurt, Frankfurt, Germany; 3. Université de Cergy-Pontoise, Cergy-Pontoise Cedex, France*

B14-06. **Hidden Ferromagnetism in the Kitaev Honeycomb Iridates.** *A. Ruiz*[1*], A. Frano[2], N. Breznay[4], Z. Islam[3] and J. Analytis[1] *1. University of California, Berkeley, Berkeley, CA, United States; 2. Physics, University of California, San Diego, San Diego, CA, United States; 3. Argonne National Laboratory, Lemont, IL, United States; 4. Physics, Harvey Mudd College, Claremont, CA, United States*

B14-07. **Noncollinear magnetic ordering in a frustrated magnet: Metallic regime and the role of frustration.** *M. Shahzad*[1] *1. School of Physical & Mathematical Sceiences, Nanyang Technological University, Singapore, Singapore*

B14-08. **Effective model with strong Kitaev interaction for α-$RuCl_3$.** *S. Suga*[1] and T. Suzuki[2] *1. University of Hyogo, Himeji, Japan; 2. University of Hyodo, Himeji, Japan*

MONDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session B15
ORDERED PHASES IN SCES 1: MOSTLY MAGNETISM (Poster Session)

Ladislav Havela, Chair
Charles University, Prague 2, Czechia

B15-01. **Critical scaling analysis in an itinerant ferromagnet $Ni_{1-x}Rh_x$.** B. Spieß[1,2], T. Besara[3], T. Siegrist[3], E. Morosan[1] and *C. Huang*[1] *1. Physics and Astronomy, Rice University, Houston, TX, United States; 2. Chemistry, Johannes Gutenberg-University Mainz, Mainz, Germany; 3. National High Magnetic Field Laboratory, Tallahassee, FL, United States*

B15-02. **Non-reciprocal magnon dispersion in chiral MnSi.** *T. Weber*[1], J. Waizner[3], G.S. Tucker[2], R. Georgii[7], A. Bauer[4], C. Pfleiderer[4], M. Garst[5] and P. Böni[6] *1. Spectroscopy Group, Institut Laue-Langevin (ILL), Grenoble, France; 2. Paul Scherrer Institut, 5232 Villigen PSI, Switzerland; 3. Institut für Theoretische Physik, Universität zu Köln, 50937 Cologne, Germany; 4. Physik-Department E21, Technical University of Munich, 85748 Garching, Germany; 5. TU Dresden, Dresden, Germany; 6. Physik-Department E21, Technical University of Munich, 85748 Garching, Germany; 7. Heinz-Maier-Leibnitz-Zentrum, Technical University of Munich, 85747 Garching, Germany*

B15-03. **High temperature ferromagnetism in $NbCo_2$ nanoparticles – bulk magnetization and hyperfine field measurements.** S.K. Mohanta[2], S.M. Davane[3], A. Thamizhavel[4], A. Chandra[5], S.K. Srivastava[6] and *S.N. Mishra*[1] *1. Department of Nuclear and Atomic Physics, Tata Institute of Fundamental Research, Mumbai, India; 2. Physics, Govt. College of Engineering, Bhawanipatana, Odisha, Bhawanipatana, India; 3. Department of Nuclear and Atomic Physics, Tata Institute of Fundamental Research, Mumbai, India; 4. Department of Condensed Matter Physics & Material Science, Tata Institute of Fundamental Research, Mumbai, India; 5. Physics, IIT Kgaragpur, Kharagpur, India; 6. Physics, IIT Kharagpur, Kharagpur, India*

B15-04. **Magneto-Resistance of $NdBaMn_2O_6$ Single Crystal.** *S. Yamada*[1], K. Ogawa[1], N. Abe[2], H. Sagayama[3,4] and T. Arima[2] *1. Department of Materials System Science, Yokohama City University, Yokohama, Japan; 2. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 3. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan; 4. Department of Materials Structure Science, The Graduate University for Advanced Studies, Tsukuba, Japan*

B15-05. **Magnetic excitations and electronic interactions in Sr_2CuTeO_6.** *P. Babkevich*[1], V.M. Katukuri[2], B. Fak[3], R. Singh[4] and H.M. Ronnow[1] *1. Laboratory for Quantum Magnetism, EPFL, Lausanne, Switzerland; 2. Institute of Physics, EPFL, Lausanne, Switzerland; 3. Institut Laue-Langevin, Grenoble, France; 4. University of California, Davis, CA, United States*

B15-06. **Complex magnetic behavior in $RE_8Pd_{24}Ga$ (RE = Gd, Tb and Dy) compounds.** *M.B. Tchoula Tchokonte*[1], J.J. Mboukam[1,2], A.K. Bashir[4], B.M. Sondezi[2], R. Kumar[2], A. Strydom[2] and D. Kaczorowski[3] *1. Physics and Astronomy, University of the Western Cape, Bellville, South Africa; 2. Physics, University of Johannesburg, Johanneburg, South Africa; 3. Magnetic, Institute of Low temperature and Structure research, Polish Academy of Sciences, Wroclaw, Poland, Wroclaw, Poland; 4. Physics and Astronomy, University of the Western Cape, Bellville, South Africa*

B15-07. **Giant magnetocaloric effect and universal scaling analysis of Er_5Pd_2 superspin glass system.** *M.K. Sharma*[1] and K. Mukherjee[1] *1. School of Basic Sciences, Indian institute of Technology Mandi Himachal Pradesh India, Mandi, India*

B15-08. **Observation of size dependent orbital magnetism of single Fe impuritiy in nanocrystalline Pb hosts.** S.K. Mohanta[2], S. Sarkar[3], P. Ayyub[4] and *S.N. Mishra*[1] *1. Department of Nuclear and Atomic Physics, Tata Institute of Fundamental Research, Mumbai, India; 2. Physics, Govt. College of Engineering, Bhawanipatana, Bhawanipatana, India; 3. Department of Condensed Matter Physics & Material Science, Tata Institute of Fundamental Research, Mumbai, India; 4. Department of Condensed Matter Physics & Material Science, Tata Institute of Fundamental Research, Mumbai, India*

B15-09. **Temperature dependence of the magnetic hyperfine interaction on a Ce impurity embedded in *R*Zn, (*R* = Gd,Dy).** A. de Oliveira[1], C. Chaves[2], N. Oliveira[3] and *A. Troper*[2] *1. Instituto Federal de Educacao Ciencia e Tecnologia do Rio de Janeiro, Nilopolis, Brazil; 2. Exp, Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil; 3. Physics department, UERJ, Rio de Janeiro, Brazil*

B15-10. **Withdrawn**

MONDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session B16
TOPOLOGICAL SCES I: MAGNETIC SYSTEMS (Poster Session)

Hsin-Hua Lai, Chair
Rice University, Houston, TX, United States

B16-01. **Topological features of the thermal Hall conductivity in a chiral *p*-wave superconductor under strain.** *Y. Imai*[1] and M. Sigrist[2] *1. Applied Physics, Okayama University of Science, Okayama, Japan; 2. ETH-Zurich, Zurich, Switzerland*

B16-02. **Symmetry breaking of spin and valley degree of freedom in a massless-Dirac electron system, α-(BEDT-TTF)$_2$I$_3$ under magnetic fields.** *K. Miyagawa*[1], M. Matsuno[1], T. Taniguchi[1], D. Liu[1], M. Hirata[2], M. Tamura[3] and K. Kanoda[1] *1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Department of Physics, Tokyo University of Science, Chiba, Japan*

B16-03. **Distinctly Different Spin Disorder Topological Phases in J1-J2 Heisenberg Model in Honeycomb Lattice.** J. Liu[1], Y. Quan[2], H. Lin[3] and *L. Zou*[1] *1. Research Laboratory of Computational Materials Sciences, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 3. Beijing Computational Science Research Center, Beijing, China*

B16-04. **Magnetism in pyrochlore irridates.** *H. Jacobsen*[1], C.D. Dashwood[2], D. Khalyavin[3], P. Manuel[3], D. Prabhakaran[1], D.F. McMorrow[2] and A. Boothroyd[1] *1. Department of Physics, University of Oxford, Oxford, United Kingdom; 2. Physics and Astronomy, University College London, London, United Kingdom; 3. ISIS Pulsed Neutron and Muon Source, Didcot, United Kingdom*

B16-05. **Temperature dependent Magneto-transport properties of MnAl Binary Alloy Thin Films.** *V. Barwal*[1], S. Husain[1], N. Gupta[1], A. Kumar[2], P. Svedlindh[2] and S. Chaudhary[1] *1. Physics, Indian Institute of Technology Delhi, New Delhi, India; 2. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden*

B16-06. **Field-induced Weyl metal phases of non-collinear antiferromagnet: GdB_4.** *D. Ryu*[1], K. Kim[1,2] and B. Min[1] *1. Physics, POSTECH, Pohang, The Republic of Korea; 2. Max Planck POSTECH/Korea Research Initiative, Pohang, The Republic of Korea*

B16-07. **Effects of doping on the semiconductor $OsGe_2$.** *G. Lopez*[1,2], A. Gong[1,2] and J. Analytis[3] *1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. University of California, Berkeley, Berkeley, CA, United States*

B16-08. **Formation of a topological spin liquid regime in $Mn_{1-x}Fe_xSi$.** *C. Franz*[1,2], J. Kindervater[1], T. Adams[1], A. Bauer[1], F. Haslbeck[1], A. Chacon[1], S. Muehlbauer[3], F. Jonietz[1], A. Neubauer[1], U. Gasser[4], G. Nagy[4], N. Martin[1,2], W. Häußler[1,2], R. Georgii[1,2], M. Garst[5] and C. Pfleiderer[1] *1. Physics Department, Technical University of Munich, Garching, Germany; 2. Heinz Maier-Leibnitz Zentrum, Technical University of Munich, Garching, Germany; 3. Heinz Maier Leibnitz Zentrum (MLZ), Technical University of Munich, Garching, Germany; 4. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villingen, Switzerland; 5. TU Dresden, Dresden, Germany*

B16-09. **Withdrawn**

B16-10. **Withdrawn**

B16-11. **Withdrawn**

MONDAY MORNING 11:30

ESPLANADE 157

Session C1
ELECTRIC FIELD EFFECTS ON MAGNETIC SYSTEMS

Yonggang Zhao, Chair
Tsinghua University, Beijing, China

11:30

C1-01. **Electric field effect on exchange interaction in ultra-thin Co films with ionic liquids.** *M. Ishibashi*[1], K. Yamada[2], Y. Shiota[1], F. Ando[1], T. Koyama[4], H. Kakizakai[1], H. Mizuno[1], K. Miwa[3], S. Ono[3], T. Moriyama[1], D. Chiba[4] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Kyoto, Japan; 2. Institute for Chemical Research, Kyoto University, Uji, Japan; 3. Central Research Institute of Electric Power Industry, Yokosuka, Japan; 4. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*

11:45

C1-02. **Magneto-electricity in Van der Waals Magnetic Bilayers.** *C. Lei*[1], K. Nomura[2] and A.H. MacDonald[1] *1. Physics, University of Texas at Austin, Austin, TX, United States; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

12:00

C1-03. **Solid state magneto-ionic proton pump.** *A. Tan*[1], M. Huang[1], C. Avci[1] and M. Mann[1] *1. Materials Science and Engineering, MIT, Cambridge, MA, United States*

12:15

C1-04. **Strain-induced magnetization control at the $La_{0.65}Sr_{0.35}MnO_3/BaTiO_3$ interface.** F. Motti[1,2], G. Vinai[1], A. Petrov[1], B. Davidson[1], B. Gobaut[3], A. Filippetti[1], G. Rossi[2,1], G. Panaccione[1] and *P. Torelli*[1] *1. CNR-IOM, Trieste, Italy; 2. Universita di Milano, Milano, Italy; 3. Synchrotron Soleil, Saint Aubain, France*

MONDAY MORNING 11:30

ESPLANADE 158

Session C2
MOLECULAR MAGNETISM II

Stephen Hill, Chair
Florida State University and NHMFL, Tallahassee, FL, United States

11:30

C2-01. **Development of Organic Quantum Magnets.** ***(Invited)*** *Y. Hosokoshi*[1] *1. Department of Physical Science, Osaka Prefecture University, Sakai, Japan*

12:00

C2-02. **A Linear Cobalt(II) Dialkyl Complex with a non-Aufbau Ground State and Very Large Magnetic Anisotropy.** *P. Bunting*[1], M. Atanasov[2], E. Damgaard-Møller[3], M. Perfetti[4], I. Crassee[5], M. Orlita[5], J. Overgaard[3], J. van Slageren[6], F. Neese[2] and J. Long[7] *1. Department of Chemistry, University of California, Berkeley, Berkeley, CA, United States; 2. Max-Planck-Institut fur Kohlenforschung, Mulheim, Germany; 3. Department of Chemistry & Centre for Materials Crystallography, Aarhus University, Aarhus, Denmark; 4. Department of Chemistry, University of Copenhagen, Copenhagen, Denmark; 5. Laboratoire national des champs magnétiques intenses, CNRS-UJF-UPS-INS, Grenoble, France; 6. Institut für Physikalische Chemie, Universität Stuttgart, Stuttgart, Germany; 7. University of California, Berkeley, Berkeley, CA, United States*

12:15

C2-03. **XMCD Studies of 5d Transition Metal Complexes - Building Blocks for Molecular Magnets.** *A. Rogalev*[1], K. Pedersen[2], F. Wilhelm[1] and R. Clerac[3] *1. ESRF, Grenoble, France; 2. Department of Chemistry, Technical University of Denmark, Lyngby, Denmark; 3. CNRS-Univ. Bordeaux, CRPP, UMR 5031, Pessac, France*

MONDAY MORNING 11:30 — ESPLANADE 159

Session C3
MAGNETIC RECORDING

Bernard Diény, Chair
SPINTEC, Grenoble, France

11:30

C3-01. **Heat Assisted Magnetic Recording's Potential for High Linear and Areal Density Recording.** ***(Invited)*** *J. Thiele*[1], Y. Kubota[1], S. Zhu[1], E.K. Chang[1], Y. Ding[1], L. Gao[1], F. Zavaliche[1], Y. Peng[1], T.J. Klemmer[1], A.Q. Qu[1], H. Amini[1], X. Zhu[1], P. Huang[1], P. Subedi[2], C.J. Rea[2], S. Grantz[3], T. Rausch[3], M.A. Seigler[2] and G. Ju[1] *1. Recording Media Operations, Seagate Technology, Fremont, CA, United States; 2. Recording Heads Operations, Seagate Technology, Normandale, MN, United States; 3. Seagate Research Group, Seagate Technology, Shakopee, MN, United States*

12:00

C3-02. **Ultrafast Non-dissipative Photo-magnetic Recording.** ***(Invited)*** *A. Stupakiewicz*[1] *1. Faculty of Physics, University of Bialystok, Bialystok, Poland*

MONDAY MORNING 11:30 — ESPLANADE 160

Session C4
DOMAIN WALL DYNAMICS I

Roberto Lo Conte, Chair
University of California, Berkeley, Berkeley, CA, United States

11:30

C4-01. **Dramatic Effect Of Curvature On Velocity Of Chiral Domain Walls.** ***(Invited)*** *C. Garg*[1,2], S. Yang[1], T. Phung[1], A. Pushp[1] and S.S.P. Parkin[1,2] *1. IBM Almaden Research Center, San Jose, CA, United States; 2. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany*

12:00

C4-02. **Magnetization dynamics in Ni nanostripes induced by surface acoustic waves.** *D. Castilla*[1], J.L. Prieto[1], M. Muñoz[2,1], M. Sinusia[3], G. Fuentes[3], L. Lopez-Diaz[4] and R. Yanes[5] *1. Física Aplicada, Universidad Politécnica de Madrid, Madrid, Spain; 2. IMM-Instituto de Microelectrónica de Madrid (CNM-CSIC), Madrid, Spain; 3. Instituto de Sistemas Optoelectrónicos y Microtecnología (ISOM), Universidad Politécnica de Madrid, Madrid, Spain; 4. Applied Physics, University of Salamanca, Salamanca, Spain; 5. Física Aplicada, Universidad de Salamanca, Salamanca, Spain*

12:15

C4-03. **Eavesdropping on spin waves inside the domain-wall nanochannel via three-magnon processes.** B. Zhang[1], Z. Wang[1], Y. Cao[1], *P. Yan*[1] and X. Wang[2] *1. Electronic Science and Engineering, University of Electronic Science and Technology of China, Chengdu, China; 2. Physics, The Hong Kong University of Science and Technology, Kowloon, Hong Kong*

MONDAY MORNING 11:30 — ESPLANADE 152

Session C5
FUNCTIONAL MATERIALS

Victorino Franco, Chair
Sevilla University, Sevilla, Spain

11:30

C5-02. **Inelastic Neutron Scattering Investigations in the Series $Mn_{5-x}Fe_xSi_3$.** ***(Invited)*** *K. Schmalzl*[1], N. Biniskos[1,2], S. Raymond[2] and T. Brückel[3] *1. JCNS at Institut Laue-Langevin, Forschungszentrum Jülich, Grenoble, France; 2. CEA, INAC, MEM, Université Grenoble Alpes, Grenoble, France; 3. JCNS2 and PGI, JARA-FIT, Forschungszentrum Jülich GmbH, Jülich, Germany*

12:00

C5-03. **All-optical switching and brain-inspired concepts for low energy information processing.** ***(Invited)*** A. Chakravarty[2], J. Mentink[1], C.S. Davies[2], K. Yamada[2], A. Kimel[2] and *T. Rasing*[3] *1. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands; 2. Radboud University, Nijmegen, Netherlands; 3. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands*

MONDAY
MORNING
11:30

ROOM 105

Session C6
DIAGNOSTIC BIOMEDICAL APPLICATIONS OF MNPS

Hubert Brueckl, Co-Chair
Danube University Krems, Wiener Neustadt, Austria
Zbigniew Celinski, Co-Chair
UCCS, Colorado Springs, CO, United States

11:30

C6-01. **Synthesis and Characterization of Multifunctional Fe_3O_4-ZnO Colloidal Nanocrystal Clusters for Ultra-sensitive *in vitro* Diagnosis.** *M. Ko*[1], B. Park[1], L. Pan[1] and Y. Kim[1] *1. Department of Materials Science & Engineering, Korea University, Seoul, The Republic of Korea*

11:45

C6-02. **Co-Zn Ferrite Nanoparticles for Magnetic Resonance Imaging Thermometry.** *Z. Celinski*[1], J.H. Hankiewicz[1], K. Tvrdy[2], K. Stupic[3], S.E. Russek[3], R.E. Camley[1], J. Stroud[1] and J. Stool[2] *1. BioFrontiers, University of Colorado Colorado Springs, Colorado Springs, CO, United States; 2. Department of Chemistry & Biochemistry, UCCS, Colorado Springs, CO, United States; 3. National Institute of Standards and Technology, Boulder, CO, United States*

12:00

C6-03. **White Blood Cell Tracking with Magnetic Particle Imaging Towards Sensitive and Radiation-Free Diagnosis of Infection and Inflammation.** *X.Y. Zhou*[1,2], P. Chandrasekharan[2], K. Jeffris[2], D. Mai[2], E.Y. Yu[1,2], B. Zheng[2] and S. Conolly[2,3] *1. Bioengineering, UC Berkeley - UCSF Graduate Program in Bioengineering, Berkeley, CA, United States; 2. Bioengineering, UC Berkeley, Berkeley, CA, United States; 3. Electrical Engineering and Computer Science, University of California, Berkeley, Berkeley, CA, United States*

12:15

C6-04. **Isolation of Bacteria from Water Samples Using Spin-Vortex Magnetic Microdiscs.** *K.Y. Castillo-Torres*[1], E. McLamore[2] and D.P. Arnold[1] *1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, United States; 2. Agricultural and Biological Engineering, University of Florida, Gainesville, FL, United States*

MONDAY
MORNING
11:30

ROOM 104

Session C7
ADVANCED SYNTHESIS OF MAGNETIC THIN FILMS AND MULTILAYERS I

David Lederman, Chair
University of California, Santa Cruz, Santa Cruz, CA, United States

11:30

C7-01. **Magnetic Properties of Fe_3O_4 Antidots Arrays Synthesized by Atomic Layer Deposition and Focused Ion Beam Lithography.** ***(Invited)*** *J.L. Palma*[1,2], A. Pereira[2], R. Álvaro[3], J.M. García-Martín[3] and J. Escrig[4,2] *1. Departamento de Ciencias Básicas, Universidad Central de Chile, Santiago, Chile; 2. Center for the Develpment of Nanoscience and Nanotecnology CEDENNA, Santiago, Chile; 3. Instituto de Micro y Nanotecnología IMN-CNM, Madrid, Spain; 4. Departamento de Física, Universidad de Santiago Chile, Santiago, Chile*

12:00

C7-03. **Exploration of Fe_2O_3/Cu nanocomposite metaconductors formed by electro-infiltration.** *C.S. Smith*[1], T. Clingenpeel[1], Y. Yoon[1] and D.P. Arnold[1] *1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, United States*

MONDAY
MORNING
11:30

ROOM 306

Session C8
ULTRAFAST SPECTROSCOPY OF STRONGLY CORRELATED SYSTEMS

Alix McCollam, Chair
Radboud University, Nijmegen, Netherlands

11:30

C8-01. **Ultrafast Manipulation of Topological Properties using Shear Strain in a Weyl Semimetal.** ***(Invited)*** *E. Sie*[1] *1. Stanford University, Stanford, CA, United States*

12:00

C8-02. **Ultrafast electronic dynamics in a strongly correlated insulator SmB_6.** *K. Xu*[1], A. Gauthier[1,2], J. Sobota[1,2], H. Pfau[1,2], J. Xia[3], P. Kirchmann[1,2] and Z. Shen[1,2] *1. Stanford University, Stanford, CA, United States; 2. SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 3. University of California, Irvine, Irvine, CA, United States*

12:15

C8-03. **Pulse-induced η-pairing correlation in a Mott-Hubbard system.** *T. Kaneko*[1], T. Shirakawa[2], S. Sorella[3] and S. Yunoki[1,2] *1. Computational Condensed Matter Physics Laboratory, RIKEN, Wako, Japan; 2. Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan; 3. SISSA-International School for Advanced Studies, Trieste, Italy*

MONDAY MORNING 11:30 — ROOM 307/308

Session C9
NEW DEVELOPMENTS IN STRONGLY CORRELATED ELECTRON SYSTEMS I

Mucio Continentino, Chair
Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil

11:30

C9-01. **Learning Quantum Emergence with AI.** ***(Invited)*** *E. Kim*[1] *1. Physics, Cornell University, Ithaca, NY, United States*

12:00

C9-02. **Evolution of Electronic Non-Fermi Liquid Excitations in $YbRh_2Si_2$.** ***(Invited)*** *L. Jiao*[1], S. Seiro[1], S. Kirchner[2], S. Hartmann[3], S. Friedemann[4], C. Geibel[1], Q. Si[5], F. Steglich[1] and S. Wirth[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Zhejiang University, Hangzhou, China; 3. Fraunhofer Institute for Photonic Microsystems, Dresden, Germany; 4. School of Physics, University of Bristol, Bristol, United Kingdom; 5. Rice University, Houston, TX, United States*

MONDAY MORNING 11:30 — ROOM 313/314

Session C10
QUANTUM SPIN LIQUIDS II: THEORY AND APPLICATIONS TO MATERIALS

Oleg Tchernyshyov, Chair
Johns Hopkins University, Baltimore, MD, United States

11:30

C10-01. **Universal thermal Hall conductivity of a kagomé antiferromagnet.** *M. Yamashita*[1], H. Doki[1], M. Akazawa[1], H. Lee[1], J. Han[2], K. Sugii[1], M. Shimozawa[1], N. Kawashima[1], M. Oda[3] and H. Yoshida[3] *1. The Institute for the Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Department of Physics, Sungkyunkwan University, Suwon, The Republic of Korea; 3. Department of Physics, Faculty of Science, Hokkaido University, Sapporo, Japan*

11:45

C10-02. **Topography and mimicry of spin liquids on a triangular lattice.** *S. Chernyshev*[1] *1. University of California, Irvine, Irvine, CA, United States*

12:00

C10-03. **Field-Induced Spinon Pairing in a Gapless Fermi-Surface Spin Liquid on the Kagome Lattice.** *A. Zorko*[1], M. Gomilsek[1], M. Klanjsek[1], R. Zitko[1], M. Pregelj[1], Y. Li[2], Q. Zhang[2,3], F. Bert[4] and P. Mendels[4] *1. Jozef Stefan Institute, Ljubljana, Slovenia; 2. Department of Physics, Renmin University of China, Beijing, China; 3. Shanghai Jiao Tong University, Shanghai, China; 4. Laboratoire Physique des Solides, Université Paris-Sud, Orsay, France*

12:15

C10-04. **Stability of the spiral spin liquid in $MnSc_2S_4$.** Y. Iqbal[1], *T. Müller*[2], H. Jeschke[3], R. Thomale[2] and J. Reuther[4,5] *1. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 2. Institute for Theoretical Physics and Astrophysics, Julius-Maximilian's University of Würzburg, Würzburg, Germany; 3. Research Institute for Interdisciplinary Science, Okayama University, Okayama, Japan; 4. Dahlem Center for Complex Quantum Systems and Institut für Theoretische Physik, Freie Universität Berlin, Berlin, Germany; 5. Helmholtz-Zentrum für Materialien und Energie, Berlin, Germany*

MONDAY AFTERNOON 1:30 — ESPLANADE 157

Session D1
SPIN CURRENTS AND MAGNONIC CONDENSATES IN MAGNETIC INSULATORS

Oksana Chubykalo-Fesenko, Chair
Insituto de Ciencia de Materiales de Madrid, Madrid, Spain

1:30

D1-01. **Condensation of Magnons by Spin Seebeck Currents.** ***(Invited)*** *I. Barsukov*[1], C.J. Safranski[2], H. Lee[2], T. Schneider[2,3], A.A. Jara[2], A. Smith[2], H. Chang[4], K. Lenz[3], J. Lindner[3], Y. Tserkovnyak[5], M. Wu[4] and I. Krivorotov[2] *1. Physics and Astronomy, University of California Riverside, Riverside, CA, United States; 2. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States; 3. Helmholtz-Zentrum Dresden - Rossendorf, Dresden, Germany; 4. Department of Physics, Colorado State University, Fort Collins, CO, United States; 5. Physics and Astronomy, UCLA, Los Angeles, CA, United States*

2:00

D1-02. **Supercurrent in a room-temperature Bose-Einstein magnon condensate.** ***(Invited)*** *B. Hillebrands*[1] *1. Physics, TU Kaiserslautern, Kaiserslautern, Germany*

2:30

D1-03. **Magnonic condensates and superfluids.** ***(Invited)*** *S. Kim*[1]
1. Physics and Astronomy, UCLA, Los Angeles, CA, United States

MONDAY AFTERNOON 1:30 — ESPLANADE 158

Session D2
MAGNETIC SKYRMIONS AND SPIN TEXTURES

Christian Rüegg, Chair
Paul Scherrer Institut, Villigen, Switzerland

1:30

D2-01. **Vortices And Skyrmions In Itinerant Magnets.** ***(Invited)***
Y. Motome[1] *1. The University of Tokyo, Tokyo, Japan*

2:00

D2-02. **Signatures of Skyrmion Lattice Order in Antiferromagnetic $EuPtSi_3$.** *W. Simeth*[1], A. Bauer[1], A. Senyshyn[2], C. Franz[2], T. Schrader[3], R. Bozhanova[1], S. Gottlieb-Schönmeyer[1] and C. Pfleiderer[1] *1. Physics, Technical University of Munich, Garching, Germany; 2. Heinz Maier-Leibnitz Zentrum, Garching, Germany; 3. Jülich Centre for Neutron Science, Garching, Germany*

2:15

D2-03. **Magnetoelectric effect and orbital magnetization in skyrmion crystals: New ways for detection and characterization of skyrmions.** *B. Göbel*[1], A. Mook[2,1], J. Henk[2] and I. Mertig[2,1] *1. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany; 2. Martin-Luther University, Halle, Germany*

2:30

D2-04. **Precipitating Ordered Skyrmion Lattices from Helical Spaghetti.** *D.A. Gilbert*[1], A.J. Grutter[1], P. Neves[2], G. Shu[3,4], G. Zimanyi[5], B.B. Maranville[1], F. Chou[3], K.L. Krycka[1], N. Butch[1,2], S. Huang[6] and J. Borchers[1] *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. Physics, University of Maryland, College Park, MD, United States; 3. National Taiwan University, Taipei, Taiwan; 4. National Taipei University of Technology, Taipei, Taiwan; 5. Physics, UC Davis, Davis, CA, United States; 6. Physics, University of Miami, Coral Gabels, FL, United States*

2:45

D2-05. **Electronic properties of chiral spin textures from non-commutative quantum mechanics.** *F.R. Lux*[1], F. Freimuth[1], S. Blügel[1] and Y. Mokrousov[1] *1. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany*

MONDAY AFTERNOON 1:30 — ESPLANADE 159

Session D3
MAGNETIC MOLECULES AND ORGANICS FOR BIO-APPLICATIONS OF MAGNETISM

Hariharan Srikanth, Chair
University of South Florida, Tampa, FL, United States

1:30

D3-01. **Biomedical and Electronic Applications of Magnetoelectric Nanofibers.** ***(Invited)*** *J. Andrew*[1] *1. Materials Science & Engineering, University of Florida, Gainesville, FL, United States*

2:00

D3-02. **Micro-magnetic circuit for logical operation of multiplex cell tweezers.** ***(Invited)*** B. Lim[1], X. Hu[1], K. Kim[1], J. Yoon[1] and *C. Kim*[1] *1. Emerging Materials Science, DGIST, Daegu, The Republic of Korea*

2:30

D3-03. **Magnetic Particle Imaging (MPI) for Highly Sensitive, Quantitative, and Safe *in Vivo* Gut Bleed Detection in a Murine Model.** *P. Chandrasekharan*[1], E.Y. Yu[1], Z. Tay[1], X.Y. Zhou[4] and S. Conolly[5] *1. BioEngineering, University of California, Berkeley, Berkeley, CA, United States; 4. Bioengineering, UC Berkeley - UCSF Graduate Program in Bioengineering, Berkeley, CA, United States; 5. University of California, Berkeley, Berkeley, CA, United States*

2:45

D3-04. **Recent achievments for ultrasensitive gas sensing and bio-physic detection.** *F. Terki*[1] and Q. Tran[1] *1. Université de Montpellier, Montpellier, France*

MONDAY AFTERNOON 1:30 — ESPLANADE 160

Session D4
SPIN ICES AND MAGNETIC NANOPARTICLES I

Will Branford, Chair
Imperial College London, London, United Kingdom

1:30

D4-01. **Magnetic nanoparticle assembly in extreme force gradients.** ***(Invited)*** *T.M. Crawford*[1,2] *1. Smart State Center for Experimental Nanoscale Physics, University of South Carolina, Columbia, SC, United States; 2. Physics and Astronomy, University of South Carolina, Columbia, SC, United States*

2:00

D4-02. **Nanomagnetic Writing via Dynamic Magnetic Charge: Magnonic Horizons & Developments Beyond Surface Probe Lithography.** *J.C. Gartside*[1], D.M. Arroo[1], S. Jung[1], S. Yoo[1], D.M. Burn[2], L.F. Cohen[1] and W.R. Branford[1] *1. Physics, Imperial College London, Harwell, United Kingdom; 2. Diamond Light Source Ltd, Didcot, United Kingdom*

2:15

D4-03. **FORC based interaction strength investigations in permalloy micro arrays.** F. Groß[2], S.E. Ilse[2], *J. Gräfe*[1] and E.J. Goering[3] *1. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Modern Magnetic Systems, Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 3. Schuetz, Max-Planck-Institute for Intelligent Systems, Stuttgart, Germany*

2:30

D4-04. **Magnetization Reversal of Individual 3D Nanostructures.** *M.K. Al Mamoori*[1], L. Keller[1], J. Pieper[1], S. Barth[2], R. Winkler[3], H. Plank[4], I. Stockem[5], C.H. Schroeder[5], M. Huth[1] and J. Müller[1] *1. Institute of Physics, Goethe-University Frankfurt, Frankfurt am Main, Germany; 2. Institute of Materials Chemistry, Vienna University of Technology, Vienna, Austria; 3. Graz Centre for Electron Microscopy, Graz, Austria; 4. Institute of Electron Microscopy and Nanoanalysis, Graz University of Technology, Graz, Austria; 5. Bielefeld Institute for Applied Materials Research, Bielefeld University of Applied Sciences, Bielefeld, Germany*

2:45

D4-05. **Ferromagnetic resonance in three-fold nano-ellipse clusters.** *W. Bang*[1,2], F. Montoncello[3], M. Jungfleisch[2], A. Hoffmann[2], L. Giovannini[3] and J.B. Ketterson[1,4] *1. Physics and Astronomy, Northwestern University, Evanston, IL, United States; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 3. Physics, University of Ferrara, Ferrara, Italy; 4. Electrical and Computer Engineering, Northwestern University, Evanston, IL, United States*

Session D5
RARE EARTH FREE PERMANENT MAGNETS II

Kanta Ono, Chair
KEK, Tsukuba, Japan

1:30

D5-01. **Synthesis of single-phase $L1_0$-FeNi magnet powder by nitrogen insertion and topotactic extraction.** ***(Invited)*** *H. Kura*[1], S. Goto[1], E. Watanabe[1], H. Yanagihara[2], Y. Shimada[3], M. Mizuguchi[3], K. Takanashi[3] and E. Kita[2,4] *1. Advanced Research and Innovation Center, DENSO Corporation, Nisshin, Japan; 2. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. National Institute of Technology, Ibaraki College, Hitachinaka, Japan*

2:00

D5-02. **Rare-earth-free permanent magnets based on transition-metal nanowires: how far can we go?** ***(Invited)*** *P. Liu*[1] *1. University of Texas-Arlington, Arlington, TX, United States*

2:30

D5-03. **Development of hard magnetic $L1_0$ FeNi phase in amorphous FeNiZr thin films deposited on MgO.** *P. Sharma*[1], K. Sato[2], M. Nishijima[3], S. Okamoto[4], H. Yasuda[2], O. Kitakami[4] and A. Makino[1] *1. New Industry Creation Hatchery Center (NICHe), Tohoku University, Sendai, Japan; 2. Research Center for UHVEM, Osaka University, Ibaraki, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan*

2:45

D5-04. **Micromagnetic Simulation of Partially Ordered $L1_0$ FeNi Permanent Magnets.** *J. Fischbacher*[1], A. Kovacs[1], H. Oezelt[1], T. Schrefl[1], D. Niarchos[2] and M. Gjoka[2] *1. Department for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, Austria; 2. INN, NCSR Demokritos, Athens, Greece*

Session D6
MAGNETIC SEMICONDUCTORS I

Sanghoon Lee, Co-Chair
Korea University, Seoul, The Republic of Korea
Jianhua Zhao, Co-Chair
Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China

1:30

D6-01. **Magnetization Dynamics Driven By Surface Acoustic Waves.** ***(Invited)*** *L. Thevenard*[1], I. Camara[1], P. Kuszewski[1], L. Becerra[1], A. Lemaître[2], J. Duquesne[1] and C. Gourdon[1] *1. Institut des Nanosciences de Paris, Sorbonne Universités, CNRS, Paris, France; 2. Centre de Nanosciences et de Nanotechnologies, CNRS, Univ. Paris-Sud, Université Paris-Saclay, Marcoussis, France*

2:00

D6-02. **Zero-field Magnetic Response Functions in Landau Levels.** Y. Gao[1] and *Q. Niu*[2] *1. Physics, Carnegie Mellon Univ, Pittsburgh, PA, United States; 2. Physics, University of Texas at Austin, Austin, TX, United States*

2:15

D6-03. **Spin wave resonances in GaMnAsP films with perpendicular anisotropy.** *X. Liu*[2], S. Bac[1,2], S. Dong[2], S. Lee[1], M. Dobrowolska[2] and J.K. Furdyna[2] *1. Physics, Korea University, Seoul, The Republic of Korea; 2. Department of Physics, University of Notre Dame, Notre Dame, IN, United States*

2:30

D6-04. **Investigation of a Possible Electronic Phase Separation in the Magnetic Semiconductors (Ga,Mn)As and (Ga,Mn)P by Means of Fluctuation Spectroscopy.** *M. Lonsky*[1], J. Teschabai-Oglu[1], K. Pierz[2], S. Sievers[2], H. Schumacher[2], Y. Yuan[3], R. Böttger[3], S. Zhou[3] and J. Müller[1] *1. Institute of Physics, Goethe University Frankfurt, Frankfurt, Germany; 2. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 3. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

2:45

D6-05. **Giant manipulation of magnetic properties in magnetic semiconductor (Ga,Mn)As.** H. Wang[1] and *J. Zhao*[1] *1. State Key Laboratory of Superlattices andMicrostructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China*

Session D7
TUNNEL JUNCTIONS AND SPIN-TORQUE NANO-OSCILLATORS

Tomohiro Taniguchi, Chair
AIST, Tsukuba, Japan

1:30

D7-01. **Synthesis of spinel tunnel barriers for advanced spintronics devices.** ***(Invited)*** *H. Sukegawa*[1] *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan*

2:00

D7-02. **Tunneling magnetoresistance effect with an equiatomic CoFeMnSi Heusler alloy electrode.** *L. Bainsla*[1], K. Suzuki[1,2], M. Tsujikawa[3,2], H. Tsuchiura[4,2], M. Shirai[3,2] and S. Mizukami[1,2] *1. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 4. Department of Applied Physics, Tohoku University, Sendai, Japan*

2:15

D7-03. **Modulation and detection of single neuron activity using Spin Transfer Nano-Oscillators.** ***(Invited)*** *E. Waks*[1] *1. University of Maryland, College Park, MD, United States*

2:45

D7-04. **Broadband Spintronics Diodes for Energy Harvesting.** B. Fang[2], M. Carpentieri[5], P. Khalili Amiri[3], *G. Finocchio*[1] and Z. Zeng[4] *1. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy; 2. Chinese Academy of Sciences, Suzhou, China; 3. Department of Electrical Engineering and Computer Science, Northwestern University, Evanston, IL, United States; 4. Suzhou Institute of Nano-tech and Nano-bionics, CAS, Suzhou, China; 5. Ingegneria Elettrica e dell'Informazione, Politecnico of Bari, Bari, Italy*

Session D8
UNCONVENTIONAL SUPERCONDUCTIVITY OF Sr_2RuO_4

Philip Moll, Chair
MPI for Chemical Physics of Solids, Dresden, Germany

1:30

D8-01. **Sr_2RuO_4: Challenges and Opportunities.** ***(Invited)*** *C. Kallin*[1] *1. Physics & Astronomy, McMaster University, Hamilton, ON, Canada*

2:00

D8-02. **Normal state properties of Sr_2RuO_4 under strained conditions examined by ^{17}O NMR.** ***(Invited)*** Y. Luo[1], A. Pustogow[1], E. Bauer[2], C. Hicks[3], H. Rosner[3], A. Mackenzie[3] and *S. Brown*[1] *1. Physics and Astronomy, UCLA, Los Angeles, CA, United States; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

2:30

D8-03. **Magnetic excitations and superconductivity in Sr_2RuO_4.** *P. Steffens*[1], M. Braden[2], S. Kunkemöller[2], Y. Sidis[3] and I. Mazin[4] *1. Institut Laue Langevin, Grenoble, France; 2. Physics, Universität zu Köln, Cologne, Germany; 3. LLB Saclay, Orsay, France; 4. Naval Research Laboratory, Washington, DC, United States*

2:45

D8-04. **Towards identification of the superconducting gap structure of Sr_2RuO_4: evidence for a horizontal line node gap from field-angle dependence of its specific heat.** *S. Kittaka*[1], S. Nakamura[1], T. Sakakibara[1], N. Kikugawa[2], T. Terashima[2], S. Uji[2,3], D.A. Sokolov[4], A. Mackenzie[4], K. Irie[5], Y. Tsutsumi[6,7], K. Suzuki[8] and K. Machida[5] *1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 4. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 5. Department of Physics, Ritsumeikan University, Kusatsu, Japan; 6. Department of Basic Science, The University of Tokyo, Meguro, Japan; 7. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan; 8. Research Organization of Science and Technology, Ritsumeikan University, Kusatsu, Japan*

Session D9
ELECTRONIC STRUCTURE OF HEAVY FERMION SYSTEMS; PROPERTIES OF URu_2Si_2

Frank Steglich, Chair
MPI for Chemical Physics of Solids, Dresden, Germany

1:30

D9-01. **The Utility of Band Theory in Strongly Correlated Electron Systems.** ***(Invited)*** *G. Zwicknagl*[1] *1. Institut fuer Mathematische Physik, TU Braunschweig, Braunschweig, Germany*

2:00

D9-03. **Arrested Kondo hybridization and incommensurate wave vector locking at the hidden order transition in URu_2Si_2.** ***(Invited)*** *J. Denlinger*[1], J. Kang[2], J. Allen[3] and M.B. Maple[4] *1. Advanced Light Source, Lawrence Berkeley National Laboratory, Kensington, CA, United States; 2. Physics, The Catholic University of Korea, Bucheon, The Republic of Korea; 3. U. of Michigan, Ann Arbor, CA, United States; 4. Physics, UC San Diego, San Diego, CA, United States*

2:30

D9-04. **Anisotropic Kondo pseudo-gap and Hidden Order in URu_2Si_2.** *J. Buhot*[1,2], X. Montiel[3,6], Y. Gallais[2], M. Cazayous[2], A. Sacuto[2], G. Lapertot[4], D. Aoki[5,4], N. Hussey[1], C. Pépin[6], S. Burdin[7] and M. Méasson[8,2] *1. High Field Magnet Laboratory (HFML-EMFL), Radboud University Nijmegen, Nijmegen, Netherlands; 2. Laboratoire Matériaux et Phénomènes Quantiques, Université Paris Diderot, Paris, France; 3. Department of Physics, Royal Holloway, University of London, Surrey, United Kingdom; 4. Univ. Grenoble Alpes and CEA, INAC, PHELIQS, Grenoble, France; 5. IMR, Tohoku University, Oarai, Japan; 6. Institut de Physique Théorique, CEA-Saclay, Gif-sur-Yvette, France; 7. Université Bordeaux, CNRS, LOMA, Talence, France; 8. Institut NEEL CNRS/UGA UPR2940, MCBT, Grenoble, France*

2:45

D9-05. **Emergence of Novel Electronic Phases due to Competing Interactions in the Correlated *f*-Electron Compound URu_2Si_2.** *M.B. Maple*[1,2], S. Ran[1,2], C.T. Wolowiec[1,2], N. Pouse[1,2], A.J. Breindel[1,2], I. Jeon[3,2], N. Kanchanavatee[4], K. Huang[5], A. Gallagher[5], K. Chen[5], D. Graf[5], R.E. Baumbach[5] and J. Singleton[6,7] *1. Department of Physics, University of California, San Diego, La Jolla, CA, United States; 2. Center for Advanced Nanoscience, University of California, San Diego, La Jolla, CA, United States; 3. Materials Science and Engineering Program, University of California, San Diego, La Jolla, CA, United States; 4. Department of Physics, Chulalongkorn University, Pathumwan, Thailand; 5. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, United States; 6. National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM, United States; 7. Department of Physics, The Clarendon Laboratory, University of Oxford, Oxford, United Kingdom*

Session D10
ANISOTROPIC SPIN-1/2 CHAINS

Beatrice Grenier, Chair
Inac, CEA, Universite Grenoble Alpes, Grenoble, France

1:30

D10-01. **Topological quantum phase transition in the Ising-like antiferromagnetic spin chain $BaCo_2V_2O_8$.** ***(Invited)*** Q. Faure[1,2], S. Takayoshi[3], S. Petit[4], V. Simonet[2], S. Raymond[1], L. Regnault[1], M. Boehm[5], J. White[6], M. Månsson[7], C. Rüegg[6], P. Lejay[2], B. Canals[2], T. Lorenz[8], S. Furuya[9], T. Giamarchi[3] and *B. Grenier[1] 1. Université Grenoble Alpes, CEA-INAC/MEM/MDN, Grenoble, France; 2. Institut Néel, CNRS-UGA, Grenoble, France; 3. DPMC-MaNEP, University of Geneva, Geneva, Switzerland; 4. Laboratoire Léon Brillouin, CEA-CNRS, Saclay, France; 5. Institut Laue Langevin, Grenoble, France; 6. Paul Scherrer Institut, Villigen, Switzerland; 7. KTH Royal Institute of Technology, Stockholm, Sweden; 8. II. Physikalisches Institut, Universität zu Köln, Köln, Germany; 9. RIKEN, Saitama, Japan*

2:00

D10-02. **Experimental observation of Bethe strings.** *Z. Wang[1] 1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

2:15

D10-03. **Magnetic excitations in the One Dimensional Ising chain $CoCl_2$*2D_2O.** *U.B. Hansen[1,2]*, J. Rodriguez-Rivera[4], O.F. Syljuaasen[3], J. Jensen[2] and K. Lefmann[2] *1. The Insitute Laue Langevin, Grenoble, France; 2. The Niels Bohr Institute, The University of Copenhagen, Copenhagen, Denmark; 3. Depertment of Physics, University of Oslo, Oslo, Norway; 4. NIST Center for Neutron Research, Gaithersburg, MD, United States*

2:30

D10-04. **Orbital-Exchange And Fractional Quantum Excitations In An f-Electron Metal Yb_2Pt_2Pb.** ***(Invited)*** L. Wu[1], *W. Gannon[3]*, I. Zaliznyak[2], A. Tsvelik[2], M. Brockmann[4], J. Caux[4], M. Kim[5], Y. Qiu[6], J. Copley[6], G. Ehlers[1], A. Podlesnyak[1] and M.C. Aronson[3] *1. Quantum Condensed Matter Devision, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Condensed Matter Physics & Materials Science, Brookhaven National Laboratory, Upton, NY, United States; 3. Texas A&M University, College Station, TX, United States; 4. Institute for Theoretical Physics, University of Amsterdam, Amsterdam, Netherlands; 5. Stony Brook University, Stony Brook, NY, United States; 6. National Institute of Standards and Technology, Gaithersburg, MD, United States*

Session E1
SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE I

Xin Fan, Chair
University of Denver, Denver, CO, United States

3:30

E1-01. **Magnetic Switching with Topological Insulator and Compensated Ferrimagnet.** ***(Invited)*** *L. Liu[1] 1. EECS, MIT, Cambridge, MA, United States*
2017 IUPAP Young Scientist Prize in Magnetism

4:00

E1-02. **Planar Hall torque.** *C.J. Safranski[1]*, E.A. Montoya[2] and I. Krivorotov[2] *1. Physics, University of California Irvine, Trabuco Canyon, CA, United States; 2. Physics & Astronomy, University of California, Irvine, Irvine, CA, United States*

4:15

E1-03. **Effects of spin-orbit torque on the magnon gas.** *V.E. Demidov[1]*, S. Urazhdin[2], B. Divinskiy[1] and S. Demokritov[1] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Emory University, Atlanta, GA, United States*

4:30

E1-04. **Spin Currents and Spin-Orbit Torques in Ferromagnetic Trilayers.** S.C. Baek[2], V.P. Amin[3], Y. Oh[2], G. Go[1], S. Lee[1], G. Lee[2], K. Kim[2], M.D. Stiles[3], B. Park[2] and *K. Lee[1] 1. Korea University, Seoul, The Republic of Korea; 2. KAIST, Daejeon, The Republic of Korea; 3. National Institute of Standards and Technology, Gaithersburg, MD, United States*

4:45

E1-05. **Tailoring the spin-orbit torques in $Pd_{1-x}Pt_x$/ferromagnet bilayers.** *L. Zhu[1]*, D. Ralph[1,2] and R. Buhrman[1] *1. Cornell University, Ithaca, NY, United States; 2. Kavli Institute at Cornell, Ithaca, NY, United States*

Session E2
HETEROSTRUCTRUES AND SPIN-BASED DEVICES

Yukitoshi Motome, Chair
The University of Tokyo, Tokyo, Japan

3:30

E2-01. **Revealing Magnetic Configurations With X-ray Magnetic Nanotomography.** ***(Invited)*** *V. Scagnoli[1,2] 1. Laboratory for Mesoscopic Systems, Department of Materials, ETH Zurich, Zurich, Switzerland; 2. Laboratory for Multiscale Materials Experiments, Paul Scherrer Institut, Villigen, Switzerland*

4:00

E2-02. **Modulated Valley and Spin Polarizations in $BiFeO_3$/$BiIrO_3$ Multiferroic Superlattices.** L. Yin[1] and *W. Mi[1] 1. Department of Applied Physics, Tianjin University, Tianjin, China*

4:15

E2-03. **Van der Waals spin valves.** *C. Cardoso[1]*, D. Soriano[1], N. Garcia-Martinez[1] and J. Fernandez-Rossier[1,2] *1. Quantum Materials, Science & Technology, International Iberian Nanotechnology Laboratory, Braga, Portugal; 2. Departamento de Fisica Aplicada, Universidad de Alicante, Alicante, Spain*

4:30

E2-04. **Magnetism and Magneto-Electric Transport in Amorphous Thin Films of Iron-Silicon and Iron-Germanium.** *D. Bouma[1,2]*, J. Karel[3], F. Bruni[1], T. Chen[4] and F. Hellman[1,2] *1. Department of Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Materials Science and Engineering, Monash University, Clayton, VIC, Australia; 4. Physics, Arizona State University, Tempe, AZ, United States*

4:45

E2-05. **Transport properties through multi-barrier magnetic system containing a non-coplanar defect.** A.S. Sahakyan[2], A.V. Pogosyan[2], R.M. Movsesyan[2] and *A.N. Kocharian[1] 1. Physics and Astronomy, California State University. Los Angeles, Los Angeles, CA, United States; 2. Physics, National Polytechnic University of Armenia, Yerevan, Armenia*

Session E3
IMAGING MAGNETIC TEXTURES I

Rajesh Chopdekar, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

3:30

E3-01. **Imaging chiral spin textures with a scanning-NV magnetometer.** ***(Invited)*** *V. Jacques[1] 1. Laboratoire Charles Coulomb, CNRS, Montpellier, France*

4:00

E3-02. **Three-dimensional data from magnetic force microscopy.** *R. Puttock[1,2]*, P. Klapetek[3], V. Neu[4], A. Manzin[5], F. Garcia-Sanchez[5], A. Fernandez-Scarioni[6], H. Schumacher[6] and O. Kazakova[1] *1. National Physical Laboratory, Teddington, United Kingdom; 2. Physics, Royal Holloway University of London, Egham, United Kingdom; 3. Český metrologický institute, Brno, Czechia; 4. IFW Dresden, Dresden, Germany; 5. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 6. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany*

4:15

E3-03. **3D Magnetic Reconstruction from Soft X-ray Transmission Tomography.** *A. Hierro-Rodriguez[1]*, D. Gürsoy[2,3], C. Phatak[4], C. Quiros[5,6], A. Sorrentino[7], L. Alvarez-Prado[5,6], M. Velez[5,6], J. Martin[5,6], J. Alameda[5,6], E. Pereiro[7] and S. Ferrer[7] *1. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 2. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States; 3. Electrical Engineering and Computer Science, Northwestern University, Evanston, IL, United States; 4. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States; 5. Física, Universidad de Oviedo, Oviedo, Spain; 6. Centro de Investigacion en Nanomateriales y Nanotecnologia (CINN), CSIC - Universidad de Oviedo, El Entrego, Spain; 7. ALBA Synchrotron, Cerdanyola del Valles, Spain*

4:30

E3-04. **Calibration of MFM probes using electrostatic compensated μ-coils.** *C.W. Barton[1]*, R. Puttock[1], H. Corte-León[1], M. Gerken[2], A. Manzin[3], S. Sievers[2], V. Neu[4], H. Schumacher[2] and O. Kazakova[1] *1. National Physical Laboratory, Teddington, United Kingdom; 2. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 3. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 4. IFW Dresden, Dresden, Germany*

4:45

E3-05. ***In-situ*** **imaging of magnetic tunnel junctions using a scanning electron microscope to improve their yield.** *E. Jackson[1]*, J. Kim[1], M. Samiepour[1], M. Sun[2], T. Kubota[2], K. Takanashi[2] and A. Hirohata[1] *1. University of York, York, United Kingdom; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

Session E4
MAGNON WAVEGUIDES AND DEVICES II

Barry Zink, Chair
University of Denver, Denver, CO, United States

3:30

E4-01. **Spin Wave Circuits Using Forward Volume Mode in Yttrium Iron Garnet.** ***(Invited)*** *T. Goto*[1,2], K. Sekiguchi[3], A. Granovsky[4], C. Ross[5], Y. Nakamura[1], H. Uchida[1] and M. Inoue[6] *1. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, Toyohashi, Japan; 2. JST-PRESTO, Kawaguchi, Japan; 3. Yokohama National University, Yokohama, Japan; 4. Moscow State University, Moscow, Russian Federation; 5. Dept.of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 6. Toyohashi University of Technology, Toyohashi, Japan*

4:00

E4-02. **Protected Chiral Spin-Wave Modes for Backscattering-Immune Magnonic Transport.** M. Mohseni[1], Q. Wang[1], *T. Brächer*[1], D.A. Bozhko[1], B. Hillebrands[1] and P. Pirro[1] *1. Physics, TU Kaiserslautern, Kaiserslautern, Germany*

4:15

E4-03. **Dynamic magnetic behaviour of single micro-sized object measured using a combination of scanning transmission X-ray microscopy and ferromagnetic resonance.** *T. Schaffers*[1], T. Feggeler[2], R. Meckenstock[2], S. Pile[1], D. Spoddig[2], K.J. Ollefs[2], H. Ohldag[3], M. Farle[2], H. Wende[2] and A. Ney[1] *1. Institute of Semiconductor and Solid State Physics, Johannes Kepler University Linz, Linz, Austria; 2. Faculty of Physics and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, 47057 Duisburg, Germany, Duisburg, Germany; 3. SSRL, SLAC National Accelerator Laboratory, Menlo Park, CA, United States*

4:30

E4-04. **Nano-magnonic Crystal Filter Based On Nanometers-thick YIG Films.** H. Merbouche[1], L. Soumah[1], M. Collet[1], G. de Loubens[6], O. Klein[5], J. Ben Youssef[7], S. Xavier[2], M. Evelt[3], V.E. Demidov[3], S. Demokritov[3,4], P. Bortolotti[1], V. Cros[1] and *A. Anane*[1] *1. Unité Mixte de Physique CNRS/Thales and Université Paris Sud, Palaiseau, France; 2. Thales Research & Technology, Palaiseau, France; 3. Institute for Applied Physics, University of Muenster, Muenster, Germany; 4. Institute of Metal Physics, Ural Division of RAS, Ekaterinburg, Russian Federation; 5. SPINTEC, CEA-Grenoble, CNRS, Université Grenoble Alpes, Grenoble, France; 6. Service de Physique de l'Etat Condensé, CEA Saclay, Gif-sur-Yvette, France; 7. LabSTICC, CNRS, Université de Bretagne Occidentale, Brest, France*

4:45

E4-05. **Dipole-exchange spin-wave spectrum in ferromagnetic films calculated using the method of geometrical optics.** *I. Lisenkov*[1], V. Tyberkevych[2] and A.N. Slavin[2] *1. School of Electrical Engineering and Computer Science, Oregon State Univeristy, Corvallis, OR, United States; 2. Department of Physics, Oakland University, Rochester, MI, United States*

Session E5
MAGNETOCALORIC MATERIALS I

Theo Rasing, Chair
Radboud University, Nijmegen, Netherlands

3:30

E5-01. **Quantitative analysis of hysteretic magnetocaloric materials.** ***(Invited)*** *V. Franco*[1], J. Law[1] and A. Conde[1] *1. Condensed Matter Physics Department, Sevilla University, Sevilla, Spain*

4:00

E5-02. **Magneto-caloric effect in $NdCo_2$ and $Nd_{0.4}Gd_{0.6}Co_2$.** *S. Pandya*[1,2], L. Sharath Chandra[2,3] and V. Ganesan[1] *1. UGC-DAE Consortium for Scientific Research, Indore, India; 2. Department of Physics, Sardar Patel University, Anand, India; 3. Magnetic and Superconducting Materials Section, Raja Ramanna Center for Advanced Technology, Indore, India*

4:15

E5-03. **Multicaloric effect in magnetoelectric composites.** *A. Amirov*[1,2] and A. Aliev[3] *1. Laboratory of Novel Magnetic Materials, Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation; 2. Amirkhanov Institute of Physics Daghestan Scientific Center, Russian Academy of Sciences, Makhachkala, Russian Federation; 3. Laboratory of Low Temperature Physics and Magnetism, Amirkhanov Institute of Physics of Daghestan Scientific Center of Russian Academy of Sciences, Makhachkala, Russian Federation*

4:30

E5-04. **Rotating Magnetocaloric Effect in the Region of Spin-Reorientation Transition in the Fe_7Se_8 Single Crystal.** *I. Radelytskyi*[1,2], Y. Konopelnyk[2] and A. Schneidewind[1] *1. Jülich Centre for Neutron Science (JCNS) at MLZ, Garching, Germany; 2. Institute of Physics PAS, Warsaw, Poland*

4:45

E5-05. **On the optimization of Magneto-volume coupling for practical applied field magnetic refrigeration.** A. Davarpanah[1], *J.H. da Silva*[1], V.S. Amaral[1] and J.S. Amaral[1] *1. CICECO & Physics dept., Universidade de Aveiro, Aveiro, Portugal*

MONDAY
AFTERNOON
3:30

ROOM 105

Session E6
THERAPEUTIC BIOMEDICAL APPLICATIONS OF MNPS

Jennifer Andrew, Chair
University of Florida, Gainesville, FL, United States

3:30

E6-01. **Magnetic Particle Imaging as a Deep-Penetrating, Quantitative, Positive-Contrast, & Noninvasive 3D Imaging Method with Micromolar Sensitivity.** ***(Invited)*** *S. Conolly*[1,4], P. Goodwill[3,2], B. Zheng[2], P. Chandrasekharan[2], X.Y. Zhou[2], Z. Tay[2] and E.Y. Yu[3,2] *1. BioEngineering, University of California, Berkeley, Berkeley, CA, United States; 2. Bioengineering, UC Berkeley - UCSF Graduate Program in Bioengineering, Berkeley, CA, United States; 3. Magnetic Insight, Alameda, CA, United States; 4. EECS, UC Berkeley EECS, Berkeley, CA, United States*

4:00

E6-02. **Combined Chemical and Photothermal Induction of Cancer Cell Death by the Use of Functionalized Iron Nanowires.** *A.I. Martínez-Banderas*[1], A. Aires[2], J.E. Perez[1], M. Quintanilla[2], T. Ravasi[1], A.L. Cortajarena[2,3] and J. Kosel[4] *1. Division of Biological and Environmental Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal Jeddah, 23955-6900, Saudi Arabia; 2. CIC BiomaGUNE, Center for Cooperative Research in Biomaterials, Parque Tecnológico de San Sebastián, Paseo Miramón 182, Donostia-San Sebastián, 20009, Spain; 3. Ikerbasque, Basque Foundation for Science, M Díaz de Haro 3, E-48013 Bilbao, Spain; 4. Division of Computer, Electrical and Mathematical Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal Jeddah, 23955-6900, Saudi Arabia*

4:15

E6-03. **Nanofabrication process, magnetic response and cellular uptake of nanostructures for biomedical applications.** *P. Tiberto*[1], F. Celegato[1], G. Barrera[1], M. Coisson[2], C. Divieto[1] and M. Sassi[1] *1. INRIM, Torino, Italy; 2. Electromagnetics, INRIM, Torino, Italy*

4:30

E6-04. **A Combined Magnetic-Acoustic Device For Simultaneous, Co-aligned Application Of Magnetic And Ultrasonic Fields.** *L. Barnsley*[2,1], M. Gray[1], E. Beguin[1], D. Carugo[3,1] and E. Stride[1] *1. Institute of Biomedical Engineering, University of Oxford, Oxford, United Kingdom; 2. Jülich Centre for Neutron Science, Forschungszentrum Julich, Garching, Germany; 3. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom*

4:45

E6-05. **Chemical synthesis and theranostic applications of magnetic nanoparticles.** *Y. Hou*[1], Y. Ju[1], H. Zhang[1] and J. Hou[1] *1. Peking University, Beijing, China*

MONDAY
AFTERNOON
3:30

ROOM 104

Session E7
MAGNETOPHOTONICS AND MAGNETOPLASMONICS II

Masaaki Takezawa, Chair
Kyusyu Institute of Technology, Kitakyushu, Japan

3:30

E7-01. **Magneto-plasmonic nanostructures and crystals: principles and applications.** ***(Invited)*** *P. Vavassori*[1,2], M. Pancaldi[1] and A. Lopez-Ortega[1] *1. CIC nanoGUNE Consolider, San Sebastian, Spain; 2. IKERBASQUE, Basque Foundation for Science, Bilbao, Spain*

4:00

E7-02. **Resonant magneto-optically active structures: external control and enhancement.** ***(Invited)*** *A. García-Martín*[1] *1. Instituto de Micro y Nanotecnologia - IMN (CNM-CSIC), Madrid, Spain*

4:30

E7-03. **Enhanced magneto-optical response of 0-D magneto-plasmonic nanostructures.** S.D. Pappas[1], P. Lang[1], M. Aeschlimann[1] and *E. Papaioannou*[1] *1. Physics, TU Kaiserslautern, Kaiserslautern, Germany*

4:45

E7-04. **Geometric frustration in a hexagonal array of plasmonic nanoelements.** A. Conde-Rubio[1,2], A. Fraile Rodríguez[1,2], F. Perez-Murano[3], X. Batlle[1,2] and *A. Labarta*[1,2] *1. Departament de Física de la Matèria Condensada, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia (IN2UB), University of Barcelona, Barcelona, Spain; 3. Institut de Microelectrónica de Barcelona (IMB-CNM, CSIC), Bellaterra, Spain*

MONDAY
AFTERNOON
3:30

ROOM 306

Session E8
THEORY OF STRONGLY CORRELATED ELECTRON SYSTEMS II

Eun-Ah Kim, Chair
Cornell University, Ithaca, NY, United States

3:30

E8-01. **Odd-Frequemcy Superconductivity in Sr_2RuO_4 Measured by Kerr Rotation.** ***(Invited)*** *A. Black-Schaffer*[1] *1. Physics and Astronomy, Uppsala University, Uppsala, Sweden*

4:00

E8-02. **Skyrme Insulators: Insulators at the Brink of Superconductivity.** ***(Invited)*** *O. Erten*[1,2], P. Chang[3], P. Coleman[4] and A. Tsvelik[5] *1. Arizona State University, Tempe, AZ, United States; 2. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 3. Rutgers University, Piscataway, NJ, United States; 4. Physics and Astronomy, Rutgers University, Piscataway, NJ, United States; 5. Brookhaven National Laboratory, Upton, NY, United States*

4:30

E8-03. **Fluctuation Effects at the Onset of $2k_F$ Density Wave Order with One Pair of Hot Spots in Two-Dimensional Metals.** *J. Sykora*[1], T. Holder[2] and W. Metzner[1] *1. Max Planck Institute for Solid State Research, Stuttgart, Germany; 2. Weizmann Institute of Science, Rehovot, Israel*

4:45

E8-04. **Exact Solution to Interacting Kitaev Chain at Symmetric Point.** *F. Zhang*[1], J. Miao[1], H. Jin[2] and Y. Zhou[2] *1. Kavli Institute for Theoretical Sciecnes, Univ of Chinese Academy of Sciences, Beijing, China; 2. Physics Department, Zhejiang University, Hangzhou, China*

MONDAY
AFTERNOON
3:30

ROOM 307/308

Session E9
QUANTUM CRITICAL PHENOMENA

Steffen Wirth, Chair
Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

3:30

Steffen Wirth Introduction

3:45

E9-01. **Revealing fermionic quantum criticality from new Monte Carlo techniques.** ***(Invited)*** *Z. Meng*[1] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

4:15

E9-02. **Quantum Oscillation Studies of $YbNi_4P_2$ with prototypical Ferromagnetic Quantum Critical Point.** *S. Friedemann*[1], K. Kliemt[2], P. Ross[2], E. Eljaouhari[3], G. Zwicknagl[3], A. McCollam[4] and C. Krellner[2] *1. HH Wills Laboratory, University of Bristol, Bristol, United Kingdom; 2. Physics, Goethe-University Frankfurt, Frankfurt, Germany; 3. Institut für Mathematische Physik, TU Braunschweig, Braunschweig, Germany; 4. High Field Magnet Laboratory, University of Radboud, Nijmegen, Netherlands*

4:30

E9-03. **Disorder as an Electronic Transport Tuning Parameter in the Strange Metal Normal State of $CeCoIn_5$.** *N. Maksimovic*[1,2], I. Hayes[1,2], S. Jang[3] and J. Analytis[4,2] *1. Physics, University of California Berkeley, Berkeley, CA, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Lawrence Berkeley National Lab, San Ramon, CA, United States; 4. University of California, Berkeley, Berkeley, CA, United States*

4:45

E9-04. **Decoupled superconductivity from tunable quantum critical points via Al substitution for CrAs.** *S. Park*[1], S. Shin[1], S. Kim[1] and T. Park[1] *1. Physics, Sungkyunkwan University, Suwon, The Republic of Korea*

MONDAY
AFTERNOON
3:30

ROOM 313/314

Session E10
B-SPINELS, KAGOME AND TRIANGULAR RELATED LATTICES

Roser Valenti, Chair
Goethe University Frankfurt, Frankfurt, Germany

3:30

E10-01. **Magnetic properties of geometrically frustrated $SrLn_2O_4$ compounds.** *S. Riberolles*[1,3], G. Balakrishnan[1], M. Ciomaga Hatnean[1], O. Petrenko[1], P. Manuel[2], C. Ritter[3] and N. Qureshi[3] *1. Physics, The University of Warwick, Coventry, United Kingdom; 2. STFC, Didcot, United Kingdom; 3. Institut Laue-Langevin, Grenoble, France*

3:45

E10-02. **On the importance of electric quadrupole interactions in rare-earth based frustrated magnets.** *N. Gauthier*[1,2], A. Fennell[2], B. Prévost[3], K. Park[4], B. Delley[2], A. Désilets-Benoit[3], H. Dabkowska[5], J. Ollivier[6], C. Niedermayer[2], U. Stuhr[2], A. Bianchi[3] and M. Kenzelmann[2] *1. Stanford Institute for Materials and Energy Sciences, Stanford University, Stanford, CA, United States; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Université de Montréal, Montréal, QC, Canada; 4. Seoul National University, Seoul, The Republic of Korea; 5. Brockhouse Institute for Materials Research, Hamilton, ON, Canada; 6. Institut Laue Langevin, Grenoble, France*

4:00

E10-03. **When Three is a Crowd: Entanglement of Quantum Spins on Tripartite Lattices.** *A. Thomasen*[1], J. Romhanyi[1] and N. Shannon[1] *1. Theory of Quantum Matter Unit, Okinawa Institute of Science and Technology, Onna-son, Japan*

4:15

E10-04. **Neutron Diffraction Study and Theoretical Analysis of the Antiferromagnetic Order and Diffuse Scattering in the Layered Kagome System $CaBaCo_2Fe_2O_7$.** *J.D. Reim*[1], E. Rosen[2], O. Zaharko[3], M. Mostovoy[4], J. Robert[5], M. Valldor[6], T.J. Sato[1] and W. Schweika[2,7] *1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 2. Jülich Center for Neutron Science JCNS and Peter Grünberg Institute PGI, Forschungszentrum Jülich, Jülich, Germany; 3. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen, Switzerland; 4. Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands; 5. Institut Néel CNRS, Grenoble, France; 6. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 7. European Spallation Source ESS ERIC, Lund, Sweden*

4:30

E10-05. **The Numerical Study of Quantum Phase Transitions of the Heisenberg Antiferromagnet on a Frustrated Two-Dimensional Lattice.** *A. Shimada*[1], H. Nakano[2], T. Sakai[2,3] and K. Yoshimura[1] *1. Graduate School of Science, Kyoto University, Kyoto, Japan; 2. Graduate School of Material Science, University of Hyogo, Kamigori, Japan; 3. National institutes for Quantum and Radiological Science and Technology, Spring-8, Sayo, Japan*

4:45

E10-06. **Magnetic ground states of manganese vanadate systems with 2D striped triangular lattices.** *O. Garlea*[1], L.D. Sanjeewa[2], D. Pajerowski[1], M. McGuire[3], F. Ye[1] and J. Kolis[2] *1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Department of Chemistry, Clemson University, Clemson, SC, United States; 3. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

Session F1
ANTIFERROMAGNETIC SPINTRONICS II (Poster Session)

Oleg Tretiakov, Chair
Tohoku University, Sendai, Japan

F1-01. **Inverse spin Hall effect in Mn-Sn amorphous alloy thin film.** *D. Qu*[1], T. Higo[1,2], T. Nishikawa[1], K. Matsumoto[1], K. Kondou[3], D. Hamane[1], R. Ishii[1], P. Muduli[1], Y. Otani[1,3] and S. Nakatsuji[1,2] *1. ISSP, The University of Tokyo, Kashiwa, Japan; 2. JST-CREST, Tokyo, Japan; 3. RIKEN-CEMS, Wako, Japan*

F1-02. **Symmetry analysis of electrical switching of antiferromagnet.** *H. Watanabe*[1] and Y. Yanase[1] *1. Department of Physics, Kyoto University, Kyoto, Japan*

F1-03. **Generation of Néel field in anti-ferromagnetic nanowire by a sloped electric field.** K. Kubota[1], K. Yamada[2] and *Y. Nakatani*[1] *1. University of Electro-communications, Tokyo, Japan; 2. Gifu University, Gifu, Japan*

F1-04. **Large magneto-optical Kerr effect and imaging of magnetic octupole domains in the antiferromagnetic Weyl metal Mn_3Sn.** *T. Higo*[1,2], H. Man[1], D.B. Gopman[3], L. Wu[4], T. Koretsune[5,2], O. van't Erve[6], Y.P. Kabanov[3], D. Rees[4], Y. Li[7], M. Suzuki[8,2], S. Patankar[4], M. Ikhlas[1], C. Chien[7], R. Arita[8,2], R.D. Shull[3], J. Orenstein[4] and S. Nakatsuji[1,2] *1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. JST-CREST, Kawaguchi, Japan; 3. Materials Science & Engineering Division, NIST, Gaithersburg, MD, United States; 4. Department of Physics, University of California, Berkeley, Berkeley, CA, United States; 5. Department of Physics, Tohoku University, Sendai, Japan; 6. Naval Research Laboratory, Washington, DC, United States; 7. Department of Physics and Astronomy, Johns Hopkins Univeristy, Baltimore, MD, United States; 8. RIKEN-CEMS, Wako, Japan*

F1-05. **Growth and Characterization of Non-collinear Antiferromagnetic Mn_3Sn Films.** *A. Markou*[1], J.M. Taylor[2], P. Werner[2], S.S.P. Parkin[2] and C. Felser[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany*

F1-06. **Study of ac spin current transmission through CoO antiferromagnetic layer using x-ray pump-probe measurement.** *Q. Li*[1], M. Yang[1], C. Klewe[2], P. Shafer[2], A.T. N'Diaye[2], Q. Dong[1], N. Gao[1], C. Hwang[3], E. Arenholz[2], D. Hou[4], E. Saitoh[4], R.J. Hicken[5], J. Li[6] and Z. Qiu[1] *1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea; 4. AIMR, Tohoku University, Sendai, Japan; 5. Physics and Astronomy, University of Exeter, Exeter, United Kingdom; 6. School of Physics, International Center for Quantum Materials (ICQM), Beijing, China*

F1-07. **Imaging Domains in a Zero-moment Half-metal.** *M. Coey*[1], K. Siewierska[1] and R. Schaefer[2] *1. Trinity College, Dublin, Dublin, Ireland; 2. IFW Dresden, Dresden, Germany*

F1-08. **Probing Interface Magnetism in $Ir_{20}Mn_{80}$\Pt Bilayers.** *M. Ribeiro*[2], T. Pham[2,1], J. Park[2] and T. Kim[2,1] *1. Department of Physics, Ewha Womans University, Seoul, The Republic of Korea; 2. Center for Quantum Nanoscience, Institute for Basic Science (IBS), Ewha Womans University, Seoul, The Republic of Korea*

F1-09. **Study of Resistive switching on $La_{0.3}Ca_{0.7}MnO_3/YBa_2Cu_3O_7$ Bilayers Deposited by Sputtering DC.** J.S. Betancourt[1], *J.E. Ordoñez*[1], C.W. Sanchez[1], M.E. Gomez[1] and W. Lopera[1] *1. Thin films group, Universidad del Valle, Cali, Colombia*

F1-10. **Magnetization Dynamics in an Antiferromagnet driven by Spin-Hall Effect: a Micromagnetic Study.** *V. Puliafito*[1], M. Carpentieri[2], B. Azzerboni[1], V. Tyberkevych[3], A.N. Slavin[3] and G. Finocchio[4] *1. Department of Engineering, University of Messina, Messina, Italy; 2. Department of Electrical and Information Engineering, Politecnico of Bari, Bari, Italy; 3. Department of Physics, Oakland University, Rochester, MI, United States; 4. Department of Mathematical and Computer Science, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy*

F1-11. **Interfacial magnetic-phase transition mediated large perpendicular magnetic anisotropy in FeRh/MgO by a heavy transition-metal capping.** *O. Dorj*[1] *1. Department of Physics, Incheon National University, Incheon, The Republic of Korea*

MONDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session F2
BIOMEDICAL AND NON-BIOMEDICAL APPLICATIONS II (Poster Session)

Zoe Boekelheide, Chair
Lafayette College, Easton, PA, United States

F2-01. **Cooling Characteristics of Magnetoconvection in Vegetable Insulating Oil-Based Ferrofluid with Different Volume Fractions.** *H. Lee*[1] *1. Changshin University, Changwon-si, The Republic of Korea*

F2-02. **Magnetic PolyHIPE Composites with Activated carbon and Iron oxide Nanoparticles.** *P. Seeharaj*[1], E. Thasirisap[1], C. Tridech[2] and S. Jindasuwan[3] *1. Advanced Materials Research Unit, Department of Chemistry, Faculty of Science, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand; 2. Science Park Promotion Agency, Ministry of Science and Technology, Bangkok, Thailand; 3. Department of Industrial Chemistry, Faculty of Applied Science, King Mongkut's University of Technology North Bangkok, Bangkok, Thailand*

F2-03. **Probing the Dynamics of Magnetic Nanoparticles in Freeze-Concentrated Solutions.** G. Sitbon[1] and *W. Schwarzacher*[1] *1. H H Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom*

F2-04. **Remarkable magnetic anisotropy of nickel nanoparticles embedded in porous coir fiber.** *M.A. Macedo*[1], N.D. Ferreira[1] and J.C. Menezes[1] *1. Physics, Federal University of Sergipe, Sao Cristovao, Brazil*

F2-05. **X-ray Magnetic Circular Dichroism Study of Ni-Cu Thermoseeds for Self-Controlled Magnetic Hyperthermia.** *S. Pandey*[1], A.T. N'Diaye[2], A. Aryal[1], I. Dubenko[1], D. Mazumdar[1], S. Roy[2], S. Stadler[3] and N. Ali[1] *1. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Louisiana State University, Baton Rouge, LA, United States*

F2-06. **Effect of Ni-doping on the Magnetic Property and Biomedical Application of Zinc Oxide Nanoparticles.** *R. Srinivasan*[2], J. Mayekar[2,1] and V.S. Dhar[1] *1. Physics, Jai Hind College, Mumbai, India; 2. Physics, University of Mumbai, Mumbai, India*

F2-07. **Withdrawn**

F2-08. **Research on Intervention effect of Magnetic Nanoparticles in Magnetic Field on Lung Tumor.** N. Zhang[1], S. Ning[2], *S. Wang*[1], C. Zhang[3] and S. Wang[1] *1. State Key Laboratory of Electrical Insulation and Power Equipment, Faculty of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2. College of Electrical and Information Engineering, Shaanxi University of Science and Technology, Xi'an, China; 3. Department of Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, United States*

F2-09. **Magnetic Vortex Nanodiscs for Intracellular Cancer Cell Disruption.** *M. Goiriena-Goikoetxea*[1,2], D. Muñoz[2,4], E. Welbourne[5], R. Mansell[6,5], M. Fernández-Gubieda[2,7], R. Cowburn[5], A. Muela[4,7] and A. García-Arribas[2,7] *1. Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, San Francisco, CA, United States; 2. Department of Electricity and Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 4. Department of Immunology, Microbiology and Parasitology, University of the Basque Country (UPV/EHU), Leioa, Spain; 5. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 6. Department of Applied Physics, Aalto Univeristy, Espoo, Finland; 7. Basque Center for Materials, Applications and Nanostructures (BCMaterials), Leioa, Spain*

F2-10. **Different magnetic behaviors and free radical contents of "DPPH reagents"** *N. Matsumoto*[1] and N. Itoh[1] *1. National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

MONDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session F3
HEAVY FERMIONS I: HEAVY FERMIONS AND OTHER NOVEL PHASES
(Poster Session)

Priscila Rosa, Chair
Los Alamos National Laboratory, Los Alamos, NM, United States

F3-01. **Withdrawn**

F3-02. **Probing strong electronic correlations in the Heavy Fermion Kondo-Lattice $YbFe_2Zn_{20}$.** *M. Cabrera Baez*[1], M. de Abreu Avila[2] and C. Rettori[1,2] *1. DEQ, Universidade Estadual de Campinas, Santo André, Brazil; 2. CCNH, Universidade Federal do ABC, Santo André, Brazil*

F3-04. **$YbPd_2In$: a new promising metallic refrigerant for adiabatic demagnetization.** F. Gastaldo[1], A. Dzubinska[2], M. Reiffers[3], S. Gabani[4], G. Pristas[4], I. Čurlik[3], J. Sereni[5] and *M. Giovannini*[6] *1. Department. of Chemistry, University of Genova, Genova, Italy; 2. Faculty of Natural Sciences, P.J. Šafárik University, Košice, Slovakia; 3. Faculty of Humanities and Natural Sciences, University of Prešov, Prešov, Slovakia; 4. Institute of Experimental Physics, Slovak Academy of Sciences, Košice, Slovakia; 5. Low Temperature Division, CAB-CNEA, San Carlos de Bariloche, Argentina; 6. Department of Physics, University of Genova, Genova, Italy*

F3-05. **Vibron Quasi-bound States in Ce-based Intermetallic Compounds.** *M. Klicpera*[1] and P. Javorsky[1] *1. Department of Condensed Matter Physics, Charles University, Prague, Czechia*

F3-06. **Hill plot and magnetic properties of Ce_2AuP_3.** *J. Kitagawa*[1], J. Miyahara[1], N. Shirakawa[2], Y. Setoguchi[1], M. Tsubota[3] and K. Kuroiwa[1] *1. Electrical Engineering, Fukuoka Institute of Technology, Fukuoka, Japan; 2. Flexible Electronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 3. Physonit Inc., Kaita Aki, Japan*

F3-07. **Systematic study of the $UNiX_2$ ternary compounds (X=C, Si, Ge).** K. Maeta[1], *M. Ohashi*[1], S. Hirokawa[1] and T. Yamamura[2] *1. Kanazawa University, Kanazawa, Japan; 2. IMR, Tohoku University, Sendai, Japan*

F3-08. **Effects of Cd and Sb Substitution in $CeCuBi_2$ Single Crystals.** *G.S. Freitas*[1], M.M. Piva[1], C.B. Jesus[2], J.C. Souza[1], C. Adriano[1] and P. Pagliuso[1] *1. DEQ, Instituto de Física Gleb Wataghin - Unicamp, Campinas, Brazil; 2. Departamento de Física, Universidade Federal de Sergipe, Campinas, Brazil*

F3-09. **Crystalline electric field calculations for Rhombhohedral $CeIr_3Ge_7$.** *J. Banda*[1], B.K. Rai[2], E. Morosan[2], C. Geibel[1] and M. Brando[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Physics and Astronomy, Rice University, Houston, TX, United States*

F3-10. **Transport and thermodynamic properties of Nd_5CuSn_3.** *K. Matsumoto*[1], N. Morioka[1] and K. Hiraoka[1] *1. Ehime University, Matsuyama, Japan*

F3-11. **^{27}Al NMR studies of CDW transitions in $SrAl_4$.** *H. Niki*[1], H. Kuroshima[2], N. Higa[2], M. Morishima[2], M. Yogi[1], A. Nakamura[3], K. Niki[4], T. Maehira[1], M. Hedo[1], T. Nakama[1] and Y. Onuki[1] *1. Faculty of Science, University of the Ryukyus, Nishihara, Japan; 2. Graduate School of Engineering and Science, University of the Ryukyus, Nishihara, Japan; 3. Institute for Materials Research, Tohoku University, Oarai, Japan; 4. Advanced Integration Science, Chiba University, Chiba, Japan*

F3-03. **Growth Routes for Synthesizing the $YbCd_{1-x}Sb_2$ Intermetallic Compounds.** *D.S. Christovam*[1], C.B. Jesus[2], J.C. Souza[1], M.M. Piva[1], C. Adriano[3] and P. Pagliuso[1] *1. DEQ, Instituto de Física Gleb Wataghin - Unicamp, Campinas, Brazil; 2. Departamento de Física, Universidade Federal de Sergipe, Campinas, Brazil; 3. Physics, University of Campinas, Campinas, Brazil*

F3-12. **DISTorX Program for Analysis of Structural Distortions Affecting on X-ray Diffraction Patterns.** *L.S. Kalinowski*[1], J. Goraus[1] and A. Slebarski[1] *1. Institute of Physics, University of Silesia, Chorzów, Poland*

MONDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session F4
MAGNETIC IMAGING AND ASSOCIATED TECHNIQUES
(Poster Session)

Jan Vogel, Chair
CNRS, Institut Néel, Grenoble, France

F4-01. **Magnetic Bragg dip and Bragg edge in neutron transmission spectra of a typical spin order.** *H. Mamiya*[1], Y. Oba[2], N. Terada[3], N. Watanabe[4], K. Hiroi[2], T. Shinohara[2] and K. Oikawa[2] *1. National Institute for Materials Science, Tsukuba, Japan; 2. Japan Atomic Energy Agency, Tokai, Japan; 3. Neutron Scattering Group, National Institute for Materials Science (NIMS), Tsukuba, Japan; 4. Kanagawa University, Yokohama, Japan*

F4-02. **Withdrawn**

F4-03. **Magnetic imaging with high spatial and temporal resolution at the PolLux endstation of the Swiss Light Source.** *S. Finizio*[1], S. Wintz[1,2], K. Witte[1], B. Watts[1] and J. Raabe[1] *1. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany*

F4-04. **Novel magnetic field imaging technique using pulsed polarized neutrons.** *T. Shinohara*[1], K. Hiroi[1], J.D. Parker[2], T. Kai[1], K. Oikawa[1], H. Hayashida[2] and Y. Kiyanagi[3] *1. J-PARC Center, Japan Atomic Energy Agency, Tokai, Japan; 2. Neutron Science and Technology Center, CROSS, Tokai, Japan; 3. Nagoya University, Nagoya, Japan*

F4-05. **Subpixel-resolution Kerr Microscopy.** V. Kletečka[1], *L. Ohnoutek*[1], L. Beran[1] and M. Veis[1] *1. Institute of Physics, Charles University, Prague, Czechia*

F4-06. **Feature Extraction from Magnetic Domain Structure by Persistent Homology.** *M. Kotsugi*[1,4], T. Yamada[1], S. Suzuki[1], Y. Suzuki[1], T. Ueno[5], C. Mitsumata[2], K. Ono[3], I. Obayashi[6], K. Akagi[6,4] and Y. Hiraoka[6,4] *1. Tokyo University of Science, Tokyo, Japan; 2. NIMS, Tsukuba, Japan; 3. KEK, Tsukuba, Japan; 4. MI2I, Tsukuba, Japan; 5. QST, Hyogo, Japan; 6. AIMR Tohoku Univ., Sendai, Japan*

F4-07. **An Ultrasensitive Differential Capacitance Dilatometer.** *M. Williamsen*[1], D. Martien[1], R. Black[1], T. DaPron[1], D. Snow[1], B. Colvin[1] and S. Spagna[1] *1. Quantum Design Inc., San Diego, CA, United States*

F4-08. **Characterization of bulk magnetic domain structures using small-angle neutron scattering.** *K. Ono*[1], M. Yano[2], K. Saito[3], T. Ueno[4], T. Shoji[5], V. Pipich[6], Z. Fu[7] and J. Kohlbrecher[8] *1. KEK, Tsukuba, Japan; 2. Advanced Materials Engineering Div., Toyota Motor Corporation, Susono, Japan; 3. Paul Scherrer Institut, Villigen, Swaziland; 4. Quantum Beam Science Research Directorate, National Institutes for Quantum and Radiological Science and Technology, Sayo, Japan; 5. Toyota Motor Corporation, Aichi, Japan; 6. Forschungszentrum Julich, Garching, Germany; 7. Department of Nuclear Physics, China Institute of Atomic Energy, Beijing, China; 8. Paul Scherrer Institut, Villigen, Switzerland*

F4-09. **Electromagnetic influence of CRDM operating coils on rod position indication system.** *G. Lee*[1], J. Lee[1], Y. Park[1] and J. Kim[1] *1. SMART Development, Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea*

Session F5
MAGNETIC SEMICONDUCTORS II (Poster Session)

Sining Dong, Chair
University of Notre Dame, Notre Dame, IN, United States

F5-01. **Colossal dielectric permittivity of diamagnetic $CdMoO_4:Eu^{3+}$ single crystal.** B. Sawicki[1], E. Tomaszewicz[2], *T. Gron*[1], M. Berkowski[3], M. Glowacki[3], M. Oboz[1], J. Kusz[1] and H. Duda[1] *1. Institute of Physics, University of Silesia, Katowice, Poland; 2. Department of Inorganic and Analytical Chemistry, West Pomeranian University of Technology, Szczecin, Poland; 3. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*

F5-02. **Spin frustration in semiconducting $ZnCr_2Se_4$ nanoparticles.** *T. Gron*[1], E. Malicka[2], A. Gudwanski[2], A. Slebarski[1], J. Goraus[1], M. Fijalkowski[1], M. Oboz[1], M. Karolus[3] and Z. Stoklosa[3] *1. Institute of Physics, University of Silesia, Katowice, Poland; 2. Instytute of Chemistry, University of Silesia, Katowice, Poland; 3. Institute of Material Science, University of Silesia, Chorzow, Poland*

F5-03. **Effect of manganese substitution on critical fields of $Zn_{1-x}Mn_xCr_2Se_4$ antiferromagnets.** I. Jendrzejewska[1], *T. Gron*[2], T. Goryczka[3], T. Mydlarz[4], Z. Barsova[1] and B. Witkowska-Kita[5] *1. Institute of Chemistry, University of Silesia, Katowice, Poland; 2. Institute of Physics, University of Silesia, Katowice, Poland; 3. Institute of Material Science, University of Silesia, Chorzow, Poland; 4. International Laboratory of High Magnetic Fields and Low Temperatures, Polish Academy of Sciences, Wroclaw, Poland; 5. Institute of Mechanised Construction and Rock Mining, Katowice, Poland*

F5-04. **$(BaF)_2Fe_{2-x}Q_3$ (Q=S, Se) : New Layered Iron Chalcogenides Semiconductors where Magnetic Properties can be Fine-Tuned by Controlling the Defect Chemistry.** *M.I. Sturza*[1,2], J. Allred[2,3], C. Malliakas[2,4], D.Y. Chung[2], S. Wurmehl[1], B. Büchner[5] and M. Kanatzidis[4,2] *1. Synthesis and Crystal Growth, IFW - Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Germany; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 3. Department of Chemistry & Biochemistry, University of Alabama, Tuscaloosa, AL, United States; 4. Department of Chemistry, Northwestern University, Evanston, IL, United States; 5. Institute for Solid State Research, IFW-Dresden, Dresden, Germany*

F5-05. **Spin correlations in Co-doped ZnO from polarised neutron scattering.** *D. Lançon*[1,2], A. Magrez[2], I. Zivkovic[2], G.J. Nilsen[3], H.M. Ronnow[2] and A.R. Wildes[1] *1. Institut Laue-Langevin, Grenoble, France; 2. Institute of Physics, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; 3. ISIS Facility, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom*

F5-06. ***I-V* characteristics of diamagnetic $Zn_{2-x}Mg_xInV_3O_{11}$ (x = 0.0, 0.4, 1.0, 1.6, 2.0) solid solutions.** H. Duda[1], M. Bosacka[2], E. Filipek[2], M. Oboz[3], *T. Gron*[1], B. Sawicki[3] and P. Urbanowicz[1] *1. Institute of Physics, University of Silesia, Katowice, Poland; 2. West Pomeranian University of Technology, Szczecin, Poland; 3. University of Silesia, Katowice, Poland*

F5-07. **Magnetic Semiconducting Heusler Compound $Fe_2Ti_{0.5}Co_{0.5}Si$.** *Y. Jin*[1,2], Y. Yang[1,2], S. Valloppilly[2], S. Liou[1,2] and D.J. Sellmyer[1,2] *1. Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, United States; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, United States*

F5-08. **Epitaxial thin films of EuS on InAs (100) for future spintronic applications.** *A. Goschew*[1], N. Blümel[1] and P. Fumagalli[1] *1. Physics, Freie Universität Berlin, Berlin, Germany*

MONDAY EVENING 5:00 SAN FRANCISCO BALLROOM

Session F6
MAGNETIC TUNNEL JUNCTIONS I (Poster Session)

Hiroaki Sukegawa, Chair
National Institute for Materials Science (NIMS), Tsukuba, Japan

F6-01. **Magnetization reversal mechanism of shape-anisotropy magnetic tunnel junctions.** *K. Watanabe*[1], B. Jinnai[2], S. Fukami[1,2], H. Sato[1,2] and H. Ohno[1,2] *1. RIEC, Tohoku University, Sendai, Japan; 2. CSIS, Tohoku University, Sendai, Japan*

F6-02. **Experimental and theoretical evidence of band gap and spin injection devices.** *P. Kumar*[1], R. Singh[1], F. Ahmed[1], N. Kumar[2], A. Ojha[2], S. Kushvaha[3] and R. Kumar[3] *1. Applied Sciences, IIIT Allahabad, Allahabad, India; 2. Department of Physics, Motilal Nehru National Institute of Technology Allahabad-211004, India, Allahabad, India; 3. National Physical Laboratory, CSIR, New Delhi-110012, India, Delhi, India*

F6-03. **Negative Tunneling Magnetoresistance in Magnetic Tunnel Junctions with Tetragonal and Ferrimagnetic Mn_3Ge Heusler Electrodes having Giant Perpendicular Magnetic Anisotropy using Amorphous Substrates.** *Y. Ferrante*[1] *1. Spintronics & Magnetoelectronics, IBM Almaden Research Center, San Jose, CA, United States*

F6-04. **Ferromagnet/Semiconductor/Ferromagnet Hybrid Trilayers grown using Solid-phase Epitaxy.** S. Gaucher[1], B. Jenichen[1] and *J. Herfort*[1] *1. Paul-Drude-Institute, Berlin, Germany*

F6-05. **Quantum Transport based study of Scaling Effects on Magnetic Tunnel Junctions.** *D. Das*[1], A. Tulapurkar[2] and B. Muralidharan[2] *1. Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, India; 2. Electrical Engineering, Indian Institute of Technology, Bombay, Mumbai, India*

F6-06. **Tunneling anisotropic magnetoresistance in an antiferromagnet-based perpendicular tunnel junction with $L1_0$-MnGa/FeMn/AlO_x/Pt structure.** *X. Zhao*[1], D. Wei[1], J. Lu[1] and J. Zhao[1] *1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Beijing, China*

MONDAY EVENING 5:00 SAN FRANCISCO BALLROOM

Session F7
MAGNETOCALORIC AND FRUSTRATED SYSTEMS (Poster Session)

Andrei Kirilyuk, Chair
Radboud University Nijmegen, Nijmegen, Netherlands

F7-01. **Magnetic phase diagram of rare earth based high entropy alloys.** *Z. Jaglicic*[1,2], J. Luznik[3], P. Kozelj[3], S. Vrtnik[3], A. Jelen[3], J. Luzar[3], J. Dolinsek[3] and A. Meden[4] *1. Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia; 2. Faculty of Civil and Geodetic Engineering, University of Ljubljana, Ljubljana, Slovenia; 3. J. Stefan Institute, Ljubljana, Slovenia; 4. Faculty of Chemistry and Chemical Technology, University of Ljubljana, Ljubljana, Slovenia*

F7-02. **Withdrawn**

F7-03. **Magneto-caloric effect of the Shastry-Sutherland compound $SrCu_2(BO_3)_2$.** *S. Akimoto*[1], Y. Kohama[1], Y. Matsuda[1] and H. Kageyama[2] *1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Graduate School of Engineering, Kyoto University, Kyoto, Japan*

F7-04. **Ferromagnetic to Spin Liquid Transition in $HgCr_2Se_4$ under Large Pressures.** *P. Jorba Cabré*[1], M. Schulz[2], P. Böni[1], V. Tsurkan[3], A. Loidl[3] and C. Pfleiderer[1] *1. Physics Department, Technical University of Munich, Muncih, Germany; 2. Forschungsneutronenquelle Heinz Maier-Leibnitz (FRM II), Garching, Germany; 3. Center for Electronic Correlations and Magnetism, University of Augsburg, Augsburg, Germany*

F7-05. **The high-field susceptibility and magnetic anisotropy of the quasi-two-dimensional antiferromagnet $FePS_3$.** D. Lançon[1,3], M.K. Chan[2], M.E. Zhitomirsky[4], M. Gvozdikova[1], V. Simonet[5], H.M. Ronnow[3] and *A.R. Wildes*[1] *1. Institut Laue-Langevin, Grenoble, France; 2. National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Ecole Polytechnique Fédérale de Lausanne, Lausanne, France; 4. CEA, INAC-PHELIQS, Université Grenoble Alpes, Grenoble, France; 5. Institut Néel CNRS, Grenoble, France*

F7-06. **Effect of Carbon Content on TransformationTemperature in Mn_3SnC Antiperovskites.** V. Gaonkar[1], E. Dias[2], K. Priolkar[1] and *A.K. Nigam*[3] *1. Goa University, Goa, India; 2. Tata Institute of Fundamental Research, Mumbai, India; 3. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, Mumbai, India*

F7-07. **Competition of the magnetic anisotropies in $Ni_{1-x}Mn_xPS_3$.** *Y. Morita*[1], T. Watanabe[1], K. Takase[1] and Y. Takano[1] *1. Department of Physics, Nihon University, Tokyo, Japan*

F7-08. **Magnetocaloric effect and the change from first- to second-order magnetic phase transition in $Pr_{0.7}Ca_xSr_{0.3-x}MnO_3$ polycrystalline compounds.** *Y.D. Pham*[1], T. Thanh[2], N. Dung[2], M.V. Tien[1], W. Shon[3], J. Rhyee[3], D. Kim[1] and S. Yu[1] *1. Department of Physics, Chungbuk National University, Cheongju, The Republic of Korea; 2. Institute of Materials Science, VAST, Hanoi, Vietnam; 3. Department of Applied Physics, Kyunghee University, Gyung-gi, The Republic of Korea*

F7-09. **Withdrawn**

F7-10. **Competing magnetic interactions, metamagnetism and magnetocaloric effect in Ce_4Ge_3.** *R. Nirmala*[1], A. Morozkin[2], O. Isnard[3], R. de Almeida[4], S. Rayaprol[5], S.D. Kaushik[6], V. Siruguri[5], A.K. Nigam[7] and S.K. Malik[8] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Moscow Lomonosov State University, Moscow, Russian Federation; 3. MCMF, Institut Néel, Université J. Fourier, Grenoble, France; 4. International Centre for Condensed Matter Physics, Brasilia, Brazil; 5. UGC-DAE Consortium for Scientific Research, Mumbai, India; 6. Mumbai Centre, UGC-DAE CSR, Mumbai, India; 7. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, Mumbai, India; 8. DTFE, Universidade Federal do Rio Grande do Norte, Natal, Brazil*

F7-11. **Magnetic Critical Behavior and Magneto-caloric Effect in $Mn_{50}Ni_{41-x}Fe_xSn_9$ Heusler Alloys.** *A. Rosales Rivera*[1], N. Salazar-Henao[1], R. González-Sánchez[1], A. Velásquez-Salazar[1], J. López-Tabares[1] and F. Saccone[2] *1. Laboratorio de Magnetismo y Materiales Avanzados, Universidad Nacional de Colombia, Sede Manizales, Manizales, Colombia; 2. Departamento de Física, Facultad de Ingeniería, Universidad de Buenos Aires, Buenos Aires, Argentina*

F7-12. **Influence of Cobalt doping on the Magnetism in $NiBr_2$.** *B.K. Rai*[1], A.D. Christianson[1] and A.F. May[1] *1. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

Session F8
MAGNETOCALORIC MATERIALS II (Poster Session)

Cajetan Nlebedim, Chair
Ames Laboratory, US Department of Energy, Ames, IA, United States

F8-01. **Hydrostatic Pressure Modulated Spin-Reorientation Transition And Magnetocaloric Effect In PrGa Compound.** J. Hao[2,1] and *J. He*[1] *1. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China, Beijing, China; 2. Beijing National Laboratory for Condensed Matter Physics & State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

F8-02. **Withdrawn**

F8-03. **Magnetocaloric Effect of $LaFe_{0.94-x}Ni_xCo_{0.06}Si_{1.6}B_{0.25}$ Alloy.** Z. Wang[1], Y. Zhang[4,1], L. Ding[1], X. Huang[3], *H. Piao*[1,2], L. Pan[3] and S. Yu[2] *1. College of Science, China Three Gorges University, Yichang, China; 2. Physics, Chungbuk National University, Cheongju, The Republic of Korea; 3. China Three Gorges University, Yichang, China; 4. Baotou Research Institute of Rare Earths, Baotou, China*

F8-04. **Magnetic properties and magnetocaloric effect in Er_2Ni_2In compounds.** *X. Zheng*[1], J. Xu[1], J. Zhang[1], S. Wang[1], Y. Zhang[2], J. Liu[2], Y. Liu[2] and B. Shen[2] *1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

F8-05. **Low temperature large magnetocaloric effect of $Ho_{0.7}Tm_{0.3}CuSi$ compound.** J. Xu[1], *X. Zheng*[1], J. Zhang[1], S. Wang[1], Y. Zhang[2], J. Liu[2], Y. Liu[2] and B. Shen[2] *1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

F8-06. **Structural, magnetic properties and magnetocaloric effect in $SmNi_5$ compound.** *A. Bajorek*[1,2] and P. Lopadczak[1,2] *1. A. Chelkowski Institute of Physics, University of Silesia in Katowice, Poland, Chorzów, Poland; 2. Silesian Center for Education and Interdisciplinary Research, University of Silesia in Katowice, Chorzów, Poland*

F8-07. **Cooling by Sweeping: Establishing a Ferroic-based Refrigeration Cycle with Field Dynamics.** D.J. Silva[1], *J.S. Amaral*[1] and V.S. Amaral[1] *1. CICECO & Physics dept., Universidade de Aveiro, Aveiro, Portugal*

F8-08. **Influence of high hydrostatic pressure on the magnetic, magnetocaloric and crystallographic properties of the $Nd_{0.5}Sr_{0.5}CoO_3$ cobaltite.** M.S. Reis[3], D.L. Rocco[3], R.J. Vivas[1], *M.D. Santos*[3,2], B. Pimentel[3], R. Torrão[3], L. Paixão[3] and A.M. Santos[4] *1. Centro Brasileiro Pesquisas Físicas, Rio de Janeiro, Brazil; 2. Centro Federal de Educação Tecnológica de Minas Gerais, Timóteo, Brazil; 3. Physics, Universidade Federal Fluminense, Niterói, Brazil; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

F8-09. **Magnetocaloric effect of ball milled Gd_5Si_4.** S.M. Harstad[1], *A.A. El-Gendy*[4], S. Gupta[3], V. Pecharsky[3,2] and R.L. Hadimani[2] *1. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, United States; 3. Division of Materials Science and Engineering, Ames Laboratory, US Department of Energy, Ames, IA, United States; 4. Physics, University of Texas at El Paso, El Paso, TX, United States*

F8-10. **Enhanced near room temperature magnetocaloric effect in $La_{0.6}Ca_{0.4}MnO_3$ for magnetic refrigeration application.** *A.A. El-Gendy*[1], M. Tsui[2] and E. Carpenter[2] *1. Physics, University of Texas at El Paso, El Paso, TX, United States; 2. Chemistry, Virginia Commonwealth University, Richmond, VA, United States*

MONDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session F9
QUASI 1D MAGNETISM (Poster Session)

Mark Meisel, Chair
University of Florida, Gainesville, FL, United States

F9-01. **Feedback Controlled Entanglement Creation in a Heisenberg Spin Chain Permeated by a Magnetic Field.** *J. Wang*[1] *1. University of Michigan Dearborn, Dearborn, MI, United States*

F9-02. **Magnetic impurity effects on low-dimensional multiferroic material $Cu_3Mo_2O_9$ with spin frustration.** *H. Kuroe*[1], M. Noda[1], Y. Ebukuro[1], H. Kuwahara[1], M. Hase[2], K. Oka[3], T. Ito[3] and H. Eisaki[3] *1. Physics Division, Sophia University, Tokyo, Japan; 2. Research Center for Advanced Measurement and Characterization, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

F9-03. **Quasi-phases and pseudo-transitions in one-dimensional models with nearest neighbor interactions.** *S.M. de Souza*[1] and O.R. Santos[2] *1. DFI, UFLA, Lavras, Brazil; 2. Departamento de Fisica, Universidade Federal de Lavras, Lavras, Brazil*

F9-04. **Interchain superlattice induced by charge order in (TMTTF)2X (X = SbF_6, AsF_6 and PF_6) revealed by high field EPR.** C. Dutoit[1], H. Van Tol[2], A. Stepanov[1] and *S. Bertaina*[1] *1. Nanoscience, IM2NP - CNRS, Marseille, France; 2. NHMFL, Tallahassee, FL, United States*

F9-05. **Construction and analysis of Langevin equation for charged particle in one dimensional random magnetic field Ising model spin chains.** *M. Fundator*[1] *1. Division on Behavioral and Social Sciences and Education, National Academies of Sciences, Engineering, and Medicine, Brooklyn, NY, United States*

F9-06. **Pressure Studies on $K_2Cr_8O_{16}$ Using Neutrons and Muons.** *O.K. Forslund*[1], D. Andreica[2], Y. Sassa[3], H. Nozaki[4], I. Umegaki[4], Z. Guguchia[5], V. Jonsson[1], Z. Shermadini[6], R. Khasanov[6], M. Isobe[7], H. Takagi[7], Y. Ueda[8], J. Sugiyama[4] and M. Månsson[1] *1. Materials and Nano Physics, KTH Royal Institute of Technology, Kista, Stockholm, Sweden; 2. Faculty of Physics, Babes-Bolyai University, Cluj-Napoca, Romania; 3. Uppsala University, Uppsala, Sweden; 4. Toyota Central Research and Development Laboratories Inc., Nagakute, Japan; 5. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Zurich, Switzerland; 6. Paul Scherrer Institut, Zurich, Switzerland; 7. Max Planck Institute for Solid State Research, Stuttgart, Germany; 8. Toyota Physical and Chemical Research Institute, Nagakute, Japan*

F9-07. **Withdrawn**

F9-08. **Spin dynamics of the longitudinal spin density wave phase in the quasi-1D Ising-like antiferromagnet $BaCo_2V_2O_8$.** *Q. Faure*[1,3], S. Takayoshi[2], S. Petit[4], V. Simonet[3], L. Regnault[1], J. White[5], M. Månsson[6], C. Rüegg[5], P. Lejay[3], T. Giamarchi[2] and B. Grenier[1] *1. Université Grenoble Alpes, INAC/MEM/MDN-CEA, Grenoble, France; 2. DPMC-MaNEP, University of Geneva, Geneva, Switzerland; 3. Institut Néel CNRS, Grenoble, France; 4. Laboratoire Léon Brillouin, CEA, CNRS, Université Paris-Saclay, Gif-sur-Yvette, France; 5. Paul Scherrer Institut, Villigen, Switzerland; 6. KTH Royal Institute of Technology, Stockholm, Sweden*

F9-09. **Withdrawn**

Session F10
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING I
(Poster Session)

Jean Anne Incorvia, Chair
University of Texas at Austin, Austin, TX, United States

F10-01. **Preparation and electro-magnetic properties of soft magnetic composites with ferrite nanofibres.** *J. Fuzer*[1], M. Streckova[2], S. Dobak[1], L. Dakova[1], P. Kollar[1], M. Faberova[2], R. Bures[2], Y. Osadchuk[1], P. Kurek[2] and M. Vojtko[2] *1. Institute of Physics, Faculty of Science, P. J. Šafárik University, Kosice, Slovakia; 2. Institute of Materials Research, Slovak Academy of Sciences, Kosice, Slovakia*

F10-02. **Spin-phonon Coupling in $BaFe_{12}O_{19}$ Synthesized Through the Proteic Sol–gel Process.** *M.P. Buzinaro*[2,1], N.D. Ferreira[2], J.M. Santos[2], F. Cunha[2], M.A. Macedo[2], G.C. Cunha[3] and P.H. Buzinaro[4] *1. COELT, Federal Institute of Education, Science and Technology of Sergipe, Aracaju, Brazil; 2. Physics, Federal University of Sergipe, Sao Cristovao, Brazil; 3. Chemistry, Federal University of Sergipe, São Cristovão, Brazil; 4. Mechanical Engineering, Faculty of Industrial Engineering of São Bernardo do Campo, São Bernardo do Campo, Brazil*

F10-03. **Magnetic properties of Y-type hexaferrite $Ba_xSr_{2-x}Ni_2Fe_{12}O_{22}$ (x = 0, 1.5) by using Mössbauer spectroscopy.** *J. Kim*[1], J. Lim[1] and C. Kim[1] *1. Department of physics, Kookmin University, Seoul, The Republic of Korea*

F10-04. **Development of Soft Z-Type Hexa Nanoferrites for Antenna Miniaturization up to S-Band.** *A.K. Manhas*[1] and M. Singh[1] *1. Department of Physics, Himachal Pradesh University, Shimla 171005, Shimla, India*

F10-05. **The Effect of the Sintering Temperature on the RF Complex Permeability of NiCuCoZn Ferrites for Near Field Communication (NFC) Applications.** *P. Lathiya*[1] and J. Wang[1] *1. Electrical Engineering, University Of South Florida, Tampa, FL, United States*

F10-06. **Magnetic properties of FeSi/ hybrid resin based composite with different $Ni_{0.3}Zn_{0.7}Fe_2O_4$ ferrite content.** *L. Dakova*[1], J. Fuzer[1], P. Kollar[1], Y. Osadchuk[1], M. Streckova[2], M. Faberova[2], R. Bures[2], P. Kurek[2] and M. Vojtko[2] *1. Department of Condensed Matter Physics, P.J. Safarik University, Kosice, Slovakia; 2. Institute of Materials Research, Kosice, Slovakia*

F10-07. **Modulation of magnetic properties in Ni-Zn ferrites by additives.** K. Mun[1] and *Y. Kang*[1] *1. Department of Materials Science and Engineering, Korea National University of Transportation, Chungju, The Republic of Korea*

F10-08. **Correlation of Hyperfine Field Distribution and Isomer Shifts with Magnetoelectric Properties in Mo-substituted Barium Hexaferrites.** *M. Przybylski*[1,4], J. Zukrowski[1], K. Latka[2], Z. Su[3], C. Yu[3], Z. Celinski[5], Y. Chen[6], A.S. Sokolov[7] and V.G. Harris[3] *1. Academic Centre for Materials and Nanotechnology, AGH University of Science and Technology, Krakow, Poland; 2. Institute of Physics, Jagiellonian University, Krakow, Poland; 3. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States; 4. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Kraków, Poland; 5. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, United States; 6. Rogers Innovation Center, Burlington, MA, United States; 7. Electrical and Computer Engineering, Northeastern University, Arlington, MA, United States*

F10-09. **Investigation of mechanisms governing microwave absorption in Co-La substituted Ba-Sr hexagonal ferrite from 8.2 GHz to 12.4 GHz.** H. Kaur[2], *C. singh*[1], A. Marwaha[2], S. BindraNarang[3], R. Jotania[4], S. R. Mishra[5], Y. Bai[6], K. James Raju[7], D. Singh[8], M. Ghimire[5], P. Dhruv[4] and S. Sombra[5] *1. Electronics and Communication Engg., Lovely Professional University, Jalandhar, India; 2. ECE, SLIET Longowal, Sangrur, India; 3. Department of Electronics Technology, Guru Nanak Dev University, Amritsar, India; 4. Department of Physics, Gujarat University, Ahmedabad, India; 5. Department of Physics, University of Memphis, Memphis, TN, United States; 6. Institute of Advanced Materials and Technology, University of Science and Technology, Beijing, China; 7. School of Physics, Central University, Hyderabad, India; 8. ECE Department, Indian Institute of Technology, Roorkee, India*

F10-10. **Evaluation of microwave absorption mechanisms in Co-Hf doped Ba-Sr hexagonal ferrite.** *R. Joshi*[8], C. singh[1], S. Narang[2], R. Jotania[3], S. Mishra[4], Y. Bai[5], K. Raju[6], D. Singh[10], M. Ghimire[4], P. Dhruv[3], S. Sombra[9] and J. Singh[7] *1. Electronics and Communication Engg., Lovely Prfoessional University Jalandhar Punjab India, Jalandhar, India; 2. Department of Electronics Technology, Guru Nanak Dev University, Amritsar, India; 3. Department of Physics, Gujarat University, Ahmedabad, India; 4. Department of Physics, The University of Memphis, Memphis, TN, United States; 5. Institute of Advanced Materials and Technology, University of Science and Technology, Beijing, China; 6. School of Physics, Central University, Hyderabad, India; 7. Department of Electronics and Communication Engineering, Yadavindra college of Engineering, Talwandi Sabo, India; 8. Department of Electronics and Communication Engineering, Rayat Bahra Institute of Engineering and Nanotechnology, Hoshiarpur, India; 9. Physics Department, Federal University of Ceara, UFC, Brazil; 10. ECE Department, Indian Institute of Technology, Roorkee, India*

F10-11. **Microwave absorbing mechanisms in M-type Ba-Sr-Co-Cr hexagonal ferrites at X-band.** *J. Singh*[9], C. singh[1], S. Narang[2], R. Jotania[3], S. Mishra[4], Y. Bai[5], K. Raju[6], D. Singh[7], M. Ghimire[4] and R. Joshi[8] *1. Electronics and Communication Engg., Lovely Professional University, Jalandhar, India; 2. Department of Electronics Technology, Guru Nanak Dev University, Amritsar, India; 3. Department of Physics, Gujarat University, Ahmedabad, India; 4. Department of Physics, University of Memphis, Memphis, TN, United States; 5. Institute of Advanced Materials and Technology, University of Science and Technology, Beijing, China; 6. School of Physics, Central University, Hyderabad, India; 7. ECE Department, Indian Institute of Technology, Roorkee, India; 8. Department of Electronics and Communication Engineering, Rayat Bahra Institute of Engineering and Nanotechnology, Hoshiarpur, India; 9. Yadwindera Engg. College, Talwandi Sabo, India*

MONDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session F11
SPIN ICES AND MAGNETIC NANOPARTICLES II (Poster Session)

Thomas Crawford, Chair
University of South Carolina, Columbia, SC, United States

F11-01. **High-Frequency Dynamics of Honeycomb Artificial Spin Ice in Different Microstates.** *D.M. Arroo*[1], J.C. Gartside[1] and W.R. Branford[1] *1. Department of Physics, Imperial College London, London, United Kingdom*

F11-02. **Defect-mediated Monopole-like States in Square Artificial Spin Ice Systems.** *N. Keswani*[1] and P. Das[1] *1. Department of Physics, Indian Institute of Technology Delhi, New Delhi, India*

F11-03. **Evidence of superspin-glass type behavior in nanoparticle macrocrystals.** *M. Smik*[1], G. Wilbs[1], E. Kentzinger[1], U. Rücker[1], S. Mattauch[2], O. Petracic[1] and T. Brückel[1] *1. Jülich Centre for Neutron Science, Forschungszentrum Jülich, Aachen, Germany; 2. Jülich Centre for Neutron Science JCNS at Heinz Maier-Leibnitz Zentrum (MLZ), Forschungszentrum Jülich GmbH, Garching, Germany*

F11-04. **Magnetic Anisotropy Rules the Shape of the Magnetosome Chain Assembled by *Magnetospirillum gryphiswaldense*.** I. Orue[1], L. Marcano Prieto[2], P. Bender[3], A. García Prieto[4,5], S. Valencia[6], M. Mawass[6], D. Gil Cartón[7], D. Alba Venero[8], D. Honecker[9], A. García Arribas[2,5], L. Fernández Barquín[3], A. Muela[10,5] and *M. Fernández-Gubieda*[2,5] *1. SGIker, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 2. Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 3. CITIMAC, Universidad de Cantabria, Santander, Spain; 4. Física Aplicada I, Universidad del País Vasco (UPV/EHU), Bilbao, Spain; 5. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 6. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany; 7. CIC bioGUNE, Structural Biology Unit, Derio, Spain; 8. ISIS, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom; 9. Institut Laue-Langevin, Grenoble, France; 10. Inmunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Leioa, Spain*

F11-05. **Topological Magnetic Writing: Defining specific magnetization states in nanostructures.** *W.R. Branford*[1], J.C. Gartside[1], D.M. Arroo[1] and L.F. Cohen[1] *1. Physics, Imperial College London, London, United Kingdom*

F11-06. **Trapping Ferromagnetic Domains in Pentagonal Cairo-tilings.** *J.L. Palma*[1,2], E. Saavedra[3] and J. Escrig[4,2] *1. Departamento de Ciencias Básicas, Universidad Central de Chile, Santiago, Chile; 2. Center for the Development of Nanoscience and Nanotechnology CEDENNA, Santiago, Chile; 3. Departamento de Física, Universidad de Santiago, Santiago, Chile; 4. Departamento de Física, Universidad de Santiago Chile, Santiago, Chile*

F11-07. **Withdrawn**

F11-08. **Low Energy Vertices and Ground State Ordering in Complex Oxide-Based Artificial Spin Ice Geometries.** *R.V. Chopdekar*[1,2], M.S. Lee[1], A. Kane[1], S. Retterer[3], A. Scholl[2] and Y. Takamura[1] *1. Materials Science and Engineering, University of California, Davis, Davis, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

F11-09. **Blocking temperatures and interaction strengths in Artificial Spin Ices: an unexpected negative correlation.** *J. Porro Azpiazu*[1,2], S.A. Morley[3,4], D. Alba Venero[2], R. Macedo[5], M. Rosamond[6], E. Linfield[6], R. Stamps[7], C.H. Marrows[4] and S. Langridge[2] *1. BCMaterials, the Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 2. ISIS Neutron and Muon Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; 3. Department of Physics, University of California Santa Cruz, Santa Cruz, CA, United States; 4. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 5. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 6. School of Electronics and Electrical Engineering, University of Leeds, Leeds, United Kingdom; 7. University of Glasgow, Glasgow, United Kingdom*

F11-10. **Correlations and Fluctuations of XY Macro Spins.** *R. Streubel*[1], N. Kent[2,1], S. Dhuey[3], A. Scholl[4], S. Kevan[4,2] and P. Fischer[5] *1. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. Physics, University of California, Santa Cruz, Berkeley, CA, United States; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 4. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

F11-11. **Withdrawn**

F11-12. **Withdrawn**

F11-13. **Bloch point states in arrays of dipole-coupled magnetic nanodots.** *I. Nekrashevich*[1] and D. Litvinov[1,2] *1. Materials Engineering, University of Houston, Houston, TX, United States; 2. Nanofabrication Facility, University of Houston, Houston, TX, United States*

F11-14. **Magnetotransport measurement of hexagonal NiFe artificial spin ice lattices and vertices.** *K. Esien*[1,2], S. Olivari[2] and D. Read[2] *1. Physics, Queens University Belfast, Belfast, United Kingdom; 2. Physics, Cardiff University, Cardiff, United Kingdom*

MONDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session F12
SPIN STRUCTURES AND TRANSPORT PROPERTIES I (Poster Session)

Samuel Ciocys, Chair
University of California, Berkeley, Berkeley, CA, United States

F12-01. **Large Anomalous Hall Effect in the Noncollinear Antiferromagnet Mn_5Si_3.** *C. Sürgers*[1], T. Wolf[2], P. Adelmann[2], W. Kittler[1], G. Fischer[1] and H. von Löhneysen[2] *1. Physikalisches Institut, Karlsruhe Institute of Technology, Karlsruhe, Germany; 2. Institute for Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany*

F12-02. **Photo-induced anomalous Hall effect in nickel.** *A. Ruotolo*[1,2], D. Li[1,2] and K. Lin[3] *1. City University of Hong Kong, Kowloon, Hong Kong; 2. City University Shenzhen Research Institute, Shenzhen, China; 3. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

F12-03. **Surface roughness tuned anomalous Hall effect in Fe thin films.** *Q. Zhang*[1], Y. Wen[1], P. Li[1], Y. Zhao[1], S. Zhang[1] and X. Zhang[1] *1. Physical Science and Engineering Division (PSE), King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia*

F12-04. **Hall effect and resistivity in epitaxial MnSi thin films and nanostructures under ambient and high pressure.** *D. Menzel*[1], D. Schroeter[1], N. Steinki[1], S. Süllow[1], A. Fernandez-Scarioni[2], H. Schumacher[2], H. Okuyama[3], H. Hidaka[3] and H. Amitsuka[3] *1. Institut für Physik der Kondensierten Materie, Technische Universität Braunschweig, Braunschweig, Germany; 2. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 3. Department of Physics, Hokkaido University, Sapporo, Japan*

F12-05. **Anomalous Hysteresis in Magnetoresistance in $Ru_{1.9}Fe_{0.1}CrSi$ under Pulsed Magnetic Fields.** *M. Hiroi*[1], I. Shigeta[1], A. Kondo[2] and K. Kindo[2] *1. Department of Physics and Astronomy, Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan; 2. High Field Laboratory, Institute for Solid State Physics, the University of Tokyo, Kashiwa, Japan*

F12-06. **Tuning the Magnetic and Transport properties of the new double perovskite Tl_2NiMnO_6.** *P. Manuel*[1], L. Ding[2], D. Khalyavin[1], J. Blake[1,3], F. Orlandi[1], W. Yi[4] and A. Belik[4] *1. ISIS Pulsed Neutron Facilty, Rutherford Appleton Laboratory, Chilton, United Kingdom; 2. ISIS Facility, Rutherford Appleton Laboratory, Science and Technology Facilities Council, Oxford, United Kingdom; 3. Department of Physucs, Royal Holloway University of London, Egham, United Kingdom; 4. National Institute for Materials Science (NIMS), Tsukuba, Japan*

F12-07. **Role of La doping for Topological Hall Effect in Epitaxial EuO Films.** Y. Yun[1,2], *Y. Ma*[1,2], T. Su[1,2], W. Xing[1,2], Y. Chen[1,2], Y. Yao[1,2], R. Cai[1,2], W. Yuan[1,2] and W. Han[1,2] *1. International Center for Quantum Materials, School of Physics, Peking University, Beijing 100871, China; 2. Collaborative Innovation Center of Quantum Matter, Beijing 100871, China*

F12-08. **Anomalous Nernst Effect in Magnetically Ordered $Mn_5Ge_3C_{0.8}$ and $Mn_5Si_3C_{0.8}$ Thin Films.** *C. Sürgers*[1], S. Srichandan[1] and S. Deng[2] *1. Physikalisches Institut, Karlsruhe Institute of Technology, Karlsruhe, Germany; 2. Physikalisches Institut, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany*

F12-09. **Equilibrium and Nonequilibrium Spin Current Fluctuations in Quantum Paramagnets.** J. Aftergood[1], D. Joshi[2], A. Schnyder[2] and *S. Takei*[3] *1. Physics, CUNY Graduate Center, New York, NY, United States; 2. Max Planck Institute for Solid State Research, Stuttgart, Germany; 3. Physics, CUNY Queens College, Queens, NY, United States*

F12-10. **Spin-Lattice Coupling suppress Phonon Lifetimes in Paramagnetic CrN as revealed by Combined Atomistic Spin Dynamics and *Ab Initio* Molecular Dynamics.** *I. Stockem*[1,2] and B. Alling[1,2] *1. Department of Physics, Chemistry and Biology (IFM), Linköping University, Linköping, Sweden; 2. Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf, Germany*

F12-11. **Tuning the Magnetic Anisotropy of Co metals on two-dimensional van der Waals materials : A role of hybridization of tetrahedral sp^3-d Coupling.** *S. Rhim*[1], D. Odkhuu[2], S. Choe[3] and S. Hong[1] *1. Physics, University of Ulsan, Ulsan, The Republic of Korea; 2. Department of Physics, Incheon National University, Incheon, The Republic of Korea; 3. Seoul National University, Seoul, The Republic of Korea*

MONDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session F13
SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE II (Poster Session)

Christian Stamm, Chair
ETH Zurich, Zurich, Switzerland

F13-01. **Scanning tunneling microscopy study of the spin Hall effect in highly-resistive tungsten film.** *T. Xie*[1], M. Dreyer[2], D. Bowen[3], D. Hinkel[3], R. Butera[3], C. Krafft[3] and I. Mayergoyz[1] *1. ECE, University of Maryland, College Park, MD, United States; 2. Physics, University of Maryland, College Park, MD, United States; 3. LPS, College Park, MD, United States*

F13-02. **Spin-orbit torque in W/CoFeB/MgO heterostructures – Wide-range W resistivity dependence.** *Y. Takeuchi*[1], K. Furuya[1], Y. Takahashi[1], C. Zhang[2,1], A. Okada[1], B. Jinnai[3], H. Sato[4,5], S. Fukami[1,3] and H. Ohno[1,6] *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 3. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 4. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 5. Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan; 6. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan*

F13-03. **Spin-orbit torque induced switching of in-plane nanomagnet arrays evaluated through differential planar Hall effect.** *Y. Takahashi*[1], Y. Takeuchi[1], C. Zhang[2,1], B. Jinnai[3], S. Fukami[1,3] and H. Ohno[1,4] *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 3. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 4. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan*

F13-04. **Charge pumping induced by magnetic texture dynamics in Weyl semimetals.** *Y. Araki*[1,2] and K. Nomura[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan*

F13-05. **Spin–orbit torque switching of Ta/CoFeB/Ta/CoFeB/MgO composite layer.** C. Siao[1], *C. Yang*[2], P. Chen[3] and C. Lai[4] *1. Material Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Material Science and Engineering, National Tsing-Hua University, Hsinchu, Taiwan; 4. National Tsing Hua University, HsinChu, Taiwan*

F13-06. **Control of spin-orbit torque driven by W/Pt multilayers.** *S. Karube*[1,2], N. Tezuka[2], M. Kohda[1,2], S. Fujikawa[2], M. Matsuura[2], S. Sugimoto[2] and J. Nitta[1,2] *1. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 2. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan*

F13-07. **Withdrawn**

F13-08. **Spin Relaxation at Ferromagnetic Metal/Metal Oxide Interface.** *A. Asami*[1] *1. Applied Physics and Physico-Informatics, Keio University, Kanagawa, Japan*

F13-09. **The Electronic Structures of Fe in the $Y_3Fe_5O_{12}$ Single-Crystal and the Bilayer Thin Films.** *Y. Chin*[1], H. Lin[2], P. Wang[3], D. Wu[3], Y. Tanaka[5], C. Chen[2], A. Tanaka[4] and A. Chainani[2] *1. Physics, National Chung Cheng University, Chiayi, Taiwan; 2. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 3. Physics, Nanjing University, Nanjing, China; 4. Hiroshima University, Higashi-Hiroshima, Japan; 5. RIKEN, Hyogo, Japan*

F13-10. **Vertical Spin Injection Devices for Spin-to-Charge Conversion: Scaling with Size.** *C. Lin*[1], S. Manipatruni[1], T. Gosavi[1], D.E. Nikonov[1], K. Oguz[1], V. Pham[2], I. Groen[2], E. Sagasta[2], F. Casanova[2,3] and I. Young[1] *1. Components Research, Intel, Hillsboro, OR, United States; 2. CIC nanoGUNE, 20018 Donostia-San Sebastian, Spain; 3. IKERBASQUE, Basque Foundation for Science, 48013 Bilbao, Spain*

F13-11. **Large Surface Spin-orbit Torques in a Single Layer Permalloy Film.** *W. Wang*[1], T. Wang[2], A. Davidson[3], A. Humphries[3], S. Allen[3], Y. Wang[2], A. Radhakrishnan[1], H. Ohldag[4], J. Xiao[2], D.G. Cahill[5], X. Fan[3] and V. Lorenz[1] *1. Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Department of Physics and Astronomy, University of Denver, Denver, CO, United States; 4. SSRL, SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 5. Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States*

F13-12. **Withdrawn**

F13-13. **Spin-orbit torque induced by nonequilibrium spin density on the surface of an 3D topological insulator.** *R. Chang*[1], S. Chen[2] and C. Chang[3] *1. Department of Applied Physics, National Taiwan University, Taipei, Taiwan; 2. Department of Applied Physics and Chemistry, University of Taipei, Taipei, Taiwan; 3. Department of physics, National Taiwan University, Taipei, Taiwan*

F13-14. **Effect of interfacial spin-transparency and magnetic dissipation on Pt/Ferromagnet/Capping layers.** *D. Lee*[1,2], H. Koo[2], B. Min[2], K. Lee[1] and O. Lee[2] *1. Korea University, Seoul, The Republic of Korea; 2. Center for Spintronics, Korea Institute of Science and Technology (KIST), Seoul, The Republic of Korea*

MONDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session F14
SUPERCONDUCTING SCES I: TOPOLOGICAL SUPERCONDUCTORS (Poster Session)

Maria Teresa Mercaldo, Chair
University of Salerno, Fisciano, Italy

F14-01. **Low Temperature Annealing of Superconducting Bismuth Nickel Bilayers.** *M. Vaughan*[1] and G. Burnell[1] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

F14-02. **Vortex Structures and Configurations in a Superconductor / Chiral-Helimagnet Hybrid System.** S. Fukui[1], *M. Kato*[1], Y. Togawa[2] and O. Sato[3] *1. Department of Mathematical Sciences, Osaka orefecture Univeristy, Sakai, Japan; 2. Department of Physics and Electronics, Osaka Prefecture University, Sakai, Japan; 3. Osaka Prefecture University College of Technology, Neyagawa, Japan*

F14-03. **Non-uniform magnetisation in Nb/Ho/Nb Josephson junctions.** *B. Börcsök*[1] *1. Department of Material Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

F14-04. **Determining the "0-π" thickness in Magnetic Josephson Junction using Magnetometry.** *T. Ambrose*[1] *1. Northrop Grumman Corporation, Linthicum, MD, United States*

F14-05. **Magnetic and superconductive proximity effects in bilayer and trilayer thin film hybrids of a topological insulator, ferromagnet and cuprate superconductor: A possible new platform for Majorana nano-electronics.** *G. Koren*[1] *1. Physics, Technion - Israel Institute of Technology, Haifa, Israel*

F14-06. **Withdrawn**

F14-07. **Photoemission spectroscopy in 2-dimensional Topological Kondo Insulators.** *E. Ramos Rodriguez*[1], R. Franco[1], J. Silva Valencia[3] and M. Figueira[2] *1. Departamento de Física, Universidad Nacional de Colombia, Bogotá D. C., Colombia; 2. Departamento de Física, Instituto de Física Universidad Federal Fluminense, Niterói, Brazil; 3. Physics, Universidad Nacional de Colombia, Bogotá, Colombia*

MONDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session F15
TOPOLOGICAL SCES II: THEORY (Poster Session)

Andriy Nevidomskyy, Chair
Rice University, Houston, TX, United States

F15-01. **Casimir Amplitudes at Topological Quantum Phase Transitions.** *M.A. Continentino*[1] and M.A. Griffith[1] *1. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil*

F15-02. **Withdrawn**

F15-03. **Ultracold dipolar fermions as an experimental platform for the reduction of topological classification.** *T. Yoshida*[1], I. Danshita[2], R. Peters[1] and N. Kawakami[1] *1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Yukawa Institute for Theoretical Physics, Kyoto University, Kyoto, Japan*

F15-04. **Interaction effects on the Kane-Mele Model in the Hofstadter regime.** *A. Mishra*[1] and S. Lee[1] *1. Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea*

F15-05. **Competing Exotic Order of Dirac Fermions on the Honeycomb Lattice - A Functional Integral Approach.** *E. Christou*[1], B. Uchoa[3] and F. Kruger[1,2] *1. University College London, London, United Kingdom; 2. Rutherford Appleton Laboratory, Oxford, United Kingdom; 3. University of Oklahoma, Norman, OK, United States*

F15-06. **Topological insulators of Shastry-Sutherland lattice at integer filling.** *H. Yang*[1] and S. Lee[1] *1. Physics, Korea Advanced Institute of Science and Technology (KAIST), Yuseong-gu, The Republic of Korea*

F15-07. **Tunable hybrid state of Weyl semimetals under electromagnetic field.** *Z. Alisultanov*[1,2] *1. Amirkhanov Institute of Physics, Makhachkala, Russian Federation; 2. Department of physics, Dagestan State University, Makhachkala, Russian Federation*

F15-08. **Withdrawn**

F15-09. **Withdrawn**

F15-10. **Withdrawn**

F15-11. **Withdrawn**

TUESDAY
MORNING
8:30

ESPLANADE 157

Session G1
MAGNON TRANSDUCTION

Xin Fan, Chair
University of Denver, Denver, CO, United States

8:30

G1-01. **Coherent generation of heterosymmetric spin waves with ultrashort wavelengths.** G. Dieterle[1], J. Förster[1], H. Stoll[1], A. Semisalova[2], S. Finizio[3], A. Gangwar[4], M. Weigand[1], M. Noske[1], M. Fähnle[1], I. Bykova[1], D.A. Bozhko[5], H. Musiienko-Shmarova[5], V. Tyberkevych[6], A.N. Slavin[6], C. Back[4], J. Raabe[3], G.A. Schütz[1] and *S. Wintz*[3,2] *1. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Universität Regensburg, Regensburg, Germany; 5. Physics, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 6. Department of Physics, Oakland University, Rochester, MI, United States*

8:45

G1-02. **Spin-waves propagation in ultra-thin film of YIG driven in a non-equilibrium state by large spin-orbit torque.** ***(Invited)*** *N. Thiery*[2], V. Naletov[1], L. Vila[2], G. de Loubens[3], M. Viret[4], V.E. Demidov[5], S. Demokritov[5], O. Klein[2] and J. Ben Youssef[6] *1. Institute of Physics, Kazan Federal University, Kazan, Russian Federation; 2. Spintec, CEA-Grenoble, Grenoble, France; 3. Service de Physique de l'Etat Condensé, CEA Saclay, Gif-sur-Yvette, France; 4. DSM/IRAMIS/SPEC, CEA Saclay, Gif sur Yvette, France; 5. Institute for Applied Physics, University of Muenster, Muenster, Germany; 6. LabSTICC, CNRS, Université de Bretagne Occidentale, Brest, France*

9:15

G1-03. **Propagating Spiral Spin Waves in Magnetic Nano-patches.** *D. Osuna Ruiz*[1], A.P. Hibbins[1] and F.Y. Ogrin[1] *1. University of Exeter, Exeter, United Kingdom*

9:30

G1-04. **Magnon-phonon conversion in a nonuniform magnetic field and detection of the phonon spin.** ***(Invited)*** *S.M. Rezende*[1], J.H. da Silva Júnior[1], D. Souto Maior[1] and A. Azevedo[1] *1. Departamento de Fisica, Universidade Federal de Pernambuco, Recife, Brazil*

TUESDAY
MORNING
8:30

Session G2
MULTIFERROIC MAGNETO-OPTICS

Colin Heikes, Chair
NIST Center for Neutron Research, Gaithersburg, MD, United States

8:30

G2-01. **Nonreciprocal propagation of microwaves, magnons, and acoustic waves in noncentrosymmetric magnets.** ***(Invited)*** *Y. Onose*[1] *1. Institute for Material Research, Tohoku University, Sendai, Japan*

9:00

G2-02. **Gigantic nonreciprocity of luminescence in multiferroic CuB_2O_4.** *S. Toyoda*[1,2], N. Abe[1] and T. Arima[1,2] *1. Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. RIKEN CEMS, Wako, Japan*

9:15

G2-03. **Femtosecond activation of magnetoelectricity.** *D. Bossini*[1,2], K. Konishi[2], S. Toyoda[2,3], T. Arima[4], J. Yumoto[2] and M. Kuwata-Gonokami[2] *1. TU Dortmund, Dortmund, Germany; 2. The University of Tokyo, Tokyo, Japan; 3. RIKEN, Tokyo, Japan; 4. The University of Tokyo, Tokyo, Japan*

9:30

G2-04. **Nonreciprocal DC Magnetoelectric Response in $CaBaM_4O_7$ (M=Co, Fe) Single Crystals.** *H. Kuwahara*[1], M. Noda[1], Y. Ebukuro[1], M. Akaki[2] and H. Kuroe[1] *1. Physics Division, Sophia University, Tokyo, Japan; 2. Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Toyonaka, Japan*

9:45

G2-05. **Millimeter-wave Faraday Rotation from Magnetoelastic Multiferroic Materials.** *N. Parsa*[1], R.C. Toonen[1], F. Peng[2] and M. Cakmak[3] *1. Electrical and Computer Engineering, The University of Akron, Akron, OH, United States; 2. Polymer Engineering, The University of Akron, Akron, OH, United States; 3. Materials and Mechanical Engineering, Purdue University, West Lafayette, IN, United States*

Session G3
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING II

Jan Fuzer, Chair
P.J. Safarik University, Kosice, Slovakia

8:30

G3-01. **Monolayer WSe_2 spin and valley Hall effect transistors controlled via electric field for spintronic applications.** ***(Invited)*** *J.C. Incorvia*[1], E. Barré[2], S. Kim[3], C. McClellan[2], E. Pop[2], H. Wong[2] and T. Heinz[3] *1. Electrical and Computer Engineering, University of Texas at Austin, Austin, TX, United States; 2. Electrical Engineering, Stanford University, Stanford, CA, United States; 3. Applied Physics, Stanford University, Stanford, CA, United States*

9:00

G3-02. **Grain size dependence of magnetic domain wall motion in soft-magnetic materials.** *H. Tsukahara*[1], K. Iwano[1], C. Mitsumata[2], T. Ishikawa[1] and K. Ono[1] *1. KEK, Tsukuba, Japan; 2. NIMS, Tsukuba, Japan*

9:15

G3-03. **Measurement Study of Magnetic Properties of Different Electrical Sheet Steel under Different Temperature, and DC Bias.** *D. Chen*[1], Z. Feng[1] and B. Bai[1] *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China*

9:30

G3-04. **Evaluating the Suitability of Partial Recrystallisation as a Strengthening Method for High Strength-Thin Gauge Non-Orientated Electrical Steel.** *M. O'Reilly*[1], C. Pleydell-Pearce[1], E. Sackett[1] and F. Robinson[2] *1. Engineering, Swansea University, Bristol, United Kingdom; 2. Cogent Power, Newport, United Kingdom*

9:45

G3-05. **Exploration of the 3D Printing of Transformer Structures with Embedded Ferrite Cores.** *D. Bowen*[2] and D. Basu[1] *1. University of Maryland, College Park, MD, United States; 2. Laboratory for Physical Sciences, College Park, MD, United States*

Session G4
ADVANCES WITH NANOPARTICLES I

Ahmed El-Gendy, Chair
University of Texas at El Paso, El Paso, TX, United States

8:30

G4-01. **Self-assembled layering of magnetic nanoparticles in a ferrofluid onto solid surfaces.** ***(Invited)*** *K. Theis-Bröhl*[1], E.C. Vreeland[3,4], A. Gomez[4], D.L. Huber[4], A. Saini[5], M. Wolff[5], B.B. Maranville[2], E. Brok[6], K.L. Krycka[2], J.A. Dura[2] and J.A. Borchers[2] *1. University of Applied Sciences Bremerhaven, Bremerhaven, Germany; 2. Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Imagion Biosystems LLC, Albuquerque, NM, United States; 4. Sandia National Laboratories, Albuquerque, NM, United States; 5. Division for Materials Physics, Uppsala University, Uppsala, Sweden; 6. Nano-Science Center, Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark*

9:00

G4-02. **Effects of Shape and Spatial Arrangement of Nanoparticle Assemblies on their Hyperthermia Performance.** *O. Iglesias*[1,2] and X. Rey-Martín[1,2] *1. Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia UB, Barcelona, Spain*

9:15

G4-03. **Metallorganic 2D networks as a buffer layer to grow magnetic nanoclusters.** *L. Hernández-López*[1,2], J. Lobo-Checa[1,2], I. Piquero-Zulaica[3,4], M. Piantek[5,2], D. Serrate[5,2] and F. Bartolome[1,2] *1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 2. Departamento de Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 3. Centro de Física de Materiales, CSIC - UPV/EHU, San Sebastián, Spain; 4. Materials Physics Center, San Sebastián, Spain; 5. INA / LMA, Universidad de Zaragoza, Zaragoza, Spain*

9:30

G4-04. **Strongly Exchange Coupled Core|Shell Nanoparticles with High Magnetic Anisotropy: A Strategy Toward Rare-Earth-Free Permanent Magnets.** *A. López-Ortega*[1], C. de Julián Fernández[2] and C. Sangregorio[3] *1. nanomagnetism, CIC nanoGUNE, Donostia – San Sebastian, Spain; 2. CNR-IMEM, Parma, Italy; 3. CNR-ICCOM, Firenze, Italy*

9:45

G4-05. **Magnetic morphologies in core-shell $Fe_3O_4/Mn_xFe_{3-x}O_4$ nanoparticle assemblies.** *Y. Ijiri*[1], J. Hsieh[1], I. Hunt-Isaak[1], H. Pan[1], K.L. Krycka[2], J. Borchers[2], S. Oberdick[3,5], A.M. Abdelgawad[4,5] and S. Majetich[5] *1. Department of Physics and Astronomy, Oberlin College, Oberlin, OH, United States; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Applied Physics Division, National Institute of Standards and Technology, Boulder, CO, United States; 4. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 5. Physics, Carnegie Mellon University, Pittsburgh, PA, United States*

TUESDAY MORNING 8:30

ESPLANADE 152

Session G5
MAGNETOCALORIC MATERIALS III

Joao Amaral, Chair
Universidade de Aveiro, Aveiro, Portugal

8:30

G5-01. **Computational Search for Giant Magnetocaloric Materials: Application to MnAs.** *J.S. Amaral*[1], N.M. Fortunato[2] and J. Gonçalves[3] *1. CICECO & Physics dept., Universidade de Aveiro, Aveiro, Portugal; 2. Physics, University of Aveiro, Aveiro, Portugal; 3. Departamento de Física, Aveiro, Portugal*

8:45

G5-02. **Ultra-low Hysteresis in Giant Magnetocaloric $Mn_{1-x}V_xFe(P,Si,B)$ Compounds.** *J. Lai*[1,2], B. Huang[1,2], N. van Djik[3], E. Brück[3] and D. Zeng[2] *1. Applied Science, Delft University of Technology, Delft, Netherlands; 2. School of Materials Science & Engineering, South China University of Technology, Guangzhou, China; 3. TU Delft, Delft, Netherlands*

9:00

G5-03. **Magnetic and Magnetocaloric Effect Studies on MnSb and $MnSbR_{0.05}$ (R: Gd, Tb, Dy, Ho and Er).** R. P[1] and *G. Markandeyulu*[1] *1. Physics, Indian Institute of Technology, Chennai, India*

9:15

G5-04. **Element-specific view on $La(FeSi)_{13}$.** *K.J. Ollefs*[5], A. Terwey[5], K.P. Skokov[1], M. Krautz[2], F. Wilhelm[3], A. Rogalev[3], B. Eggert[5], J. Landers[5], S. Salamon[5], I.A. Radulov[1], V. Brabänder[1], M.Y. Hu[4], E.E. Alp[4], J. Zhao[4], W.-. Keune[5], O. Gutfleisch[1], M. Gruner[5] and H. Wende[5] *1. FM, TU Darmstadt, Darmstadt, Germany; 2. IFW Dresden, Dresden, Germany; 3. ESRF, Grenoble, France; 4. Argonne National Laboratory, Lemont, IL, United States; 5. Faculty of Physics and CENIDE, University of Duisburg-Essen, Duisburg, Germany*

9:30

G5-05. **Tuning of Magnetocaloric effect in $La_{0.7}Ca_{0.3}MnO_3$ films using different substrates.** *S. Giri*[1], R. Wu[1] and J. Driscoll[1] *1. Department of Materials Science, University of Cambridge, Cambridge, United Kingdom*

9:45

G5-06. **Role of microstructural defects and internal stress in tuning the multifunctional properties of Ni-Mn-Sn-(Co) alloys.** *I. Unzueta Solozabal*[1,6], J. López-García[2,3], V. Sánchez-Alarcos[3,4], V. Recarte[3,4], I. Pérez-Landazábal[3,4], J. Rodríguez-Velamazán[2], J. Sainz Garitaonandia[5], J. García[5,6] and F. Plazaola[2] *1. Electricity & Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 2. Institut Laue-Langevin ILL, Grenoble, France; 3. Física, Universidad Publica de Navarra, Iruñea, Spain; 4. Institute for Advanced Materials (INAMAT), Pamplona, Spain; 5. Applied Physics II, University of the Basque Country (UPV/EHU), Leioa, Spain; 6. BCMaterials, Leioa, Spain*

TUESDAY MORNING 8:30

ROOM 105

Session G6
ANTIFERROMAGNETIC SPINTRONICS: THEORY

Takahiro Moriyama, Chair
Kyoto University, Uji, Japan

8:30

G6-01. **Classification of topological antiferromagnets for spintronics.** ***(Invited)*** *L. Šmejkal*[1,2*], J. Sinova[1,2] and T. Jungwirth[2,3] *1. Johannes Gutenberg University, MAINZ, Germany; 2. Academy of Sciences of the Czech Republic, Prague, Czechia; 3. University of Nottingham, Nottingham, United Kingdom*

9:00

G6-02. **Spin Hall effects in non-collinear antiferromagnetic Mn_3X (X = Ir, Sn, Ge) thin-films.** *J.M. Taylor*[1], E. Lesne[1], A. Markou[2], C. Felser[2] and S.S.P. Parkin[1] *1. Max Planck Institute of Microstructure Physics, Halle (Saale), Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

9:15

G6-03. **Spin Currents in Non-Collinear Antiferromagnets.** *J. Zelezny*[1] *1. Department of Spintronics and Nanoelectronics, Institute of Physics, ASCR, Prague, Czechia*

9:30

G6-04. **Lifetime of Antiferromagnetic Skyrmions.** P. Bessarab[2], D. Yudin[3], D. Gulevich[3], P. Wadley[4], M. Titov[3,5] and *O. Tretiakov[1] 1. Tohoku University, Sendai, Japan; 2. University of Iceland, Reykjavik, Iceland; 3. ITMO, Saint Peterburg, Russian Federation; 4. School of Physics and Astronomy, The University of Nottingham, Nottingham, United Kingdom; 5. Radboud University, Nijmegen, Netherlands*

9:45

G6-05. **Interlayer Couplings Mediated by Antiferromagnetic Magnons.** *R. Cheng[1,2]*, D. Xiao[1] and J. Zhu[3,2] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 3. Data Storage Systems Center, Carnegie Mellon Univ, Pittsburgh, PA, United States*

TUESDAY MORNING 8:30

ROOM 104

Session G7
ELECTRIC FIELD CONTROL OF MAGNETIC SYSTEMS

Ramamoorthy Ramesh, Chair
University of California, Berkeley, Berkeley, CA, United States

8:30

G7-01. **Electric-field control of spin-orbit torque in magnetically doped topological insulators.** ***(Invited)*** *Y. Fan[1,2]* and K.L. Wang[1] *1. Electrical Engineering, UCLA, Los Angeles, CA, United States; 2. Massachusetts Institute of Technology, Cambridge, MA, United States*

9:00

G7-02. **Systematic experimental and theoretical study of giant voltage-controlled-magnetic-anisotropy (VCMA) effect in a strained MgO/CoFe/Ir.** *Y. Kato[1]*, H. Yoda[1], S. Kwon[2], N. Kioussis[2], K. Fujii[1], M. Yoshiki[1], A. Tiwari[1], A. Buyandalai[1], S. Oikawa[1], H. Sugiyama[1], K. Koi[1], M. Ishikawa[1], T. Inokuchi[1], N. Shimomura[1], M. Shimizu[1], S. Shirotori[1], Y. Ohsawa[1] and A. Kurobe[1] *1. Toshiba Corporation, Kawasaki, Japan; 2. Physics and Astronomy, California State University, Northridge, PORTER RANCH, CA, United States*

9:15

G7-03. **Controlling the magnetization of insulators with voltages and interfacial rare-earth atoms.** *A. Leon[1]*, A. Cahaya[1] and G. Bauer[1,2] *1. Institute for Materials Research, Tohoku University, Sendai 980-8577, Sendai, Japan; 2. Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands*

9:30

G7-04. **Control of Magnetic and Topological Orders with a DC Electric Field.** *K. Takasan[1]* and M. Sato[2] *1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Department of Physics, Ibaraki University, Mito, Japan*

9:45

G7-05. **Witten effect and emergent gauge fields on domain wall between topological insulators and spin ice components.** *I. Kanazawa[1] 1. Physics, Tokyo Gakugei University, Tokyo, Japan*

TUESDAY MORNING 8:30

ROOM 306

Session G8
QUANTUM SPIN LIQUIDS III

Frank Pollmann, Chair
TU Munich, Garching, Germany

8:30

G8-01. **Quantum spin liquids: from theory to experiments and numerical simulations.** ***(Invited)*** *F. Mila[1] 1. EPFL, Lausanne, Switzerland*

9:00

G8-02. **A quantum spin liquid based on a new three dimensional lattice.** *S. Chillal[1]*, Y. Iqbal[2], H. Jeschke[3], P. Steffens[4], J. Rodriguez-Rivera[5,6], R. Bewley[7], D. Khalyavin[7], P. Manuel[7], R. Thomale[8], A. Islam[1], J. Reuther[1,9] and B. lake[1,10] *1. Helmholtz Zentrum Berlin for Materials and Energy, Berlin, Germany; 2. Indian Institute of Technology Madras, Chennai, India; 3. Okayama University, Okayama, Japan; 4. Institut Laue Langevin, Grenoble, France; 5. NIST Center for Neutron Research, Gaithersburg, MD, United States; 6. University of Maryland, Maryland, MD, United States; 7. Rutherford Appleton Laboratory, Didcot, United Kingdom; 8. Julius Maxmilian University of Wurzburg, Wurzburg, Germany; 9. Freie University, Berlin, Germany; 10. Technical University Berlin, Berlin, Germany*

9:15

G8-03. **Disorder and its consequences in Pr-based quantum spin ices.** *O. Benton[1] 1. Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan*

9:30

G8-04. **Electronically Highly Cubic Conditions for Kitaev Physics in Alpha-$RuCl_3$.** *S. Agrestini*[1,2], C. Kuo[1], K. Ko[1], Z. Hu[1], D. Kasinathan[1], H.B. Vasili[2], J. Herrero-Martin[2], M. Valvidares[2], E. Pellegrin[2], A. Henschel[1], M. Schmidt[1], L. Jang[3], A. Tanaka[4] and L. Tjeng[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Experiments Division, CELLS-ALBA, Cerdanyola, Spain; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Department of Quantum Matter, Hiroshima University, Higashi-Hiroshima, Japan*

9:45

G8-05. **A High-Temperature Quantum Spin Liquid with Atomic-Cluster Spins in 1*T*-TaS_2.** *D. Arcon*[1,2] *1. Institute "Jozef Stefan", Ljubljana, Slovenia; 2. Faculty of mathematics and physics, University of Ljubljana, Ljubljana, Slovenia*

TUESDAY MORNING 8:30

ROOM 307/308

Session G9
SUPERCONDUCTIVITY IN FERROMAGNETIC HEAVY FERMION SYSTEMS

Anne de Visser, Chair
University of Amsterdam, Amsterdam, Netherlands

8:30

G9-01. **Tuning the uranium ferromagnetic superconductors with stress.** ***(Invited)*** *D. Braithwaite*[1], D. Aoki[2,1], S. Araki[3,1], J. Brison[1], J. Flouquet[1], G. Knebel[1], H. Kotegawa[4,1], A. Nakamura[2,1] and A. Pourret[1] *1. INAC, Université Grenoble Alpes and CEA, Grenoble, France; 2. IMR, Tohoku University, Oarai, Japan; 3. Department of Physics, Okayama University, Okayama, Japan; 4. Department of Physics, Kobe University, Kobe, Japan*

9:00

G9-02. **Interplay of Itinerant and Localized Spin Fluctuations in the Ferromagnetic Superconductor UGe_2.** ***(Invited)*** *F. Haslbeck*[4,2], S. Säubert[1,4], M. Seifert[1,4], C. Franz[1], M. Schulz[1], A. Heinemann[5], T. Keller[6,7], P. Das[8], J. Thompson[3], E. Bauer[3], C. Pfleiderer[4] and M. Janoschek[3,2] *1. Forschungs-Neutronenquelle Heinz-Maier Leibnitz (FRMII), Garching, Germany; 2. TUM Institute for Advanced Studies, Garching, Germany; 3. Los Alamos National Laboratory, Los Alamos, NM, United States; 4. Technical University of Munich, Munich, Germany; 5. German Engineering Materials Science Centre (GEMS) at Heinz Maier-Leibnitz Zentrum, Garching, Germany; 6. Max-Planck-Institut fuer Festkoerperforschung, Stuttgart, Germany; 7. Max Planck Society Outstation at the Forschungsneutronenquelle Heinz Maier-Leibnitz, Garching, Germany; 8. Iowa State University, Division of Materials Sciences and Engineering, Ames, IA, United States*

9:30

G9-03. **Ferromagnetic superconductivity mediated by pressure-enhanced spin fluctuation developed around the phase boundary of FM1 and FM2 in UGe_2.** *N. Tateiwa*[1], Y. Haga[1] and E. Yamamoto[1] *1. Advanced Science Research Center, Japan Atomic Energy Agency, Naka, Tokai, Japan*

9:45

G9-04. **Investigation of the Wing-Structure of the Ising Ferromagnet URhGe by Angle-Resolved Measurements.** *S. Nakamura*[1,2], S. Kittaka[2], T. Sakakibara[2], Y. Shimizu[3,2], Y. Kono[2], Y. Haga[4] and E. Yamamoto[4] *1. Department of Engineering Physics, Electronics and Mechanics, Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan; 2. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. Institute for Materials Research, Tohoku University, Oarai, Japan; 4. Japan Atomic Energy Agency, Tokai, Japan*

TUESDAY MORNING 8:30

ROOM 313/314

Session G10
SPIN-1 CHAINS AND FRUSTRATED SPIN-1/2 CHAINS

Britta Ryll, Chair
Helmholtz - Zentrum Berlin, Berlin, Germany

8:30

G10-01. **Complex Field-Induced States in Linarite $PbCuSO_4(OH)_2$ with a Variety of High-Order Exotic Spin-Density Wave States.** ***(Invited)*** *B. Ryll*[1], L. Heinze[2], M. Reehuis[1], J. Hoffmann[1], A. Wolter[3], K. Rule[4], A. Studer[4], B. Ouladdiaf[5], S. Nishimoto[3], S. Drechsler[3] and S. Süllow[2] *1. Helmholtz-Zentrum Berlin, Berlin, Germany; 2. Institute for Physics of Condensed Matter, TU Braunschweig, Braunschweig, Germany; 3. IFW Dresden, Dresden, Germany; 4. Australian Nuclear Science and Technology Organization, Kirrawee, NSW, Australia; 5. Institute Laue-Langevin, Grenoble, France*

9:00

G10-02. **Elementary excitations and stability of the spin-stripe state in a quantum spin chain.** M. Pregelj[1], *A. Zorko*[1], M. Gomilsek[1], O. Zaharko[2], J. White[2], H. Luetkens[2], F. Coomer[3], T. Ivek[4], H. Berger[5] and D. Arcon[1,6] *1. Jozef Stefan Institute, Ljubljana, Slovenia; 2. Paul Scherrer Institut, Villigen, Swaziland; 3. Rutherford Appleton Laboratory, Didcot, United Kingdom; 4. Institute of Physics, Zagreb, Croatia; 5. Ecole polytechnique fédérale de Lausanne, Lausanne, Switzerland; 6. University of Ljubljana, Ljubljana, Slovenia*

9:15

G10-03. **Cluster-Based Haldane State with Finite Magnetization.** *T. Sugimoto*[1], K. Morita[1] and T. Tohyama[1] *1. Applied Physics, Tokyo University of Science, Tokyo, Japan*

9:30

G10-04. **Quantized excitation spectra by magnon confinement in quasi S=1 spin-chain systems.** *T. Suzuki*[1] and S. Suga[1] *1. University of Hyodo, Himeji, Japan*

9:45

G10-05. **Defects in spin ladders.** *S. Galeski*[1], K. Povarov[1], D. Blosser[1], J. Ollivier[2] and A. Zheludev[1] *1. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 2. Institut Laue-Langevin, Grenoble, France*

TUESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session H1
ADVANCES WITH NANOPARTICLES II (Poster Session)

Fernando Bartolome, Chair
CSIC, Zaragoza, Spain

H1-01. **Photomagnetic Control of Nanoparticles with Radical Pair System: A promising New Area of Liposomal DDS.** *H. Nakagawa*[1] and M. Ohuchi[1] *1. Department of Electrical and Electronic Engineering, Tokyo Denki University, Adachi-ku, Japan*

H1-02. **Effect of the Organic Coating on the Magnetic Behavior of $CoFe_2O_4$ Nanoparticles.** *E. Agostinelli*[1], N. Ntallis[2], M. Vasilakaki[2], M. Giuseppe[3], D. Fiorani[1], D. Peddis[1] and K.N. Trohidou[2] *1. Istituto di Struttura della Materia- ISM, Consiglio Nazionale delle Ricerche - CNR, Monterotondo Scalo (RM), Italy; 2. Institute of Nanoscience and Nanotechnology, NCSR 'DEMOKRITOS', Athens, Greece; 3. Physics and Astronomy, Uppsala University, Uppsala, Sweden*

H1-03. **Transfer to aqueous medium of magnetic nanoparticles codoped with rare earth for hyperthermia applications.** *J. Ibarra-Sánchez*[1], T. López-Luke[1], T. Cordova-Fraga[2], J. Bernal–Alvarado[2], M. Cano[3] and E. De la Rosa[1] *1. Fotónica, Centro de Investigaciones en Óptica, León, Mexico; 2. Departamento de Ingeniería Física, Universidad de Guanajuato, León, Mexico; 3. Departamento de Ciencias Básicas, Centro Universitario de la Ciénega, León, Mexico*

H1-04. **Low temperature synthesis of $L1_0$ MPt (M = Fe, Co, Ni) nanoparticles by salt layered precursors.** G. Varvaro[1], *E. Agostinelli*[1], D. Fiorani[1], P. Imperatori[1], S. Laureti[1], D. Peddis[1] and A. Capobianchi[1] *1. ISM - CNR, Monterotondo Scalo (Roma), Italy*

H1-05. **Withdrawn**

H1-06. **Towards the synthesis of molecularly-imprinted-polymer coated nanoparticules by magnetic field induced polymerization.** *L. Perez*[1,4], J.L. Urraca[2], B. Cortes-Llanos[1], P. de la Presa[3,1], C. Aroca[5] and M. Moreno-Bondi[2] *1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. Department of Analytical Chemistry, Universidad Complutense de Madrid, Madrid, Spain; 3. Instituto de Magnetismo Aplicado, UCM-CSIC-ADIF, Madrid, Spain; 4. IMDEA Nanociencia, Madrid, Spain; 5. Instituto de Sistemas Optoelectrónicos y Microtecnología, Universidad Politécnica de Madrid, Madrid, Spain*

H1-07. **Size-tunable fabrication of multiferroic $BiFeO_3$ nanoparticles and syntheses of porous $BiFeO_3$ networks with enhanced visible-light photocatalytic activity.** *T. Cadenbach*[1], M. Benítez[2], L. Lascano[2], C. Costa[2], A. Debut[3] and C. Arroyo[3] *1. Ingeniería Ambiental, Universidad San Francisco de Quito, Quito, Ecuador; 2. Departamento de Física, Escuela Politécnica Nacional, Quito, Ecuador; 3. Center of Nanoscience and Nanotechnology, Escuela Politécnica del Ejército, Sangolqui, Ecuador*

H1-08. **Magnetic and Excellent Microwave Absorbing Properties Exhibited by $Ni_{0.5}Zn_{0.5}Fe_{1.9}Er_{0.1}O_4$ Ferrite/Polyaniline Nanocomposite.** *R.N. Kambale*[1,2], A.K. Patel[3], S.K. Yadav[4], K. Suresh[3] and V.A. Bambole[1] *1. Department of Physics, University of Mumbai, Mumbai, India; 2. Department of Physics, KV IIT Powai, Mumbai, Mumbai, India; 3. Department of Physics, IIT Bombay, Mumbai, India; 4. Department of Physics, IIT Delhi, Delhi, India*

H1-09. **Temperature Dependence of Magnetic Anisotropy Constant in Ferrimagnetic $ZnFe_2O_4$ Nanoparticles.** *S. Yoon*[1] *1. Department of Physics, Gunsan National University, Gunsan, The Republic of Korea*

H1-10. **Formation of $Sm_3Fe_5O_{12}$ with controllable morphology by changing the addition of KOH.** W. Shen[1], B. Ren[1] and *W. Wang*[1] *1. State Key Laboratory of Chemical Resource Engineering and School of Science, Beijing University of Chemical Technology, Beijing 100029, China, Beijing, China*

H1-11. **Structural, magnetic and electrochemical activity of $Ti_{0.5}Ni_{0.5}Fe_2O_4$ nanoparticles synthesized by high energy ball milling.** *N.S. Osman*[1] *1. Institute of Laser, Sudan University of Science and Technology, Khartoum, Sudan*

H1-12. **Ferromagnetism and Giant Paramagnetism of Copper Nanoparticles Coated by Carbon Shell.** *A.N. Kocharian*[1], M. Estiphanos[1], O. Bernal[1], E. Sharoyan[2], A. Manukyan[2] and H. Gyulasaryan[2] *1. Physics and Astronomy, California State University. Los Angeles, Los Angeles, CA, United States; 2. Institute for Physical Research, National Academy of Sciences, Ashtarak, Ashtarak, Armenia*

H1-13. **Separation and identification of various diamagnetic and paramagnetic particles based on the variances of magnetization assigned to individual materials.** *C. Uyeda*[1] *1. Osaka University, Graduate School of Science, Toyonaa, Japan*

Session H2
ANISOTROPY IN MAGNETIC THIN FILMS (Poster Session)

Takashi Hasegawa, Chair
Akita University, Akita, Japan

H2-01. **First-principles calculations of Ru-substitution effect on magnetic anisotropy and Curie temperature in $L1_0$-type FePt alloys.** *Y. Kota*[1] *1. National Institute of Technology, Fukushima College, Iwaki, Japan*

H2-02. **Magnetocrystalline anisotropy and magnetic microstructures in the ferromagnetic phase of $Nd_{0.7}Sr_{0.3}MnO_3$.** Y. Fujibayashi[1], A. Kotani[1], K. Harada[2,1], Y. Ishii[1] and *S. Mori*[1] *1. Materials Sceince, Osaka Prefecture University, Osaka, Japan; 2. RIKEN, Wako, Japan*

H2-03. **Temperature Dependence of Zero, First and Second Order Magnetic Anisotropy Constants of Few-Layer MoS_2.** *R.G. Fonseca*[1], R.F. Albers[2], E.R. Leite[2,3] and A.J. de Oliveira[1] *1. Physics Department, Federal University of São Carlos, São Carlos, Brazil; 2. Chemistry Department, Federal University of São Carlos, São Carlos, Brazil; 3. Brazilian Nanotechnology National Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, Brazil*

H2-04. **Formation of A1 and $L1_0$ CoPt in CoPt/TiN films and the perpendicular magnetic coupling on glass substrate.** *H. An*[1] *1. Keio University, Yokohama, Japan*

H2-05. **Structural analysis of PLD grown $L1_0$-FeNi film.** *M. Saito*[1], H. Ito[1], T. Mizushima[2], F. Komori[2], T. Koganezawa[3], M. Mizuguchi[4], K. Takanashi[5] and M. Kotsugi[1] *1. Faculty of Industrial Science and Technology, Tokyo Univesity of Science, Katsushika, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. SPring-8, Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Japan; 4. Tohoku University, Sendai, Japan; 5. Institute for Materials Research, Tohoku University, Sendai, Japan*

H2-06. **Controlled growth rate of Pt buffer layer promotes fcc (111) orientation of $[CoFe/Pt]_5$ multilayers allowing to tailor its anisotropy field.** *L.E. Fernandez-Outon*[1,2], W.G. Schmidt[2], A.M. Fortini[1], M.D. Martins[2] and W. Macedo[2] *1. Departamento de Física, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; 2. Centro de Desenvolvimento da Tecnologia Nuclear, Belo Horizonte, Brazil*

H2-07. **Withdrawn**

H2-08. **Evolution of the interfacial perpendicular magnetic anisotropy constant of the Co_2FeAl/MgO interface upon annealing.** *A. Conca*[1], A. Niesen[2], G. Reiss[3] and B. Hillebrands[1] *1. Physics, TU Kaiserslautern, Kaiserslautern, Germany; 2. Physics Department, Bielefeld University, Bielefeld, Germany; 3. Center for Spinelectronic Materials and Devices, Physics Department, Bielefeld University, Bielefeld, Germany*

H2-09. **Magnetic anisotropy and ferromagnetic resonance in nitrogen-incorporated $NiFe_2O_4$ thin films.** A. K B[1], U. Kodam[2], S. A[1] and *G. Markandeyulu*[1] *1. Physics, Indian Institute of Technology, Chennai, India; 2. Jabalpur Engineering College, Jabalpur, India*

H2-10. **Magnetic proximity effects on antiferromagnet-induced perpendicular magnetic anisotropy in magnetic thin films: An applying of in-plane magnetic supporting layers.** *B. Wang*[1], C. Huang[1], M. Tsai[1], K. Lin[1], C. Chung[1], N. Jih[2], C. Lu[3], T. Chuang[4] and D. Wei[3] *1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. The Center of Teacher Education, National Chung Hsing University, Taichung, Taiwan; 3. Nano Science, National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Scientific Research Division, National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

H2-11. **Unravelling chiral Dzyaloshinskii-Moriya interaction at Graphene/FM interface.** F. Ajejas[1], A. Gudin[1], J. Diez[6], P. Olleros[1], A. Anadon[1], R. Guerrero[1], S. Pizzini[2], J. Vogel[3], M. Valvidares[4], M. Varela[5], R. Miranda[6], J. Camarero[6] and *P. Perna*[1] *1. IMDEA NANOSCIENCE, Madrid, Spain; 2. Institut Néel, CNRS, Grenoble, France; 3. Institut Néel, CNRS, Grenoble, France; 4. ALBA Synchrotron, Cerdanyola del Valles, Spain; 5. Universidad Complutense de Madrid, Madrid, Spain; 6. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain*

Session H3
FRUSTRATED 1D MAGNETS, SPIN-LADDERS AND S=1 CHAINS (Poster Session)

Ursula Hansen, Chair
The Insitute Laue Langevin, Grenoble, France

H3-01. **Magnetic spin correlations in the one-dimensional frustrated spin-chain system $Ca_3Co_2O_6$.** *E. Nocerino*[1], J. Sugiyama[2], B. Roessli[3], B. Hitti[9], Y. Ikedo[13], I. Zivković[14], H. Nozaki[4], M. Harada[2], Y. Sassa[5], D. Andreica[6], T. Goko[7], A. Amato[8], O. Ofer[9], E.J. Ansaldo[9], J.H. Brewer[9], K.H. Chow[10], H.T. Yi[11], S. Cheong[12], K. Prsa[15] and M. Månsson[1] *1. Applied Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 2. Toyota Central R&D Labs., Inc., Nagakute, Japan; 3. Paul Scherrer Institut, Zurich, Switzerland; 4. Materials Analysis Evaluation Dept., Toyota Central R&D Labs., Inc., Nagakute, Japan; 5. Uppsala University, Uppsala, Sweden; 6. Babes-Bolyai University, Cluj-Napoca, Romania; 7. Paul Scherrer Institut, Zurich, Switzerland; 8. Laboratory for Muon-Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 9. TRIUMF, Vancouver, BC, Canada; 10. University of Alberta, Edmonton, AB, Canada; 11. Rutgers University, Piscataway, NJ, United States; 12. Physics and Astronomy, Rutgers University, Piscataway, NJ, United States; 13. KEK, Tsukuba, Japan; 14. Institute of Physics, Zagreb, Croatia; 15. Freiburg University, Freiburg, Germany*

H3-02. **Magnetic Behavior of Quasi-One-dimensional Frustrated Quantum spin systems $(Rb,Cs)_2Cu_2Mo_3O_{12}$.** *Y. Yasui*[1], S. Iguchi[1], S. Nakamura[2], Y. Kono[2], S. Kittaka[2] and T. Sakakibara[2] *1. Physics, Meiji University, Kawasaki, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Chiba, Japan*

H3-03. **Magnetic Field Induced z=2 Quantum Phase Transitions in Spin Chain and Spin Ladder Compounds.** *D. Blosser*[2], N. Kestin[1], K. Povarov[2], R. Bewley[3], E. Coira[1], T. Giamarchi[1] and A. Zheludev[2] *1. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland; 2. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 3. ISIS Facility, Rutherford Appleton Laboratory, Chilton, Didcot, United Kingdom*

H3-04. **Magnetism in the frustrated spin-chain compound Sr_3NiIrO_6 studied by muon-spin spectroscopy.** *J. Barker*[1], D. Adroja[2], J. Sannigrahi[2], A. Hillier[2] and E. Sampathkumaran[3] *1. Laboratory for muon-spin spectroscopy, Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. ISIS neutron and muon facility, Rutherford Appleton Laboratory, STFC, Harwell Campus, Didcot, Oxfordshire, United Kingdom; 3. Tata Institute of Fundamental Research, Mumbai, India*

H3-05. **Ground States in an Anisotropic S=1/2 Ladder with Different Leg Interactions.** *T. Hikihara*[1], T. Tonegawa[2,3], K. Okamoto[4], S. Furuya[5] and T. Sakai[6] *1. Faculty of Science and Technology, Gunma University, Kiryu, Japan; 2. Kobe University, Kobe, Japan; 3. Department of Physical Science, Osaka Prefecture University, Sakai, Japan; 4. College of Engineering, Shibaura Institute of Technology, Saitama, Japan; 5. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan; 6. Graduate School of Material Science, University of Hyogo, Ako, Japan*

H3-06. **Magnetic Response of NBCT, an S = 1 Antiferromagnetic Chain near the D/J Quantum Critical Point.** D. Pajerowski[2], A. Podlesnyak[2], N. Patel[3], J. Herbrych[3], J. Singleton[5], L. Engelhardt[5], S. Lapidus[6], A. Garcia[7], S. Brown[7], J.L. Manson[8], M. Peprah[1], P. Quintero[1], J. Xia[1,4], J. Perez[1], P. Edwards[1], J.M. Cain[1] and *M.W. Meisel*[1,4] *1. Department of Physics, University of Florida, Gainesville, FL, United States; 2. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 3. Department of Physics and Astronomy, University of Tennessee, Knoxville, TN, United States; 4. NHMFL, University of Florida, Gainesville, FL, United States; 5. Department of Physics and Astronomy, Francis Marion University, Florence, SC, United States; 6. X-ray Science Division, Argonne National Laboratory, Argonne, IL, United States; 7. Department of Physics, University of California, Los Angeles, Los Angeles, CA, United States; 8. Chemistry, Biochemistry and Physics, Eastern Washington University, Cheney, WA, United States*

H3-07. **Magnetism of the spin-1 tetramer compound $Rb_2Ni_2Mo_3O_{12}$.** *M. Hase*[1], A. Matsuo[2], K. Kindo[2] and M. Matsumoto[3] *1. Research Center for Advanced Measurement and Characterization, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. ISSP, The University of Tokyo, Kashiwa, Japan; 3. Shizuoka University, Shizuoka, Japan*

H3-08. **ESR Study of Spin Relaxation in Strong-leg Spin Ladder with Non-magnetic Doping.** *Y. Krasnikova*[1,2], V. Glazkov[1,2], A. Ponomaryov[3], S. Zvyagin[3], K. Povarov[4], S. Galeski[4], D. Schmidiger[4] and A. Zheludev[4] *1. Laboratory for Condensed Matter Physics, National Research University "Higher School of Economics", Moscow, Russian Federation; 2. P.L. Kapitza Institute for Physical Problems, Moscow, Russian Federation; 3. Dresden High Magnetic Field Laboratory (HLD-EMFL), Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 4. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland*

H3-09. **Revisiting of Sliding density wave in incommensurate spin-ladder $Sr_{14}Cu_{24}O_{41}$.** *R. Bag*[1] and S. Singh[1] *1. Physics, Indian Institute of Science Education and Research, Pune, India*

H3-10. **Phase Diagrams of Heisenberg Chains with Extra Three-Spin Exchange Terms.** *N.B. Ivanov*[1,2] *1. Theoretical Department, Institute of Solid State Physics, Tzarigradsko chausse 72, 1784 Sofia, Bulgaria; 2. Fakultaet fuer Physik, Universitaet Bielefeld, P.O. Box 100131, 33501 Bielefeld, Germany*

Session H4
HARD MAGNETIC FILMS (Poster Session)

Benjamin Podmiljsak, Chair
Jozef Stefan Institute, Ljubljana, Slovenia

H4-01. **Effect of Fe-B layer on Microstructure and Magnetic Properties of Exchange Coupled Nd-Fe-B/Mo/Fe-B Nanocomposite Multilayer Films.** *K. Ohashi*[1], K. Koike[1], T. Suzuki[1], N. Inaba[2], H. Kato[1], M. Kondo[3], M. Itakura[3] and M. Nishida[3] *1. Graduate School of Science and Engineering, Yamagata University, Yonezawa, Japan; 2. Department of Electrical Engineering, Yamagata University, Yonezawa, Japan; 3. Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Kasuga, Japan*

H4-02. **Epitaxial $Fe_{16}N_2$ Thin Film on Nonmagnetic Seed Layer.** *X. Hang*[1], X. Zhang[2], B. Ma[2], V. Lauter[3] and J. Wang[2,1] *1. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 2. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 3. NSSD, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

H4-03. **Magnetic anisotropy of α″-$Fe_{16}N_2$ for potential rare earth free permanent magnet: Impurity doping and multilayer.** I. Khan[1] and *J. Hong*[1] *1. Physics, Pukyong National University, Busan, The Republic of Korea*

H4-04. **Clear evidence of interfacial anomalous Hall effect in epitaxial $L1_0$ FePt and FePd films.** S. Xu[1], *Z. Shi*[1] and S. Zhou[1] *1. School of Physics, Tongji University, Shanghai, China*

H4-05. **Superior hard magnetic properties of nano-island $L1_0$-FePt systems.** *K. Son*[1], G. Ryu[2,3], Y. Chen[1], S. Tripathi[1], H. Jeong[1], P. Nagel[4], S. Schuppler[4], E.J. Goering[1] and G.A. Schütz[1] *1. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. Max Planck Institute for Solid State Research, Stuttgart, Germany; 4. Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany*

H4-06. **Development of electroplated FePt thick magnetic films on silicon.** *Y. Wang*[1] and D.P. Arnold[1] *1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, United States*

H4-07. **Microstructures and perpendicular magnetic properties of $Co_{80}Pt_{20}$/Ru/Ag multilayer films.** *S. Chen*[1,2], C. Wen[3], S. Chen[3], T. Chuang[3] and P. Kuo[3] *1. Department of Materials Engineering and Center for Thin Film Technologies and Applications, Ming Chi University of Technology, Taipei 243, Taiwan; 2. Department of Electronic Engineering, Chang Gung University, Taoyuan 333, Taiwan; 3. Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan*

H4-08. **Effect of capping layer on formation and magnetic properties of MnBi thin films.** *P. Quarterman*[1], D. Zhang[4], K. Schliep[3], T. Peterson[2], Y. Lv[4] and J. Wang[5] *1. NIST Center for Neutron Research, Gaithersburg, MD, United States; 2. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 3. NIST, Gaithersburg, MD, United States; 4. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 5. Electrical and Computer Engineering, School of Physics & Astronomy, Minneapolis, MN, United States*

H4-09. **Oriented Growth of Rare Earth Free Permanent Magnetic Thin Films.** V. Bhardwaj[1], S.P. Pal[1] and *R. Chatterjee*[1] *1. Physics, Indian Institute of Technology Delhi, New-Delhi, India*

H4-10. **Magnetic Relaxation Process in Perpendicular Anisotropy Heterostructures.** *A. Lisfi*[1], S. Pokharel[1], A. Davis[1], S. Alomari[1], A. Alqarni[1], W. Morgan[1] and M. Wuttig[2] *1. Physics, Morgan State University, Baltimore, MD, United States; 2. Materials Science and Engineering, University of Maryland, College Park, MD, United States*

Session H5
HEAVY FERMIONS II: FERROMAGNETIC AND METAMAGNETIC SYSTEMS (Poster Session)

Fuminori Honda, Chair
Tohoku University, Oarai, Japan

H5-01. **Elastic anomalies under magnetic fields in the heavy-fermion ferromagnet YbPtGe.** *I. Ishii*[1], X. Xi[2], Y. Noguchi[1], T. Mizuno[1], S. Kumano[1], K. Araki[3], K. Katoh[3] and T. Suzuki[4] *1. Hiroshima University, Higashi-Hiroshima, Japan; 2. Ames Laboratory, Ames, IA, United States; 3. National Defense Academy, Yokosuka, Japan; 4. Department of Quantum Matter, AdSM, Hiroshima University, Higashi-Hiroshima, Japan*

H5-02. **Multicritical points, Lifshitz transitions and spin flipping effects in the Underscreened Anderson Lattice Model under pressure and magnetic field.** *S.G. Magalhaes*[1], A.C. Laussmann[2], E.J. Calegari[2] and P.S. Riseborough[3] *1. Physics, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; 2. Physics, Universidade Federal de Santa Maria, Santa Maria, Brazil; 3. Physics, Temple University, Philadelphia, PA, United States*

H5-03. **High pressure electrical resistivity of ferromagnetic heavy fermion compound $YbNi_4P_2$.** T. Muramatsu[1], K. Kliemt[2], C. Krellner[2] and *S. Friedemann*[1] *1. HH Wills Laboratory, University of Bristol, Bristol, United Kingdom; 2. Physics, Goethe-University Frankfurt, Frankfurt, Germany*

H5-04. **Magnetic and transport properties of orthorhombic compounds R_3CoSn_6 (R = Ce and La).** *M. Kimura*[1], K. Wakiya[1], T. Tomaki[1], J. Gouchi[2], Y. Uwatoko[2], M. Uehara[1] and I. Umehara[1] *1. Department of Physics, Faculty of Engineering, Yokohama National University, Yokohama, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

H5-05. **Ferromagnetic ground state in $Ce_2Al_3Ge_4$ with colossal magnetic anisotropy.** *S. Manni*[1], A. Thamizhavel[1] and S.K. Dhar[1] *1. Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, Mumbai, India*

H5-06. **Withdrawn**

H5-07. **Potential energy vs. kinetic energy in structural stability, ferromagnetism and magnetic anisotropy of f-d intermetallics.** *M. Matsumoto*[1] *1. University of Tokyo, Institute for Solid State Physics, Kashiwa, Japan*

H5-08. **Field-induced phases in a heavy-fermion $U(Ru_{0.92}Rh_{0.08})_2Si_2$ single crystal studied by high-field transport and magnetization measurements.** *K. Prokes*[1], T. Förster[2], Y. Huang[3] and J.A. Mydosh[4] *1. Helmholtz-Zentrum Berlin, Berlin, Germany; 2. Hochfeld-Magnetlabor Dresden, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Van der Waals-Zeeman Institute, University of Amsterdam, Amsterdam, Netherlands; 4. Kamerlingh Onnes Laboratory, Leiden university, Leiden, Netherlands*

H5-09. **Pressure Effects on the Field-Induced Magnetic Phases in the Heavy-Fermion Compound $CeAuSb_2$.** *S. Seo*[1], S.M. Thomas[1], F. Ronning[1], E. Bauer[1], J. Thompson[1] and P. Rosa[1] *1. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States*

H5-10. **A possible explanation of meta-magnetic transition in $CeRu_2Si_2$ and magnetic behavior in Gd-poor $(Ce-Gd)Ru_2Si_2$.** *K. Yano*[1], Y. Amakai[2], Y. Hara[3], K. Sato[4], E. Kita[4], H. Takano[2], T. Ohta[5] and S. Murayama[2] *1. College of Science and Technology, Nihon University, Funabashi, Japan; 2. Muroran Institute of Technology, Muroran, Japan; 3. National Institute of Technogy, Hitachinaka, Japan; 4. National Institute of Technology, Hitachinaka, Japan; 5. Quantum Design Japan, Tokyo, Japan*

H5-11. **High pressure electrical resistivity of ferromagnetic heavy fermion compound $YbNi_4P_2$.** T. Muramatsu[1], K. Kliemt[2], C. Krellner[2] and *S. Friedemann*[1] *1. HH Wills Laboratory, University of Bristol, Bristol, United Kingdom; 2. Physics, Goethe-University Frankfurt, Frankfurt, Germany*

Session H6
MAGNETOCALORIC MATERIALS IV (Poster Session)

Samir Kumar Giri, Chair
University of Cambridge, Cambridge, United Kingdom

H6-01. **A comparative study of the magnetocaloric effect in MnFePSiGeB prepared by traditional sintering and spark plasma sintering.** *G. Wang*[1], B. Yang[1], T. Jing[2], Z. Zhao[2], X. Zhang[2] and Y. Liu[2] *1. Key laboratory of Integrated Exploitation of Bayan Obo Multi-Metal Resources, Inner Mongolia University of Science and Technology, Baotou, China; 2. School of Science, Inner Mongolia University of Science and Technology, Baotou, China*

H6-02. **Optimization of A Magnetic Heating Air-Conditioning & Refrigeration (HACR) Prototype for Experimental Purposes.** *B. Huang*[1], D. Zeng[2], N. van Djik[1] and E. Brück[1] *1. Faculty of Applied Sciences, Delft University of Technology, Delft, Netherlands; 2. School of Materials Science and Engineering, South China University of Technology, Guangzhou, China*

H6-03. **Table like Magnetocaloric Effect in $Ho_{36}Co_{48}Al_{16}$ Multiphase Alloy.** E. Balfour[3], H. Fu[3], R.L. Hadimani[2] and *A.A. El-Gendy*[1] *1. Physics, University of Texas at El Paso, El Paso, TX, United States; 2. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, United States; 3. School of Physical Electronics, University of Electronic Science and Technology of China, Chengdu 610054, People's Republic of China, Chungdou, China*

H6-04. **Additive manufacturing of Gd_5Si_4 under magnetic field.** S.M. Harstad[1], K. Al Milaji[1], *A.A. El-Gendy*[2], S. Gupta[3], V. Pecharsky[3,4], H. Zhao[1] and R.L. Hadimani[1] *1. Mechanical and Nuclear engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Physics, University of Texas at El Paso, El Paso, TX, United States; 3. Division of Materials Science and Engineering, Ames Laboratory, US Department of Energy, Ames, IA, United States; 4. Department of Materials Science and Engineering, Iowa State University, Ames, IA, United States*

H6-05. **Effect of rare-earth (R = Pr, Gd, Ho, Er) doping on the Magnetostructural phase transitions and Magnetocaloric properties in $Ni_{43-x}R_xMn_{46}Sn_{11}$ shape memory alloys.** *A. Aryal*[1], S. Pandey[2], I. Dubenko[3], S. Stadler[4] and N. Ali[5] *1. Physics, Southern Illinois University, Carbondale, USA, Carbondale, IL, United States; 2. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 3. Physics, Southern Illinois University, Carbondale, IL, United States; 4. Physics and Astronomy, Louisiana State University, Baton Rouge, LA, United States; 5. Physics, Southern Illinois University, Carbondale, IL, United States*

H6-06. **Theoretical investigation of magnetocaloric and magnetoresistance on $PrNi_5$ compound.** *B.D. Alho*[1], P.D. Alho[1], V.G. de Paula[1], E.P. Nóbrega[1] and P. von Ranke[1] *1. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil*

H6-07. **Magnetostructural Phase Transitions and Magnetocaloric properties in Ag doped $Mn_{1-x}Ag_xCoGe$ compounds.** *A. Aryal*[1], S. Pandey[1], I. Dubenko[1], S. Stadler[2] and N. Ali[1] *1. Physics, Southern Illinois University, Carbondale, IL, United States; 2. Physics and Astronomy, Louisiana State University, Baton Rouge, LA, United States*

H6-08. **Powdering and Sintering effect on The Magnetocaloric Properties of MnNiSi-based Compounds.** *H. Zhang*[1], I. Hidayah[1], Q. Lu[1], Y. Ming[1] and W. Liu[1] *1. Beijing University of Technology, Beijing, China*

TUESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session H7
ORDERED PHASES IN SCES II: MAGNETISM AND OTHER (Poster Session)

Paul Steffens, Chair
Institut Laue Langevin, Grenoble, France

H7-01. **Onset of magnetic vortex state in CeGe compound: A dc and ac susceptibility, resistivity and heat capacity study.** *K. Singh*[1] and K. Mukherjee[1] *1. School of Basic Science, Indian Institute of Technology, Mandi, Mandi, India*

H7-02. **Novel ferromagnetic Peierls insulators $AMg_4Mn_6O_{15}$ (A = K, Rb, Cs).** *T. Yamaguchi*[1], K. Sugimoto[2], Y. Ohta[1], Y. Tanaka[3] and H. Sato[3] *1. Department of Physics, Chiba University, Chiba 263-8522, Japan; 2. Center for Frontier Science, Chiba University, Chiba 263-8522, Japan; 3. Department of Physics, Chuo University, Tokyo 112-8551, Japan*

H7-03. **Exciton condensation in excitonic insulators investigated by NMR.** S. Li[1], S. Kawai[1], Y. Yamamoto[1], Y. Kobayashi[1] and *M. Itoh*[1] *1. Department of Physics, Nagoya University, Nagoya, Japan*

H7-04. **Thermal properties of the single crystal $TrTe_3$ (Tr = transition metal).** *S. Watanabe*[1], K. Kondo[1], N. Kase[1] and N. Miyakawa[1] *1. Dept. of Applied Physics, Tokyo University of Science, Katsusikaku, Japan*

H7-05. **The origin of charge density wave and superconductivity in LuP_2 In (P = Pd, Pt).** *H. Kim*[1], B. Min[2] and K. Kim[3] *1. Physics, POSTECH, Pohang, The Republic of Korea; 2. POSTECH, Pohang, The Republic of Korea; 3. Max Planck Institute POSTECH/Korea, Pohang, The Republic of Korea*

H7-06. **Impact of the Al-doping on the ferromagnetic response of epitaxial $TbMn_{0.9}Al_{0.1}O_3$ thin films.** *O. Morán*[1,3], J.L. Izquierdo[2], A. Astudillo[3], J. Martinez[3] and G. Bolaños[3] *1. National University of Colombia, Medellín, Colombia; 2. Institucion Universitaria Pascual Bravo, Medellín, Colombia; 3. Universidad del Cauca, Popayan, Colombia*

H7-07. **Schottky specific heat of the lightly Mn-substituted electron-doped $SrTiO_3$.** *T. Okuda*[1,2], R. Kajimoto[3], M. Noda[4] and H. Kuwahara[4] *1. Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan; 2. JST-CREST, Tokyo, Japan; 3. J-PARC Center, Ibaraki, Japan; 4. Physics, Sophia University, Chiyoda-ku, Japan*

H7-08. **Withdrawn**

H7-09. **Withdrawn**

H7-10. **Phase separation in Bi doped $La_{0.67}Sr_{0.33}MnO_3$.** *A. Subramanian*[1] and N. Kambhala[1] *1. Centre for Nano and Soft Matter Sciences, Bangalore, India*

H7-11. **Superconductivity in Bi/Ni bilayer system:clear role of superconducting phases found at Ni/Bi interface.** L. Liu[2,1], Y. Xing[3], D.F. Franceschini[3], I.G. solórzano[2] and *E.B. Saitovitch*[1] *1. CONAM, Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil; 2. DEQM, Pontificia Universidade Católica do Rio de Janeiro, Rio de Janeiro, Brazil; 3. Instituto de Física, Universidade Federal Fluminense, Niterói, Brazil*

TUESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session H8
QUANTUM SPIN LIQUIDS IV (Poster Session)

Gang Chen, Chair
Fudan University, Shanghai, China

H8-01. **Topological order parameters of J_1-J_2 Heisenberg chains of S=1,2 and 3.** *S. Fubasami*[1] and Y. Hatsugai[1,2] *1. Graduate School of Pure and Applied Science, University of Tsukuba, Tsukuba, Japan; 2. Division of Physics, University of Tsukuba, Tsukuba, Japan*

H8-02. **Unifying pinch-points and half-moons in spin liquids.** *H. Yan*[1], R. Pohle[1] and N. Shannon[1] *1. Okinawa Institute of Science and Technology, Kunigami, Japan*

H8-03. **Quantum valence bond ice and possible relation to κ-H_3(Cat-EDT-TTF)$_2$.** *M.G. Yamada*[1] and Y. Tada[1] *1. the Institute for Solid State Physics, Kashiwa, Japan*

H8-04. **Low-temperature and high-magnetic-field ESR study of honeycomb-lattice quantum magnet α-$RuCl_3$.** *N. Kurita*[1], R. Takeda[1], H. Nojiri[2] and H. Tanaka[1] *1. Tokyo Institute of Technology, Meguro-ku, Japan; 2. Institute for Materials Research, Tohoku University, Sendai-shi, Japan*

H8-05. **Topological Clustering in Frustrated Magnets.** *T. Mizoguchi*[1,3], L. Jaubert[2] and M. Udagawa[3] *1. Graduate School of Pure and Applied Science, University of Tsukuba, Tsukuba, Japan; 2. CNRS, University of Bordeaux, Bordeaux, France; 3. Department of Physics, Gakushuin University, Toshima-ku, Japan*

H8-06. **Withdrawn**

H8-07. **Importance of virtual singlets in RVB theory of quantum spin liquids.** *A. Ralko*[1], F. Mila[2] and I. Rousochatzakis[3] *1. Institut Néel CNRS, Grenoble, France; 2. EPFL, Lausanne, Switzerland; 3. University of Minnesota, Mineapolis, MN, United States*

TUESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session H9
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING III (Poster Session)

Young Rang Uhm, Chair
Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea

H9-01. **Effects of thickness and thermal annealing of $Fe_{20}Co20B_{40}$ thin films on ferromagnetic resonance and microwave propagation properties.** *A. Arteaga-Duran*[1], R. Sáenz-Hernandez[1], C. Santillan-Rodriguez[1], M. Botello-Zubiate[1], M.C. Grijalva Castillo[1] and J. Matutes-Aquino[1] *1. Physics of Materials, Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Mexico*

H9-02. **Accurate Current Measurements of a High Frequency GaN Inverter for Magnetic Characteristic Evaluation.** *W. Martinez*[1] *1. KU Leuven, Diepenbeek, Belgium*

H9-03. **Optimization of GMI effect and magnetic properties of Co-rich microwires by Joule heating.** P. Corte-Leon[1], V. Zhukova[1], M. Ipatov[1], J. Blanco[3], J. Gonzalez[1] and *A.P. Zhukov*[1,2] *1. Phys. Mater., UPV/EHU, San Sebastián, Spain; 2. Ikerbasque, Bilbao, Spain; 3. Dept. Appl. Phys., University of Basque Country, San Sebastian, Spain*

H9-04. **Grading of magnetic anisotropy and engineering of domain wall dynamics in Fe-rich microwires by stress- annealing.** V. Zhukova[2], P. Corte-Leon[2], J. Blanco[3], M. Ipatov[2] and *A.P. Zhukov*[2,1] *1. Ikerbasque, Bilbao, Spain; 2. Dept. Phys. Mater., University of Basque Country, San Sebastian, Spain; 3. Dpto. Física Aplicada, University of Basque Country, San Sebastian, Spain*

H9-05. **Numerical analysis of deformation in multi-layered magnetite small-scale sheets under magnetic field.** *D. Zhang*[1], W. Guan[1] and M. Yang[1] *1. School of Electrical Engineering, Wuhan University, Wuhan, China*

H9-06. **Nanostructure evolution of co-evaporated FeNi-SiO_2 magnetic nanoparticle film prepared under high magnetic field.** *G. Li*[1], Y. Ma[1], S. Liu[1], L. Chang[1] and Q. Wang[1] *1. Key Laboratory of Electromagnetic Processing of Materials (Ministry of Education), Northeastern University, Shenyang, China*

H9-07. **Preparation and characterization of Fe-based amorphous soft magnetic flakes for high performance magnetodielectric inductors.** *K. Qian*[1], Q. Li[1], C. Yu[1], A.S. Sokolov[1] and V.G. Harris[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States*

H9-08. **Unusual influence of a heating rate on soft magnetic properties of $Fe_{81.5}Si_{0.5}B_{4.5}P_{11}Cu_{0.5}C_2$ nano-crystalline alloy.** *Y. Zhang*[1], L. Jiang[1], T. Suzuki[1], X. Tong[1] and A. Makino[1] *1. Tohoku University, Sendai, Japan*

H9-09. **Synthesis and Structural Caracterization of $Sr_{1-x}Sm_xFe_{12}O_{19}$, Produced by the Proteic Sol–gel Process.** *M.P. Buzinaro*[1,2], N.D. Ferreira[1], M.A. Macedo[1] and P.H. Buzinaro[3] *1. Physics, Federal University of Sergipe, Sao Cristovao, Brazil; 2. COELT, Federal Institute of Education, Science and Technology of Sergipe, Aracaju, Brazil; 3. Mechanical Engineering, Faculty of Industrial Engineering of São Bernardo do Campo, São Bernardo do Campo, Brazil*

H9-10. **Tunability of magnetostatic and magnetodynamic properties of Fe-Si-B amorphous microwires by stress release.** *I. Baraban*[1], A. Litvinova[1] and V. Rodionova[1,2] *1. Laboratory of Novel Magnetic Materials, Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation; 2. National University of Science and Technology «MISIS», Leninsky Prospect 4, Moscow, Russian Federation*

H9-11. **Unusually inverted and conventional volume hysteresis loops and its crossover behavior in $Fe_{73.5-x}Cr_xCu_1Nb_3Si_{13.5}B_9$.** *A. Rosales Rivera*[1], I.G. Cely-Orjuela[1], A. Velásquez-Salazar[1], J. López-Tabares[1], N. Salazar-Henao[1] and F. Saccone[2] *1. Laboratorio de Magnetismo y Materiales Avanzados, Universidad Nacional de Colombia, Sede Manizales, Manizales, Colombia; 2. Departamento de Física, Facultad de Ingeniería, Universidad de Buenos Aires, Buenos Aires, Argentina*

Session H10
SPIN MAGNETORESISTANCE I
(Poster Session)

Na Lei, Chair
Beihang University, Beijing, China

H10-01. **Nonreciprocal electrical transport on chiral magnetic order.** *R. Aoki*[2] and Y. Togawa[1] *1. Department of Engineering Physics and Electronics, Osaka Prefecture University, Sakai, Japan; 2. Department of Engineering Physics and Electronics, Osaka Prefecture University, Sakai, Japan*

H10-02. **Effect of dc current on the magnetoresistance of ferrimagnetic insulator/normal metal bilayers.** Y. Chen[2], D. Roy[2], E. Cogulu[2], *H. Chang*[1], M. Wu[1] and A.D. Kent[2] *1. Department of Physics, Colorado State University, Fort Collins, CO, United States; 2. Center for Quantum Phenomena, Department of Physics, New York University, New York City, NY, United States*

H10-03. **Determination of the Néel temperature by the spin Hall magnetoresistance.** *T. Iino*[1], T. Moriyama[1], H. Aono[2], Y. Shiratsuchi[2] and T. Ono[3] *1. Kyoto University, Kyoto, Japan; 2. Osaka University, Osaka, Japan; 3. Institute for Chemical Research, Kyoto University, Uji, Japan*

H10-04. **Efficiency of unidirectional spin Hall magnetoresistance and spin-orbit torques in Pt/Co and Ta/Co multilayer systems.** *A. Moskaltsova*[1], J. Krieft[1], T. Peters[1], S. Francoual[2], D. Meier[1], J. Schmalhorst[1], T. Kuschel[1] and G. Reiss[1] *1. Center for Spinelectronic Materials and Devices, Department of Physics, Bielefeld University, Bielefeld, Germany; 2. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany*

H10-05. **Annealing Temperature Effects on Spin Hall Magnetoresistance in Perpendicularly Magnetized W/CoFeB Bilayers.** *T. Peterson*[1], P. Sahu[1], D. Zhang[2], D. Mahendra[1] and J. Wang[2] *1. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States*

H10-06. **Room Temperature Large Magnetoresistance Effect based on Avalanche Breakdown in Ag/SiO_2/SI-p-Si Schottky junction.** X. He[1], *Z. Sun*[1] and J. He[2] *1. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, China; 2. Division of Functional Material Research, Central Iron and Steel Research Institute, Beijing, China*

H10-07. **AC Excited Spin Hall Magnetoresistance Sensor with Extremely Simple Structure and Zero DC Offset.** *Y. Xu*[1], Y. Yang[1], M. Zhang[1], Z. Luo[1] and Y. Wu[1] *1. Electrical & Computing Engineering, National University of Singapore, Singapore, Singapore*

H10-08. **Low temperature divergence in the AHE and AMR of ultra-thin Pt/Co/Pt trilayers.** *E. Zion*[1] *1. Physics, Bar Ilan University, Tel Aviv, Israel*

Session H11
SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE III
(Poster Session)

Eric Montoya, Chair
University of California, Irvine, Irvine, CA, United States

H11-01. **Roles of PtMn in spin-orbit torque switching in PtMn/$[Co/Pt]_2$.** *M. Yang*[1], P. Lin[1], B. Yang[1], Y. Du[1] and C. Lai[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

H11-02. **Determination of damping and spin mixing conductance in highly Bi-doped Cu/YIG thin films.** *S. Ruiz-Gomez*[1], M. Muñoz[2], R. Guerrero[3], M. Amado[4], J. Robinson[4], A. Mascaraque[1] and L. Perez[1] *1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. Instituto de Micro y Nanotecnología (CNM-CSIC), Madrid, Spain; 3. nanomagnetism, IMDEA-nanoscience, Madrid, Spain; 4. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

H11-03. **Spin torque efficiency in Pt/Co bilayers estimated from spin torque ferromagnetic resonance.** *Y. Du*[1], S. Karube[1,2], M. Kohda[1,2] and J. Nitta[1,2] *1. Department of Materials Science, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

H11-04. **Inverse Spin Hall Effect and Magnetization Switching in Topological Dirac Semimetals.** *T. Misawa*[1] and K. Nomura[2] *1. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. Tohoku University, Institute for Materials Research, Sendai, Japan*

H11-05. **Withdrawn**

H11-06. **Non-local dipole effects on spin density waves in planar ferromagnets.** *P. Sprenger*[1], M. Hoefer[2] and E. Iacocca[2] *1. University of Colorado Boulder, Boulder, CO, United States; 2. Applied Mathematics, University of Colorado at Boulder, Boulder, CO, United States*

H11-07. **Determination of Spin Hall Effect and Spin Diffusion Length of Pt by Enforcement of Onsager Reciprocity in the Fitting of Damping and Inverse Spin-Orbit Torque.** *T. Silva*[1], A.J. Berger[1], E. Edwards[1], H. Nembach[1], O. Karis[2] and M. Weiler[3] *1. NIST, Boulder, CO, United States; 2. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 3. Physics Department, Technical University of Munich, Garching, Germany*

H11-08. **Quantifying the spin Hall angle and spin diffusion length in niobium from spin-pumping-induced inverse spin-Hall effect.** *K. Jeon*[1,2], C. Ciccarelli[2], H. Kurebayashi[3], J. Wunderlich[4], L.F. Cohen[5], S. Komori[1], J. Robinson[1] and M. Blamire[1] *1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. Physics, University of Cambridge, Cambridge, United Kingdom; 3. London Centre for Nanotechnology and Department of Electronic and Electrical Engineering, University of College London, London, United Kingdom; 4. Hitachi Cambridge Laboratory, Institute of Physics ASCR, Cambridge / Prague, United Kingdom; 5. The Blackett Laboratory, Imperial College London, London, United Kingdom*

H11-09. **Anomalous Behavior of Field-like Torque in Metallic Trilayers: Theory and Experiment.** *L. Karwacki*[1,2], W. Skowronski[1], S. Zietek[1], J. Kanak[1], J. Checinski[1,3], P. Kuswik[2], F. Stobiecki[2], J. Barnas[4,2] and T. Stobiecki[1,3] *1. Department of Electronics, AGH University of Science and Technology, Krakow, Poland; 2. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland; 3. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 4. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland*

H11-10. **First Principle Study of Angular and Thickness Dependence of Spin-Orbit Torque in Pt/Co and Pd/Co Bilayer Systems.** *F. Mahfouzi*[1] and N. Kioussis[2] *1. Physics and Astronomy, California State University, Northridge, Northridge, CA, United States; 2. Physics, California State University Northridge, Northridge, CA, United States*

H11-11. **Fast and Energy-effective STT Switching in MTJs with Assistance of SOT.** *S. Pathak*[1], J. Cha[1], C. Youm[2] and J. Hong[1] *1. Materials Science and Engineering, Yonsei University, Seoul, South Korea, Seoul, The Republic of Korea; 2. Computer Science, Yonsei University, Seoul, The Republic of Korea*

H11-12. **Spin-Orbit Torques in Fe_xPt_{1-x} Alloys and Fe/Pt Multilayer Heterostructures.** Y. Ou[2], *R.C. Tapping*[2], D. Ralph[2] and R. Buhrman[1] *1. Applied & Engineering Physics, Cornell University, Ithaca, NY, United States; 2. Physics, Cornell University, Ithaca, NY, United States*

H11-13. **Spin Transport and Spin-to-charge Current Conversion in Bi_2Se_3/Au Heterostructure.** *Y. Fanchiang*[1], C. Tseng[2], Y. Liu[2], C. Chen[2], J. Lin[3], S. Lee[4], M. Hong[1] and J. Kwo[2] *1. Department of Physics, National Taiwan University, Taipei, Taiwan; 2. Department of Physics, National Tsing Hua University, Hsinchu, Taiwan; 3. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 4. Institute of Physics, Academia Sinica, Taipei, Taiwan*

Session H12
SPIN-ORBIT, KONDO & HEAVY FERMION MAGNETISM (Poster Session)

Stephen Julian, Chair
University of Toronto, Toronto, ON, Canada

H12-01. **Magnetic characteristics of RPd_2Si_2 (R = Rare earth).** *K. Uchima*[1], Y. Uwatoko[2] and T. Shigeoka[3] *1. General Education, Okinawa Christian Junior College, Nishihara, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Physics, Yamaguchi University, Yamaguchi, Japan*

H12-02. **Magnetic Structure of a Non-Centrosymmetric $CePtSi_3$.** *D. Ueta*[1], M. Yoshida[1], Y. Ikeda[2], H. Yoshizawa[1], Y. Liu[3] and T. Hong[3] *1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

H12-03. **Signature of a Griffiths phase in layered canted antiferromagnet Sr_2IrO_4.** *A. Rathi*[1,2], P. Rout[1], S. Perween[3,2], R. Singh[4], A. Gupta[1,2], R. Pant[1,2] and G. Basheed[1,2] *1. CSIR-National Physical Laboratory (NPL), New Delhi, India, New Delhi, India; 2. AcSIR, CSIR-National Physical Laboratory (NPL) Campus, New Delhi - 110012, India, New Delhi, India; 3. CSIR-National Physical Laboratory, New Delhi, India; 4. Indian Institute of Science Education and Research (IISER), Bhopal - 462023, India, Bhopal, India*

H12-04. **Phase Diagram for the SU(2) Kondo Lattice Model.** *M. Abele*[1] and P.S. Riseborough[1] *1. Physics, Temple University, Downingtown, PA, United States*

H12-05. **Transitions from a Kondo-like Insulator into a Modulated Ferromagnetic Metal in $FeGa_{3-y}Ge_y$.** *Y. Zhang*[1,2] *1. Shanghai Jiao Tong University, Shanghai, China; 2. Kyoto University, Kyoto, Japan*

H12-06. **Magnetic Structure and Transition of $GdNiSi_3$.** *R.T. Souza*[1], F. Arantes[2], C.W. Galdino[1], U.F. Kaneko[3], M.D. Avila[2] and E. Granado[1] *1. DEQ, "Gleb Wataghin" Institute of Physics, Universidade Estadual de Campinas, Unicamp, Brazil; 2. Centro de Ciências Naturais e Humanas, UFABC, Santo André, Brazil; 3. Brazilian Synchrotron Light Laboratory (LNLS), CNPEM, Campinas, Brazil*

H12-07. **Designing new magnetic materials in $Ti_3Co_5B_2$ structure-type borides.** *P. Shankhari*[1] and B.P. Fokwa[2] *1. Chemistry, University of California, Riverside, Riverside, CA, United States; 2. Chemistry, University of California, Riverside, Riverside, CA, United States*

Session H13
SUPERCONDUCTING SCES II: HEAVY FERMION SUPERCONDUCTORS (Poster Session)

Onur Erten, Chair
Arizona State University, Tempe, AZ, United States

H13-01. **Ferromagnetic fluctuations and Superconductivity of UCoGe under Pressure.** *M. Manago*[1], S. Kitagawa[1], K. Ishida[1], K. Deguchi[2], N. Sato[2] and T. Yamamura[3] *1. Department of Physics, Graduate School of Science, Kyoto University, Kyoto, Japan; 2. Department of Physics, Graduate School of Science, Nagoya University, Nagoya, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan*

H13-02. **^{73}Ge-NQR studies of ferromagnetic superconductor UGe_2 under pressure.** *Y. Noma*[1], H. Kotegawa[1], T. Kubo[1], H. Tou[1], H. Harima[1], Y. Haga[2], E. Yamamoto[2], Y. Onuki[3], K. Itoh[4], E. Haller[5], A. Nakamura[6], Y. Homma[6], F. Honda[6] and D. Aoki[6] *1. Kobe University, Kobe, Japan; 2. Japan Atomic Energy Agency, Tokai, Japan; 3. University of the Ryukyus, Nishihara, Japan; 4. Keio University, Yokohama, Japan; 5. University of California, Berkeley, CA, United States; 6. IMR, Tohoku University, Oarai, Japan*

H13-03. **Development of a Low Temperature Magneto-Optic Kerr Microscope to Probe Ferromagnetic Superconductors.** *C. Clark*[1] and A. Huxley[1] *1. Physics, University of Edinburgh, Edinburgh, United Kingdom*

H13-04. **Effect of atomic disorder on superconductivity of $Ca_3Rh_4Sn_{13}$.** *A. Slebarski*[1], M.M. Maska[1], P. Zajdel[1], M. Fijalkowski[1] and J. Goraus[1] *1. Institute of Physics, University of Silesia, Katowice, Poland*

H13-05. **Magnetic response in multiple superconducting phases of $U_{1-x}Th_xBe_{13}$.** *K. Maruo*[1] *1. Materials Engineering Science, Osaka University, Toyonaka, Japan*

H13-06. **^{9}Be NMR Study of Magnetic Structure in Single Crystalline $SmBe_{13}$.** *H. Hidaka*[1], Y. Ihara[1], S. Yamazaki[1], N. Miura[1], T. Yanagisawa[1] and H. Amitsuka[1] *1. Department of Physics, Hokkaido University, Sapporo, Japan*

H13-07. **Magnetic structures of $CePdAl_3$ and $CePtAl_3$.** *P. Cermak*[1,3], S. Weber[2], A. Schneidewind[3], P. Javorsky[1] and C. Pfleiderer[2] *1. Department of Condensed Matter Physics, Charles University in Prague, Prague, Czechia; 2. Technical University of Munich, Garching, Germany; 3. JCNS, Forschungszentrum Julich, Julich, Germany*

H13-08. **Thermal Analysis of the Specific Heat of $Pr_{1-x}Nd_xOs_4Sb_{12}$.** *S. Hishida*[1], J. Velasquez[1], T. McCullough-Hunter[1], P. Ho[1], M.B. Maple[3] and T. Yanagisawa[2] *1. Physics, California State University, Fresno, Fresno, CA, United States; 2. Department of Physics, Hokkaido University, Sapporo, Japan; 3. Physics, University of California, San Diego, La Jolla, CA, United States*

H13-09. **Investigation of Broken Time Reversal Symmetry in the Pr-rich side of $Pr_{1-x}Nd_xOs4Sb_{12}$.** *P. Ho*[1], D.E. MacLaughlin[2], M.B. Maple[3], L. Shu[4], A. Hillier[5], O. Bernal[1], T. Yanagisawa[6], P. Biswas[5], J. Zhang[4], C. Tan[4], S. Hishida[1] and T. McCullough-Hunter[1] *1. Physics, California State University, Fresno, CA, United States; 2. Physics, University of California, Riverside, Riverside, CA, United States; 3. Physics, University of California, San Diego, La Jolla, CA, United States; 4. Physics, Fudan University, Shanghai, China; 5. ISIS Neutron and Muon Sources, Science & Technology Facilities Council, Harwell, United Kingdom; 6. Physics, Hokkaido University, Sapporo, Japan*

H13-10. **Superconductivity in a Multiorbital Model for the Γ_3 Crystalline Electric Field State.** *K. Kubo*[1] *1. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*

H13-11. **Withdrawn**

Session H14
SUPERCONDUCTING SCES III: NOVEL MATERIALS (Poster Session)

Georg Knebel, Chair
CEA, Universite Grenoble Alpes, Grenoble, France

H14-01. **Hydrostatic pressure effect in BiS_2 based superconductors $LaO_{0.5}F_{0.5}Bi(S_{1-x}Se_x)_2$.** *K. Kondo*[1], S. Watanabe[1], N. Kase[1] and N. Miyakawa[1] *1. Dept. of Applied Phys, Tokyo University of Science, Katsusikaku, Japan*

H14-02. **Superconductivity in a misfit compound $(PbSe)_{1.12}(TaSe_2)$.** X. Yang[1], M. Wang[1], *Y. Li*[1], J. Ma[1], H. Bai[1], Q. Tao[1], C. Dong[2] and Z. Xu[1,3] *1. Department of Physics, Zhejiang University, Hangzhou, China; 2. Institute of Physics, Chinese Academy of Science, Beijing, China; 3. Collaborative Innovation Centre of Advanced Microstructures, Nanjing, China*

H14-03. **Thermodynamic and transport properties of transition-metal doped BiS_2-based superconductors.** *N. Kase*[1], K. Kondo[1], M. Koike[1], S. Watanabe[1] and N. Miyakawa[1] *1. Dept. of Applied Physics, Tokyo University of Science, Suginamiku, Japan*

H14-04. **Variational cluster approach to the excitonic condensation and superconductivity.** *R. Fujiuchi*[1], K. Sugimoto[2] and Y. Ohta[3] *1. Department of Physics, Chiba University, Chiba, Japan; 2. Center for Frontier Science, Chiba University, Chiba, Japan; 3. Physics, Chiba University, Chiba, Japan*

H14-05. **On the enhancement of conventional superconductivity by a controlled incorporation of non-magnetic defects in some classes of crystalline solids.** D.A. Chaves[1] and *M. ElMassalami*[1] *1. Fisics dos Solidos, Instituto de Fisica, Rio de Janeiro, Brazil*

H14-06. **Enhancement of the superconducting T_c in doped SnTe possibly due to the negative-U mechanism.** *M. Kriener*[1], M. Kamitani[1], T. Koretsune[1,2], R. Arita[1], Y. Taguchi[1] and Y. Tokura[1,3] *1. RIKEN - Center for Emergent Matter Science (CEMS), Wako-shi, Japan; 2. Department of Physics, Tohoku University, Sendai, Japan; 3. Department of Applied Physics and Quantum-Phase Electronics Center (QPEC), University of Tokyo, Tokyo, Japan*

H14-07. **Revisit CuCl.** *L. Deng*[1], Z. Wu[1], S. Huyan[1], S. Yoshizumi[3], S. Spagna[3] and P. Chu[1,2] *1. Texas Center for Superconductivity at the University of Houston, Houston, TX, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Quantum Design, Inc., San Diego, CA, United States*

H14-08. **Spin-Orbit-Coupled Ferroelectric Superconductivity.** *S. Kanasugi*[1] and Y. Yanase[1] *1. Physics, Kyoto University, Kyoto, Japan*

H14-09. **Unconventional Superconductivity and Interplay between Superconductivity and Magnetism in 2-Dimensional Electron Gases at $SrTiO_3$ Capped $LaAlO_3/SrTiO_3$ (100).** Y. Kwak[1], W. Han[2], J. Kim[2] and *J. Song*[1] *1. Physics, Chungnam National University, Daejeon, The Republic of Korea; 2. Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea*

TUESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session H15
THEORY AND SIMULATION OF MAGNETIC SYSTEMS I (Poster Session)

Thomas Ostler, Chair
The University of Exeter, Sheffield, United Kingdom

H15-01. **Generalised spin-wave simulations by SpinW and developments for the European Spallation Neutron Source.** *S. Ward*[1,2] and S. Toth[1] *1. Paul Scherrer Institut, Villigen PSI, Switzerland; 2. European Spallation Neutron Source, Copenhagen, Denmark*

H15-02. **Lattice Vibrations in the Neutron Scattering by Ferromagnetic Metals.** *G.V. Paradezhenko*[1], N.B. Melnikov[1] and B.I. Reser[2] *1. Lomonosov Moscow State University, Moscow, Russian Federation; 2. Mikheev Institute of Metal Physics UB of RAS, Ekaterinburg, Russian Federation*

H15-03. **Short-Range Order in Metals Above the Curie Temperature.** *N.B. Melnikov*[1], B.I. Reser[2] and G.V. Paradezhenko[1] *1. Lomonosov Moscow State University, Moscow, Russian Federation; 2. Mikheev Institute of Metal Physics UB of RAS, Ekaterinburg, Russian Federation*

H15-04. **Non-monotonic dependence of concentration on magnetic properties of $Ni_2Mn_{1+x}Z_{1-x}$ (Z = In, Sn, Sb) Heusler alloys: a local atomic configuration approach.** *K. Zaleski*[1], M. Ekholm[2], B. Alling[2], I. Abrikosov[2] and J. Dubowik[3] *1. NanoBioMedical Centre, Adam Mickiewicz University, Poznan, Poland; 2. Department of Physics, Chemistry and Biology, Linköping University, Linköping, Sweden; 3. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

H15-05. **Giant barocaloric effect and Maxwell relation in spin-crossover system: application in $[Fe(pzt)_6](PF_6)_2$.** *P.D. Alho*[1], B.D. Alho[1] and P. von Ranke[1] *1. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil*

H15-06. **Field evolution of topological sectors in a finite Dzyaloshinskii-Moriya antiferromagnetic chain.** *J. Chovan*[1,2] and D. Legut[1] *1. IT4Innovations National Supercomputing Center VSB - Technical University, Ostrava, Czechia; 2. Department of Physics, Matej Bel University, Banska Bystrica, Slovakia*

H15-07. **Ground-State Properties of Spin-1/2 Heisenberg Antiferromagnets with Frustration on the Diamond-Like-Decorated Square and Triangular Lattices.** Y. Hirose[1], S. Miura[1], C. Yasuda[2] and *Y. Fukumoto*[1] *1. Tokyo University of Science, Noda, Japan; 2. University of the Ryukyus, Nishihara, Japan*

H15-08. **Engineering Surface Critical Behavior of (2+1)-Dimensional O(3) Quantum Critical Points.** C. Ding[1], L. Zhang[2] and *W. Guo*[3] *1. School of Science and Engineering of Mathematics and Physics, Anhui University of Technology, Maanshan, Anhui 243002, China, Maanshan, China; 2. Kavli Institute for Theoretical Sciences and CAS Center for Excellence in Topological Quantum Computation, University of Chinese Academy of Sciences, Beijing, China; 3. Physics Department, Beijing Normal University, Beijing, China*

H15-09. **General method for atomistic spin-lattice dynamics with first principles accuracy.** *J. Hellsvik*[1,2], D. Thonig[3], K. Modin[4,5], D. Iusan[3], A. Bergman[6], O. Eriksson[7], L. Bergqvist[8] and A. Delin[2] *1. Nordita, Stockholm, Sweden; 2. KTH Royal Institute of Technology, Stockholm, Sweden; 3. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 4. Chalmers University of Technology, Gothenburg, Sweden; 5. University of Gothenburg, Gothenburg, Sweden; 6. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 7. Physics and Astronomy, Uppsala University, Uppsala, Sweden; 8. Materials and Nano Physics, KTH Royal Institute of Technology, Kista, Sweden*

Session H16
ULTRAFAST MAGNETISM AND THZ SPINTRONICS I (Poster Session)

Alex Reid, Chair
SLAC National Accelerator Laboratory, Menlo Park, CA, United States

H16-01. **Ultrafast Magnetization Dynamics of (Gd,Tb)Co alloys exhibiting Helicity-Independent All-Optical Switching.** *A. Ceballos*[1], A. Pattabi[2], C. Simon[1], J. Bokor[2] and F. Hellman[1] *1. UC Berkeley, Berkeley, CA, United States; 2. EECS Dept., University of California, Berkeley, CA, United States*

H16-02. **Crystal Growth and Spin Reorientation Transition of $Sm_{0.4}Er_{0.6}FeO_3$ Orthoferrite.** *A. Wu*[1] *1. Shanghai Institute of Ceramics, CAS, Shanghai, China*

H16-03. **Reversal time of jump-noise driven magnetization dynamics in nanomagnets via Monte Carlo simulations.** *A. Parthasarathy*[1] and S. Rakheja[1] *1. Electrical and Computer Engineering, New York University, Brooklyn, NY, United States*

H16-04. **Correlating EUV TMOKE and ARPES Measurements to Understand the Temporal and Spatial Length Scales Underlying Ultrafast Demagnetization in Nickel.** P. Tengdin[1], W. You[1], C. Chen[1], X. Shi[1], *D. Zusin*[1], Y. Zhang[1], C. Gentry[1], A. Blonsky[1], M. Keller[2], P.M. Oppeneer[3], H. Kapteyn[1], Z. Tao[1] and M. Murnane[1] *1. JILA, University of Colorado Boulder, Boulder, CO, United States; 2. NIST, Boulder, CO, United States; 3. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

H16-05. **Withdrawn**

H16-06. **Heat-Assisted Precessional Magnetization Reversal in a Dielectric Iron-Garnet.** K.H. Prabhakara[1], *C.S. Davies*[1], M.D. Davydova[2,3], K. Zvezdin[2,3], T.B. Shapaeva[4], S. Wang[5], A. Zvezdin[2,3], A. Kirilyuk[1], T. Rasing[1] and A. Kimel[1,6] *1. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 2. Moscow Institute of Physics and Technology (State University), Moscow, Russian Federation; 3. A. M. Prokhorov General Physics Institute, Moscow, Russian Federation; 4. Moscow State University, Moscow, Russian Federation; 5. Jinan University, Guangzhou, China; 6. Moscow Technological University, Moscow, Russian Federation*

H16-07. **Lattice dynamics in the helical phase of Dy epitaxial films.** *K. Dumesnil*[1], A. von Reppert[2], J. Pudell[2], A. Koc[3], M. Reinhardt[3], W. Leitenberger[2], F. Zamponi[2] and M. Bargheer[2,3] *1. Institut Jean Lamour, CNRS/Université de Lorraine, Nancy, France; 2. Institiute of Physics and Astronomy, University of Potsdam, Potsdam, Germany; 3. Helmoltz Zentrum Berlin, Berlin, Germany*

H16-08. **All-Optical Observation of Coherent Magneto-Phonon Polariton Dynamics.** *C. Berk*[1], M. Jaris[1], W. Yang[1], S. Dhuey[2], S. Cabrini[2] and H. Schmidt[1] *1. UC Santa Cruz, Santa Cruz, CA, United States; 2. Molecular Foundry at Berkeley, Berkeley, CA, United States*

H16-09. **Rapid magnon coalescence after ultrafast optical pumping of ferrimagnetic alloys.** *E. Iacocca*[1,2], A. Kirilyuk[3], A. Kimel[4], T. Rasing[3], J. Stohr[6], M. Hoefer[1], R. Chantrell[8], T. Silva[2] and H. Dürr[10] *1. Applied mathematics, University of Colorado at Boulder, Boulder, CO, United States; 2. National Institute of Standards and Technology, Boulder, CO, United States; 3. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 4. Radboud University, Nijmegen, Netherlands; 6. SLAC, Menlo Park, CA, United States; 8. Physics, The University of York, York, United Kingdom; 10. Uppsala University, Uppsala, Sweden*

H16-10. **Ab initio microscopic theory of phonon-magnon interactions.** *P. Maldonado*[1] and Y. Kvashnin[1] *1. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

H16-11. **Spin dynamics induced by ultrashort far- and mid-infrared pulses in InMnAs.** *A. Kimel*[1], A. Salewski[1], E. Mashkovich[1], A. Pogrebna[1], K. Grishunin[1], R. Mikhaylovskiy[2], P. Christianen[3], H. Munekata[4] and T. Rasing[5] *1. Radboud University, Nijmegen, Netherlands; 2. Spectroscopy of Solids and Interfaces, Radboud University Nijmegen, Nijmegen, Netherlands; 3. High Field Magnetic Laboratory, Radboud University, Nijmegen, Netherlands; 4. Tokyo Institute of Technology, Yokohama, Japan; 5. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands*

Session I1
PLENARY I: SPIN-ORBIT TORQUES: DISCOVERIES, ADVANCES AND POSSIBILITIES

Allan MacDonald, Chair
University of Texas at Austin, Austin, TX, United States

11:30

I1-01. **Spin-Orbit Torques: Discoveries, Advances and Possibilities.** ***(Invited)*** *R. Buhrman*[1] *1. Applied Physics, Cornell University, Ithaca, NY, United States*

TUESDAY
AFTERNOON
1:30

ESPLANADE 157

Session J1
COMPUTING WITH SPINTRONIC DEVICES

Chih-Huang Lai, Chair
National Tsing Hua University, HsinChu, Taiwan

1:30

J1-01. **Heusler Alloy/III-V Semiconductor Lateral Spin Valves.** ***(Invited)*** T.A. Peterson[1], C. Liu[1], S. Patel[2], A.P. McFadden[2], C.J. Palmstrom[2,3] and *P.A. Crowell*[1] *1. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Electrical and Computer Engineering, University of California, Santa Barbara, Santa Barbara, CA, United States; 3. Materials, University of California, Santa Barbara, Santa Barbara, CA, United States*

2:00

J1-02. **Neuromorphic computing by artificial neural network with analog spin-orbit torque device.** ***(Invited)*** *S. Fukami*[1] *1. Tohoku University, Sendai, Japan*

2:30

J1-03. **Neuromorphic computing with spintronic nanodevices.** ***(Invited)*** *J. Grollier*[1] *1. Unité Mixte CNRS/Thales, Palaiseau, France*

TUESDAY
AFTERNOON
1:30

ESPLANADE 158

Session J2
MOLECULAR MAGNETISM III

Yuko Hosokoshi, Co-Chair
Osaka Prefecture University, Sakai, Japan
Javier Campo, Co-Chair
Aragon Materials Science Institute (CSIC-UZ), Zaragoza, Spain

1:30

J2-01. **Molecular Lanthanide Spins For Quantum Technologies.** ***(Invited)*** *S. Hill*[1], D. Komijani[1], A. Gaita Ariño[2], Y. Duan[2], E. Coronado[2], A. Ghirri[3], M. AFFRONTE[5], E. Moreno Pineda[4], S. Klyatskaya[4] and M. Ruben[4] *1. Physics and NHMFL, Florida State University, Tallahassee, FL, United States; 2. Molecular Science Institute (ICMol), Universitat de Valencia, Paterna, Spain; 3. CNR-Nanoscience Institute, Modena, Italy; 4. Institute of Nanotechnology, Karlsruhe Institute of Technology, Karlsruhe, Germany; 5. Physics, Informatics and Mathematics, Università di Modena e Reggio Emilia, Modena, Italy*

2:00

J2-02. **Coherent Coupling of Molecular Spins With Microwave Photons in Planar Superconducting Resonators.** *M. AFFRONTE*[1,2], A. Ghirri[2] and C. Bonizzoni[1] *1. Physics, Informatics and Mathematics, Università di Modena e Reggio Emilia, Modena, Italy; 2. Institute NANO, CNR, Modena, Italy*

2:15

J2-03. **Experimental Evidence of a Zero Toroidal Ground State in a Dy_8 molecule.** *Q. Zhang*[1], M.L. Baker[2], S. Li[1], M.P. Sarachik[1], T. Stamatatos[3], J. Baldoví[4,5], A. Gaita Ariño[5] and E. Coronado[5] *1. City College of New York, New York, NY, United States; 2. The University of Manchester, Manchester, United Kingdom; 3. Brock University, St. Catharines, ON, Canada; 4. Max-Planck Institute of Microstructure Physics, Weinberg, Germany; 5. Molecular Science Institute (ICMol), Universitat de Valencia, Paterna, Spain*

2:30

J2-04. **Spin Liquid States in Spin-Frustrated Systems of Organic Radicals.** *K. Awaga*[1] *1. Nagoya University, Nagoya, Japan*

2:45

J2-05. **Experimental Signatures and Control of Entanglement Transitions in Quantum Spin Clusters.** *T. Perring*[1], J. Quintanilla[2,1], H. Irons[2], L. Amico[3,4] and G. Aeppli[5,6] *1. ISIS Facility, STFC, Didcot, United Kingdom; 2. Hubbard Theory Consortium, University of Kent, Canterbury, United Kingdom; 3. Centre for Quantum Technologies, National University of Singapore, Singapore, Singapore; 4. Dipartimento di Fisica e Astronomia, Universitá Catania, Catania, Italy; 5. Photon Science Division, Paul Scherrer Institute, Villigen, Switzerland; 6. Department of Physics, ETH Zürich, Zürich, Switzerland*

TUESDAY
AFTERNOON
1:30

ESPLANADE 159

Session J3
QUANTUM SPIN LIQUIDS VI: KAGOME AND TRIANGULAR SYSTEMS

Mingxuan Fu, Chair
NIST, Gaithersburg, MD, United States

1:30

J3-01. **Quantum Kagome Spin Liquids: a Local View.** ***(Invited)*** *P. Mendels*[1], F. Bert[1], P. Khuntia[2], E. Kermarrec[1], Q. Barthélémy[1] and M. Velazquez[3] *1. Lab. Physique des Solides, Univ. Paris-Sud, Univ. Paris-Saclay, Orsay, France; 2. IIT Madras, Madras, India; 3. ICMCB, Bordeaux, France*

2:00

J3-02. **Dynamics and spectral functions of quantum spin models.** ***(Invited)*** *F. Pollmann*[1], R. Verresen[1] and R. Moessner[2] *1. Technical University of Munich, Garching, Germany; 2. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany*

2:30

J3-03. **The Mother of All States on the Kagome Quantum Antiferromagnet.** H. Changlani[2,1], D. Kochkov[1], K. Kumar[1], *B. Clark*[1] and E. Fradkin[1] *1. Physics, University of Illinois at Urbana-Champaign, Urbana, IL, United States; 2. Physics, Johns Hopkins University, Baltimore, MD, United States*

2:45

J3-04. **Indications of a Spin Liquid Phase in the Triangular Lattice Hubbard Model from Density Matrix Renormalization Group Calculations.** *A. Szasz*[1,2], J. Motruk[1,2] and J. Moore[1,2] *1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

TUESDAY AFTERNOON 1:30

ESPLANADE 160

Session J4
ADVANCES WITH NANOPARTICLES III

Yunlong Jin, Chair
University of Nebraska, Lincoln, NE, United States

1:30

J4-01. **Magnetic Nanoparticles in Borate Glasses: Theory, Experiment, Modelling, Application Prospective.** ***(Invited)*** *J. Kliava*[1], I. Edelman[2], O. Ivanova[2], R. Ivantsov[2] and E. Petrakovskaja[2] *1. LOMA, Université de Bordeaux, Talence, France; 2. Kirensky Institute of Physics, FRC KSC SB RAS, Krasnoyarsk, Russian Federation*

2:00

J4-02. **Key role of the Co cations on the destabilization of the collinear magnetic order in Co-ferrite nanoparticles with tunable structural defects.** A. Fraile Rodríguez[1,2], C. Moya[1,2], M. García del Muro[1,2], S. Avula[3], C. Piamonteze[3], X. Batlle[1,2] and *A. Labarta*[1,2] *1. Física Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia (IN2UB), Barcelona, Spain; 3. Swiss Light Source, Paul Scherrer Institut, Villigen PSI, Switzerland*

2:15

J4-03. **Self-Assembled Magnetically Isolated Co Nanoparticles Embedded Inside Carbon Nanotubes.** *S. Prischepa*[1,2], A. Danilyuk[1], A.V. Kukharev[1], F. Le Normand[3,4], C.S. Cojocaru[3,5] and C. Mény[3] *1. Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus; 2. Condensed Matter Physics, National Research Nuclear University MEPhI, Moscow, Russian Federation; 3. Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS), CNRS-University of Strasbourg, Strasbourg, France; 4. ICube/ MaCEPV Laboratory, UMR 7357 CNRS-University of Strasbourg, Strasbourg, France; 5. Laboratoire de Physique des Interfaces et des Couches Minces, CNRS, Ecole Polytechnique, Université Paris Saclay, Palaiseau, France*

2:30

J4-04. **Jahn-Teller distortion and magnetoelastic coupling in tetragonal (Cu,Co)Fe_2O_4 particles.** *H. Latiff*[1], M. Kishimoto[1], J. Inoue[1], E. Kita[1] and H. Yanagihara[1] *1. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan*

2:45

J4-05. **Single Phase Manganese Ferrite Nanoparticles Prepared by High Temperature Decomposition.** *E. Oxford*[1], A.M. Abdelgawad[2], T. Sibley[2] and S. Majetich[1,2] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*

TUESDAY AFTERNOON 1:30

ESPLANADE 152

Session J5
MAGNETOCALORIC MATERIALS V

Zoe Boekelheide, Chair
Lafayette College, Easton, PA, United States

1:30

J5-01. **Large low-field-induced entropy change at room temperature in $Ni_2Mn_{0.7}Cu_{0.3}Ga_{0.84}Al_{0.16}$ material.** A.A. Mendonça[1], J.F. Jurado[3], L.F. Cohen[4], L. Ghivelder[2] and *A.M. Gomes*[1] *1. Física dos Sólidos, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; 2. Fisica Matematica, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; 3. Física y Química, Universidad Nacional de Colombia, Manizales, Colombia; 4. Blackett Laboratory, Imperial College London, London, United Kingdom*

1:45

J5-02. **Tuning of magnetic properties of Heusler-type glass-coated microwires.** *A.P. Zhukov*[1,4], V. Zhukova[2], M. Ipatov[3] and J. del Val[2] *1. Phys. Mater., UPV/EHU, San Sebastián, Spain; 2. Dept. Phys. Mater., Univercity of Basque Country, UPV/EHU, San Sebastian, Spain; 3. Dept. Phys. Mater., University of Basque Country, UPV/EHU, San Sebastian, Spain; 4. Ikerbasque, Bilbao, Spain*

2:00

J5-03. **Entropy Changes and Caloric Effects in $YbInCu_4$.** *N.A. De Oliveira*[1], P. von Ranke[1] and A. Troper[2] *1. Instituto de Física, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil; 2. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil*

2:15

J5-04. **The partial phase diagram of $Mn_xFe_{2-x}P_{1-y}Si_y$.** *X. You*[1], M. Maschek[1], N. van Djik[1] and E. Brück[1] *1. Delft University of Technology, Delft, Netherlands*

2:30

J5-05. **Adiabatic Temperature Changes in the Vicinity of the Structural and Magnetic Phase Transitions of $Ni_{45}Mn_{43}CoSn_{11}$ at High Magnetic Fields.** S. Pandey[1], *Y. Koshkid'ko*[2], I. Dubenko[1], A. Aryal[1], A. Granovsky[3], E. Lähderanta[4], S. Stadler[5] and N. Ali[1] *1. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 2. Institute of Low Temperature and Structural Research PAS, Wroclaw, Poland; 3. Lomonosov Moscow State University, Moscow, Russian Federation; 4. Lappeenranta University of Technology, Lappeenranta, Finland; 5. Louisiana State University, Baton Rouge, LA, United States*

2:45

J5-06. **Dynamics of the magnetocaloric effect in oscillating fields up to 1kHz.** *J. Döntgen*[1], J. Rudolph[1] and D. Hägele[1] *1. Ruhr-Universität Bochum, Bochum, Germany*

TUESDAY AFTERNOON 1:30 ROOM 105

Session J6
VORTEX AND SKYRMION DYNAMICS I

Sergi Lendinez, Chair
Argonne National Laboratory, Lemont, IL, United States

1:30

J6-01. **The Bloch Point Pair-mediated Vortex Core Reversal.** *H. Han*[1], S. Lee[1], D. Jung[1], N. Kim[1] and K. Lee[1] *1. School of Materials Science and Engineering, Ulsan National Institute of Science and Technology, Ulsan, The Republic of Korea*

1:45

J6-02. **Electric Field Control of the Dynamic Response of Magnetic Vortices.** *M. Filianina*[1,2], L. Baldrati[1], T. Hajiri[3], K. Litzius[1,4], L. Aballe[5], M. Foerster[5] and M. Kläui[1,2] *1. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 2. Graduate School of Excellence Material Science in Mainz, Mainz, Germany; 3. Department of Material Physics, Nagoya University, Nagoya, Japan; 4. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 5. ALBA Synchrotron Light Facility, Barcelona, Spain*

2:00

J6-03. **Time resolved imaging of coupled nano-contact spin transfer vortex oscillators.** *E.O. Burgos Parra*[1], P.S. Keatley[2], S. Redjai Sani[3], J. Åkerman[4] and R.J. Hicken[2] *1. College of Engineering, Mathematics and Physical sciences, University of Exeter, Exeter, United Kingdom; 2. Department of Physics and Astronomy, University of Exeter, Exeter, United Kingdom; 3. Materials Science and Engineering, MIT - Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Univ Gothenburg, Göteborg, Sweden*

2:15

J6-04. **Control of the skyrmion Hall angle by combining spin-Hall effect, breathing mode and in-plane field.** *R. Tomasello*[1], A. Giordano[1], V. Puliafito[2], S. Chiappini[3], M. Carpentieri[4] and G. Finocchio[1] *1. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy; 2. Department of Engineering, University of Messina, Messina, Italy; 3. Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy; 4. Department of Electrical and Information Engineering, Politecnico of Bari, Bari, Italy*

2:30

J6-05. **The skyrmion-bubble transition in a ferromagnetic thin film.** ***(Invited)*** A. Bernand-Mantel[1], *L. Camosi*[1], A. Wartelle[1], N. Rougemaille[1], M. Darques[1] and L. Ranno[1] *1. Institut Neel-CNRS, Grenoble, France*

TUESDAY AFTERNOON 1:30 ROOM 104

Session J7
SEMICONDUCTOR AND ORGANIC SPINTRONICS I

Masashi Shiraishi, Co-Chair
Kyoto University, Kyoto, Japan
Jun-Young Kim, Co-Chair
University of York, York, United Kingdom

1:30

J7-01. **Noncentrosymmetric 2D Superconductors with Spin-Valley Locking.** ***(Invited)*** *Y. Iwasa*[1,2] *1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 2. CEMS, RIKEN, Wako, Japan*

2:00

J7-02. **Introducing 2D Materials for Magnetic Tunnel Junctions.** *B. Dlubak*[1], M. Piquemal[1], R. Galceran[1], F. Godel[1], M. Martin[1], S. Caneva[2], R. Weatherup[2], S. Hofmann[2], S. Xavier[3], B. Servet[3], R. Mattana[1], A. Anane[1], F. Petroff[1], A. Fert[1] and P. Seneor[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. University of Cambridge, Cambridge, United Kingdom; 3. Thales Research and Technology, Palaiseau, France*

2:15

J7-03. **Induced spin-orbit coupling in silicon thin films by bismuth doping.** *F. Rortais*[1], S. Lee[3], R. Ohshima[2], S. Dushenko[1], Y. Ando[4] and M. Shiraishi[5] *1. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan; 2. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan; 3. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan; 4. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan; 5. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan*

2:30

J7-04. **Efficient spin transport through a SiO_xN_y tunnel barrier in ferromagnet/ SiO_xN_y / n^+-Si junctions compatible with the Si-CMOS technology.** *R. Nakane*[1], S. Sato[1], T. Hada[1] and M. Tanaka[2] *1. EEIS, The University of Tokyo, Tokyo, Japan; 2. EEIS, The University of Tokyo, Tokyo, Japan*

2:45

J7-05. **Spin geometric and dynamic phases in Aharonov-Casher spin interferometer.** F. Nagasawa[1], M. Kohda[1,2], A. Reynoso[3], J. Baltana[4], D. Frustaglia[4], H.M. Saarikoski[5] and *J. Nitta*[1,2] *1. Materials Science, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, 980-8577, Japan; 3. Instituto Balseiro and Centro Atómico Bariloche, Comisión Nacional de Energía Atómica, Bariloche, Argentina; 4. Departamento de Fisica Aplicada II, Universidada de Sevilla, Sevilla, Spain; 5. RIKEN CEMS, Wako, Saitama, Japan, Wako, Japan*

TUESDAY AFTERNOON 1:30 — ROOM 306

Session J8
HEAVY FERMIONS III: NOVEL RESULTS FROM HIGH FIELD MEASUREMENT

Arkady Shekhter, Chair
National High Magnetic Field Laboratory, Tallahassee, FL, United States

1:30

J8-01. **High-field and high-pressure phase diagram of $CeRhIn_5$ probed by dilatometry.** ***(Invited)*** *P. Rosa*[1] *1. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States*

2:00

J8-02. **Squeezing out hidden-order in URu_2Si_2 under combined pressure and magnetic field.** ***(Invited)*** *W. Knafo*[1], S. Araki[2], D. Braithwaite[3], D. Aoki[4], G. Knebel[3], G. Lapertot[3] and J. Flouquet[3] *1. LNCMI Toulouse / CNRS, Toulouse, France; 2. Department of Physics, Okayama University, Okayama, Japan; 3. INAC, Université Grenoble Alpes and CEA, Grenoble, France; 4. IMR, Tohoku University, Oarai, Japan*

2:30

J8-03. **Probing the 'Hidden Order' Phase in URu_2Si_2 by Means of Ultrasonic Measurements in Pulsed Magnetic Fields.** *T. Yanagisawa*[1], S. Mombetsu[1], H. Hidaka[1], H. Amitsuka[1], P.T. Cong[2], S. Yashin[2], S. Zherlitsyn[2], J. Wosnitza[2,3], K. Huang[4], N. Kanchanavatee[4], M. Janoschek[5], M.B. Maple[4] and D. Aoki[6,7] *1. Department of Physics, Hokkaido University, Sapporo, Japan; 2. HLD-EMFL, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Institut für Festkörperphysik und Materialphysik, TU Dresden, Dresden, Germany; 4. Dept. of Physics, Univ. of California San Diego, La Jolla, CA, United States; 5. Los Alamos National Laboratory, Los Alamos, NM, United States; 6. IMR, Tohoku University, Oarai, Japan; 7. INAC/PHELIQS, CEA-Grenoble, Grenoble, France*

2:45

J8-04. **Heisenberg Ising-Kondo Necklace model with transverse field for heavy-fermion compound URu_2Si_2.** S. Rufo[1] and *M. Continentino*[1] *1. Theoretical Physics, Brazilian Center for Research in Physics, Rio de Janeiro, Brazil*

TUESDAY AFTERNOON 1:30 — ROOM 307/308

Session J9
SUPERCONDUCTIVITY AND QUANTUM CRITICALITY

Qimiao Si, Chair
Rice University, Houston, TX, United States

1:30

Introduction by Qimiao Si

1:45

J9-01. **Interplay of heavy-fermion quantum criticality and unconventional superconductivity.** ***(Invited)*** *F. Steglich*[1] *1. MPI Chemical Physics of Solids, Dresden, Germany*

2:15

J9-02. **Phonon Thermal Transport Near the Structural Quantum Critical Point in $(Ca_xSr_{1-x})_3Rh_4Sn_{13}$.** *M. Sutherland*[1], X. Chen[1], K. Yoshimura[2], M. Imai[2], B. Chen[2], J. Yang[2], D. Tompsett[3] and S.K. Goh[4] *1. Physics, Cambridge University, Cambridge, United Kingdom; 2. Kyoto University, Kyoto, Japan; 3. University of Bath, Bath, United Kingdom; 4. Chinese University of Hong Kong, Hong Kong, Hong Kong*

2:30

J9-03. **Low-temperature breakdown of antiferromagnetic quantum critical behavior in FeSe.** *V. Grinenko*[1,2], R. Sarkar[1], P. Materne[1,4], A. Yamashita[5], Y. Takano[5], Y. Sun[6], T. Tamegai[6], D. Efremov[7], S. Drechsler[2], J. Orain[9], T. Goko[9], R. Scheuermann[9], H. Luetkens[9] and H. Klauss[8] *1. Institute for Solid State and Material Physics, University of Technology Dresden, Dresden, Germany; 2. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 4. Argonne National Laboratory, Lemont, IL, United States; 5. National Institute for Materials Science (NIMS), Tsukuba, Japan; 6. The University of Tokyo, Tokyo, Japan; 7. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 8. University of Technology Dresden, Dresden, Germany; 9. Paul Scherrer Institut, Villigen PSI, Switzerland*

2:45

J9-04. **Vestiges of Superconducting Vortices in the Insulating State of an Oxide Interface.** *E. Maniv*[3], M. Mograbi[1], P.K. Rout[1], D. Graf[2], J.H. Park[2] and Y. Dagan[1] *1. Physics, Tel Aviv University, Tel Aviv, Israel; 2. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 3. Physics, University of California, Berkeley, Berkeley, CA, United States*

TUESDAY AFTERNOON 1:30

ROOM 313/314

Session J10
QUANTUM SPIN LIQUIDS V: KITAEV SPIN LIQUIDS

Kemp Plumb, Co-Chair
Brown University, Providence, RI, United States
Sasha Chernyshev, Co-Chair
University of California, Irvine, Irvine, CA, United States

1:30

J10-01. **Majorana quantization and half-integer thermal quantum Hall effect in a Kitaev spin liquid.** ***(Invited)*** *Y. Kasahara*[1] *1. Kyoto University, Kyoto, Japan*

2:00

J10-02. **Probing spinon nodal structures in Kitaev spin liquids.** ***(Invited)*** *N. Perkins*[1], G. Halasz[2], J. van den Brink[3] and B. Perreault[4] *1. Physics, University of Minnesota, Minneapolis, MN, United States; 2. KITP, Santa Barbara, CA, United States; 3. IFW Dresden, Dresden, Germany; 4. Univeristy of Minnesota, Minneapolis, MN, United States*

2:30

J10-03. **New physics in the field-induced ground state in Kitaev candidate alpha-$RuCl_3$.** ***(Invited)*** *A. Banerjee*[1], P. Lampen-Kelley[2], C. Balz[1], M. Lumsden[3] and S.E. Nagler[1] *1. Neutron Sciences Directorate, Oak Ridge National Laboratory, Knoxville, TN, United States; 2. Material Science and Engg, University of Tennessee, Knoxville, TN, United States; 3. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

Session K1
SPIN PUMPING

Justin Shaw, Chair
NIST, Boulder, CO, United States

3:30

K1-01. **Evidence for Spin-Transfer Torque Induced by Spin-Triplet Supercurrents.** *Y. Sun*[1], L. Li[1], Y. Zhao[2] and X. Zhang[2] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

3:45

K1-02. **Probe of Spin Dynamics in Superconducting NbN Thin Films via Spin Pumping.** *Y. Yao*[1] *1. School of Physics, International Center for Quantum Materials, Beijing, China*

4:00

K1-03. **Superconducting spin transport via induced triplet states by spin-orbit coupling.** *K. Jeon*[1,2], C. Ciccarelli[2], A. Ferguson[2], H. Kurebayashi[3], L.F. Cohen[4], X. Montiel[5], M. Eschrig[5], J. Robinson[1] and M. Blamire[1] *1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. Physics, University of Cambridge, Cambridge, United Kingdom; 3. London Centre for Nanotechnology and Department of Electronic and Electrical Engineering, University of College London, London, United Kingdom; 4. The Blackett Laboratory, Imperial College London, London, United Kingdom; 5. Physics, Royal Holloway, University of London, London, United Kingdom*

4:15

K1-04. **Spin pumping as a generic probe for linear spin fluctuations, irrespective of the magnetic and electrical nature of the spin-sink.** O. Gladii[1], L. Frangou[1], G. Forestier[1], R.L. Seeger[1], S. Auffret[1], M. Rubio-Roy[1], R. Weil[2], A. Mougin[2], C. Gomez[3], W. Jahjah[4], J. Jay[4], D. Dekadjevi[4], D. Spenato[4], S. Gambarelli[5] and *V. Baltz*[1] *1. SPINTEC, Univ. Grenoble Alpes / CNRS / INAC-CEA / GINP, Grenoble, France; 2. LPS (Univ. Paris-Sud / Univ. Paris-Saclay / CNRS), Orsay, France; 3. G-INP / CIME Nanotech, Grenoble, France; 4. OPTIMAG (Univ. Bretagne Occidentale), Brest, France; 5. SYMMES, Univ. Grenoble Alpes / INAC-CEA, Grenoble, France*

4:30

K1-05. **Enhanced Spin Pumping near VO_2 Metal-Insulator Transition in $VO_2/Ni_{80}Fe_{20}$ heterostructures.** J. Jones[1,3], *B. Khodadadi*[2,1], S. KC[1,3], A.V. Singh[3], A. Sapkota[1,3], J. Beik Mohammadi[4,1], G. Mankey[1,3], T. Mewes[1,3], A. Gupta[5,3] and P.R. LeClair[1,3] *1. Physics, University of Alabama, Tuscaloosa, AL, United States; 2. Physics, Virginia Tech, Blackburg, VA, United States; 3. MINT, The University of Alabama, Tuscaloosa, AL, United States; 4. Physics, New York University, New York, NY, United States; 5. Chemistry, The University of Alabama, Tuscaloosa, AL, United States*

4:45

K1-06. **Spin current generation in spinel-ferrite/Cu/Pt heterostructures.** *J. Wisser*[1], H. Jeon[2], R. Budhani[3], M.T. Gray[4], S. Emori[5], B.M. Howe[6] and Y. Suzuki[7] *1. Applied Physics, Stanford University, Stanford, CA, United States; 2. Wright State University, Dayton, OH, United States; 3. Physics, Morgan State University, Baltimore, MD, United States; 4. Materials Science and Engineering, Stanford University, Stanford, CA, United States; 5. Physics, Virginia Polytechnic Institute and State University, Blacksburg, VA, United States; 6. Materials and Manufacturing Directorate, Air Force Research Lab, Wright Patterson Air Force Base, OH, United States; 7. Stanford University, Stanford, CA, United States*

TUESDAY AFTERNOON 3:30

ESPLANADE 158

Session K2
THIN FILMS, SURFACES AND HETEROSTRUCTURES

Cheng Song, Chair
Tsinghua University, Beijing, China

3:30

K2-01. **Strain and Disorder Induced Magnetic Ordering Effects in FeRh Thin Films.** *S.P. Bennett*[1], A. Herklotz[4], C. Cress[2], I. Mazin[2] and V. Lauter[3] *1. Materials Science and Technology, U.S. Naval Research Laboratory, Washington, DC, United States; 2. Naval Research Laboratory, Washington, DC, United States; 3. NSSD, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 4. Institute for Physics, Martin Luther University Halle-Wittenberg, Halle, Germany*

3:45

K2-02. **Second-order Phase Transition in a Ni Thin Film Induced by Proximity to Antiferromagnetic FeF_2.** *A. Fraile Rodríguez*[1,2], A.C. Basaran[3], A. Scholl[4], I.K. Schuller[3], A. Labarta[1,2] and X. Batlle[1,2] *1. Física Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia, Universitat de Barcelona, Barcelona, Spain; 3. Physics, UCSD, La Jolla, CA, United States; 4. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

4:00

K2-03. **Tuning the magnetic anisotropy of NiPtMnGa by substitution and epitaxial strain.** *H.C. Herper*[1] and A. Grünebohm[2] *1. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 2. Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany*

4:15

K2-04. **Interplay between Strain-Stabilized Ferromagnetism and Charge Transport in Epitaxial $LaCoO_{3-\delta}$ Thin Films.** *V. Chaturvedi*[1], J. Walter[1], A. Paul[1], J.S. Jeong[2], A.J. Grutter[3], B.J. Kirby[4], J. Borchers[5], A. Mkhoyan[6], T. Birol[1] and C. Leighton[1] *1. Chemical Engineering and Materials Science, University of Minnesota, MINNEAPOLIS, MN, United States; 2. Chemical Engineering and Materials Science, University of Minnesota, MINNEAPOLIS, MN, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 4. NIST Center for Neutron Research, Gaithersburg, MD, United States; 5. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 6. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States*

4:30

K2-05. **Magnetic Imaging of Phase Domain Development in Laterally Confined FeRh.** *R.C. Temple*[1], T.P. Almeida[2], J. Massey[1], K. Fallon[2], R. Lamb[2], S.A. Morley[1,3], S. McVitie[2], T.A. Moore[1] and C.H. Marrows[1] *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 3. Physics Department, University of California, Santa Cruz, CA, United States*

4:45

K2-06. **Control of Domain Size and Morphology in Non-Collinear Artificial Spin Systems.** *J. Lehmann*[1], A. Bortis[1], P. Derlet[2], C. Donnelly[2], N. Leo[2], L. Heyderman[2] and M. Fiebig[1] *1. Department of Materials, ETH Zurich, Zurich, Switzerland; 2. Paul Scherrer Institute, Villigen PSI, Switzerland*

TUESDAY AFTERNOON 3:30

ESPLANADE 159

Session K3
IMAGING MAGNETIC TEXTURES II

Ingrid Hallsteinsen, Chair
Norwegian University of Science and Technology, Alesund, Norway

3:30

K3-01. **Ultrafast and Very Small: Discover Nanoscale Magnetism With Picosecond Time Resolution Using X-Rays.** ***(Invited)*** *H. Ohldag*[1] *1. SLAC National Accelerator Laboratory, Menlo Park, CA, United States*

4:00

K3-02. **Insights into Magneto-Electric Coupling using X-ray Photoemission Electron Spectro-Microscopy.** *R.V. Chopdekar*[1] *1. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

4:15

K3-03. **The SQCRAMscope: Scanning Quantum Cryogenic Atom Microscope.** *S. Taylor*[1], F. Yang[1], J. Palmstrom[1], S.D. Edkins[1], I.R. Fisher[1] and B. Lev[1,2] *1. Applied Physics, Stanford University, Palo Alto, CA, United States; 2. Physics, Stanford University, Palo Alto, CA, United States*

4:30

K3-04. **Visible light detection and imaging of magnetic field in the microwave regime with a combination of magnetic losses material and thermofluorescent molecules.** ***(Invited)*** H. Ragazzo[2], S. Faure[3], J. Carrey[3], F. Issac[2], D. Prost[2] and *J. Bobo*[1] *1. CEMES CNRS, Toulouse, France; 2. DEMR, ONERA, Toulouse, France; 3. LPCNO, Toulouse, France*

TUESDAY AFTERNOON 3:30

ESPLANADE 160

Session K4
MAGNETORESISTANCE AND HALL EFFECTS

Emilie Jué, Chair
National Institute of Standards and Technology, Boulder, CO, United States

3:30

K4-01. **Bilinear magneto-electric resistance as a probe of spin textures.** ***(Invited)*** P. He[2], S. Zhang[3], G. Vignale[4] and *H. Yang*[1] *1. National University of Singapore, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore; 3. Material Science Division, Argonne National Laboratory, Lemont, IL, United States; 4. University of Missouri, Columbia, MO, United States*

4:00

K4-02. ***Electrical detection and transport properties of magnetic skyrmions at room temperature.*** *D. Maccariello*[1], W. Legrand[1], N. Reyren[1], K. Garcia[1], K. Bouzehouane[1], S. Collin[1], V. Cros[1] and A. Fert[1] *1. Unité Mixte de Physique CNRS-Thales, Univ. Paris-Sud, Université Paris-Saclay, Palaiseau, France*

4:15

K4-03. **Magnetoresistance in Hybrid Pt/$CoFe_2O_4$ Bilayers Controlled by Competing Spin Accumulation and Interfacial Chemical Reconstructions.** H.B. Vasili[2], M. Gamino[1], J. Gazquez[1], F. Sanchez[1], M. Valvidares[2], P. Gargiani[2], E. Pellegrin[2] and *J. Fontcuberta*[1] *1. Institut de Ciència de Materials de Barcelona, Bellaterra, Spain; 2. CELLS-Divisió Experiments, ALBA Synchrotron Light Source, E-08290 Cerdanyola del Vallès, Spain*

4:30

K4-04. **Interface Geometry and Spin Hall Magnetoresistance in Fe_3O_4\Pt films.** T. Pham[1,2], M. Ribeiro[1], J. Park[1], E. Park[3], Q. Nguyen[4], S. Cho[4] and *T. Kim*[1,2] *1. Center for Quantum Nanoscience, Institute for Basic Science, Ewha Womans University, Seoul, The Republic of Korea; 2. Department of Physics, Ewha Womans University, Seoul, The Republic of Korea; 3. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul, The Republic of Korea; 4. Department of Physics, University of Ulsan, Seoul, The Republic of Korea*

4:45

K4-05. **Evaluation of bulk-interface contributions to Edelstein magnetoresistance at metal/oxide interfaces.** *J. Kim*[1], Y. Chen[1], S. Karube[2], S. Takahashi[3], K. Kondou[4], G. Tatara[5] and Y. Otani[6,1] *1. RIKEN, Wako, Japan; 2. Institute for Solid State Physics, University of Tokyo, Wako, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. RIKEN-CEMS, Wako, Japan; 5. RIKEN CEMS, Wako, Japan; 6. ISSP, University of Tokyo, Kashiwa, Japan*

TUESDAY AFTERNOON 3:30

ESPLANADE 152

Session K5
MATERIALS FOR ENERGY APPLICATIONS II

Ahmed El-Gendy, Chair
University of Texas at El Paso, El Paso, TX, United States

3:30

K5-01. **Magnetic Nanostructured Materials for Non-biomedical Applications.** ***(Invited)*** *A.A. El-Gendy*[1] *1. Physics, University of Texas at El Paso, El Paso, TX, United States*

4:00

K5-02. **Thermo-magnetic field driven magnetic fluid propulsion engine.** *V.H. Dave*[1], H.A. Virpura[1] and S.P. Bhatnagar[1] *1. Department of Physics, Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar, India*

4:15

K5-03. **Spark plasma sintering of ferrite-based hybrid magnets: towards rare-earth-free magnets for energy storage.** *P. Jenus*[1], A. Kocjan[1,3], C. Sangregorio[2], M. Petrecca[4] and S. Kobe[1] *1. Department for Nanostructured Materials, Jozef Stefan Institute, Ljubljana, Slovenia; 2. ICCOM – CNR and INSTM, Sesto Fiorentino, Italy; 3. Jozef Stefan International Postgraduate School, Ljubljana, Slovenia; 4. Department of Chemistry, University of Florence, Sesto Fiorentino, Italy*

4:30

K5-04. **From the Lab to the Factory: "Closing the Loop" through Recycling by Tuning Microstructural and Magnetic Properties in Sr-Ferrite Powder.** *A. Bollero*[1], J. Rial[1], M. Villanueva[1], A. Seoane[2], J. Almunia[2] and R. Altimira[2] *1. Division of Permanent Magnets and Applications, IMDEA Nanoscience, Madrid, Spain; 2. Ingeniería Magnética Aplicada IMA S.L., Barcelona, Spain*

4:45

K5-05. **Electric polarization influence on magnetic properties of Multiferroic Composites type PMN-PT/$CoFe_2O_4$.** A.J. de Oliveira[1], *K.R. Jimenez*[1], F.L. Zabotto[1], D. Garcia[1] and A. Gauzzi[2] *1. Physics Department, Federal University of São Carlos, São Carlos, Brazil; 2. IMPMC, Sorbonne Université-CNRS-IRD-MNHN, Paris, France*

TUESDAY AFTERNOON 3:30 — ROOM 105

Session K6
SPIN ICES AND MAGNETIC NANOPARTICLES III

Katharina Zeissler, Chair
University of Leeds, Leeds, United Kingdom

3:30

K6-01. **Emergent Dynamic Chirality in a Thermally Driven Artificial Spin Ratchet.** ***(Invited)*** *S. Gliga*[1] *1. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

4:00

K6-02. **Spin dynamics in artificial spin ice.** ***(Invited)*** *M. Jungfleisch*[1,2], W. Zhang[1,3], J. Sklenar[4], J. Ding[1], E. Iacocca[5,6], J. Park[4], W. Jiang[1,7], S. Zhang[1,8], J.E. Pearson[1], V. Novosad[1], J.B. Ketterson[9], O. Heinonen[1], P. Schiffer[4,10] and A. Hoffmann[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Oakland University, Rochester, MI, United States; 4. University of Illinois at Urbana-Champaign, Urbana, IL, United States; 5. Applied Mathematics, University of Colorado at Boulder, Boulder, CO, United States; 6. Chalmers University of Technology, Gothenburg, Sweden; 7. Department of Physics, Tsinghua University, Beijing, China; 8. CUNY Advanced Science Research Center, New York, NY, United States; 9. Northwestern University, Evanston, IL, United States; 10. Yale University, New Haven, CT, United States*

4:30

K6-03. **Magnetic States In Nanomagnets Probe By Superconducting Vortex Dynamics: From Vortex To Spin-ice States.** ***(Invited)*** *J. Vicent*[1,2], V. Rollano[2], J. del Valle[1], A. Gomez[3], E.M. Gonzalez[1,2], M. Velez[4], F. Valdes-Bango[4], C. Quiros[5] and J. Martin[6] *1. Fisica Materiales, Universidad Complutense, Madrid, Spain; 2. IMDEA-Nanociencia, MADRID, Spain; 3. INTA-CSIC, Torrejon de Ardoz, Spain; 4. Universidad de Oviedo, Oviedo, Spain; 5. Física, Universidad de Oviedo, Oviedo, Spain; 6. Fisica, Universidad de Oviedo, Oviedo, Spain*

TUESDAY AFTERNOON 3:30 — ROOM 104

Session K7
THEORY AND MODELLING OF NANOMAGNETS I

Gino Hrkac, Chair
University of Exeter, Exeter, United Kingdom

3:30

K7-01. **Atomic-Scale Magnetometry of Dynamic Magnetization.** ***(Invited)*** J. van Bree[1] and *M.E. Flatte*[2] *1. Institute for Molecular Engineering, University of Chicago, Chicago, IL, United States; 2. Physics, Univ Iowa, Iowa City, IA, United States*

4:00

K7-02. **The effect of geometry on the equilibrium and dynamic properties of FeRh/FePt films.** *T.A. Ostler*[2,1], T. Thomson[4] and G. Hrkac[3] *1. College of Engineering, Mathematics and Physical Sciences, The University of Exeter, Sheffield, United Kingdom; 2. Department of Engineering and Mathematics, Sheffield Hallam University, Sheffield, United Kingdom; 3. Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, United Kingdom; 4. School of Computer Science, University of Manchester, Manchester, United Kingdom*

4:15

K7-03. **Determination of the magnetic switching attempt frequency for magnetite nanoparticles.** *R. Moreno Ortega*[1] and R.F. Evans[1] *1. Department of Physics, University of York, York, United Kingdom*

4:30

K7-04. **Vector Hamiltonian approach for nonlinear dynamics of nano-scale magnetic systems.** *V. Tyberkevych*[1], A.N. Slavin[1], G. Rowlands[2], P. Artemchuk[3] and O. Prokopenko[3] *1. Department of Physics, Oakland University, Rochester, MI, United States; 2. Quantum Information Processing, BBN Technologies, Cambridge, MA, United States; 3. Faculty of Radio Physics, Electronics and Computer Systems, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*

4:45

K7-05. **Proposal for a micromagnetic standard problem for materials with Dzyaloshinskii-Moriya interaction.** *D.I. Cortés-Ortuño*[1], M. Beg[2], V. Nehruji[3], L. Breth[1], R.A. Pepper[1], T. Kluyver[1], G. Downing[1], T. Hesjedal[4], P. Hatton[3], T. Lancaster[3], R. Hertel[5], G. Balakrishnan[6], O. Hovorka[1] and H. Fangohr[2,1] *1. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom; 2. European XFEL GmbH, Schenefeld, Germany; 3. Department of Physics, Durham University, Durham, United Kingdom; 4. Department of Physics, University of Oxford, Oxford, United Kingdom; 5. Institut de Physique et Chimie des Matériaux de Strasbourg, Université de Strasbourg, Strasbourg, France; 6. Department of Physics, University of Warwick, Coventry, United Kingdom*

Session K8
TOPOLOGICAL SEMIMETALS IN KONDO SYSTEMS

Michael Sutherland, Chair
Cambridge University, Cambridge, United Kingdom

3:30

K8-01. **Weyl-Kondo Semimetal in Heavy-Fermion Systems.** ***(Invited)*** *H. Lai*[1] *1. Physics and Astronomy, Rice University, Houston, TX, United States*

4:00

K8-02. **Weyl fermions in the heavy-fermion semimetal YbPtBi.** ***(Invited)*** *C. Guo*[1], F. Wu[1], Z. Wu[1], M. Smidman[1], C. Cao[2], Y. Liu[1], F. Steglich[3] and H. Yuan[1] *1. Center for Correlated Matter, Zhejiang University, Hangzhou, China; 2. Department of Physics, Hangzhou Normal University, Hangzhou, China; 3. MPI Chemical Physics of Solids, Dresden, Germany*

4:30

K8-03. **Tuning spin-orbit coupling in heavy fermion systems: Discovery of the Weyl semimetal $Ce_3Bi_4Pd_3$.** *S. Dzsaber*[1], L. Prochaska[1], A. Sidorenko[1], G. Eguchi[1], R. Svagera[1], M. Waas[1], A. Prokofiev[1], Q. Si[2] and S. Paschen[1,2] *1. Institute for Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Rice University, Houston, TX, United States*

4:45

K8-04. **Topological bulk superconductivity of spin-3/2 carriers in a doped Luttinger semimetal.** *A. Nevidomskyy*[1], B. Roy[1,2], S. Ghorashi[3,4] and M. Foster[1] *1. Physics and Astronomy, Rice University, Houston, TX, United States; 2. Max Planck Institute for Physics of Complex Systems, Dresden, Germany; 3. Physics, University of Houston, Houston, TX, United States; 4. Texas Center for Superconductivity, Houston, TX, United States*

Session K9
SUPERCONDUCTIVITY IN 115'S AND OTHER HEAVY FERMION SYSTEMS

M Maple, Chair
University of California, San Diego, Del Mar, CA, United States

3:30

K9-01. **Unidirectional superconductivity in the three-dimensional metal $CeIrIn_5$.** ***(Invited)*** *P.J. Moll*[1,2], M.D. Bachmann[1], T. Meng[3], C. Putzke[1], T. Helm[1], Y. Li[1], K. Modic[1], M. Nicklas[1], M. König[1], A. Mackenzie[1], F. Arnold[1], H. Hassinger[1], R.D. Mcdonald[4], L.E. Stritzinger[4], E. Bauer[4] and F. Ronning[4] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. IMX, EPFL, Lausanne, Switzerland; 3. TU Dresden, Dresden, Germany; 4. Los Alamos National Laboratory, Los Alamos, NM, United States*

4:00

K9-02. **Intertwined magnetic and superconducting orders in two phases of Nd-doped $CeCoIn_5$.** *R. Movshovich*[1], D. Kim[2], S. Lin[3], F. Weickert[4], P. Rosa[5], E. Bauer[3], F. Ronning[3] and J. Thompson[3] *1. MPA, Los Alamos National Laboratory, Los Alamos, NM, United States; 2. Department of Energy Science, Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science, Sungkyunkwan University, Sungkyunkwan, The Republic of Korea; 3. Los Alamos National Laboratory, Los Alamos, NM, United States; 4. NHMFL, Florida State University, Los Alamos, NM, United States; 5. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States*

4:15

K9-03. **Field-induced Lifshitz transition in $CeIrIn_5$ and Cd-doped $CeIrIn_5$.** *A. McCollam*[1], D. Aoki[2,5], G. Seyfarth[4,3], A. Pourret[5], A. Gourgout[5,7], J. Bruin[1,6], Y. Krupko[3], R. Tsunoda[8], Y. Hirose[8], R. Settai[8] and I. Sheikin[3] *1. High Field Magnet Laboratory, Radboud University Nijmegen, Nijmegen, Netherlands; 2. IMR, Tohoku University, Oarai, Japan; 3. Laboratoire National des Champs Magnéetiques Intenses (LNCMI-EMFL), CNRS, Grenoble, France; 4. LNCMI, Université Grenoble Alpes, Grenoble, France; 5. INAC-SPSMS, Université Grenoble Alpes, Grenoble, France; 6. Max Planck Institute for Solid State Research, Stuttgart, Stuttgart, Germany; 7. Département de Physique & RQMP, Université de Sherbrooke, Sherbrooke, QC, Canada; 8. Faculty of Science, Niigata University, Niigata, Japan*

4:30

K9-04. **FFLO state in $CeCu_2Si_2$ revealed by ^{63}Cu-NMR.** *S. Kitagawa*[1], G. Nakamine[1], K. Ishida[1], J. Hirale[2], C. Geibel[2] and F. Steglich[2] *1. Physics, Kyoto University, Kyoto, Japan; 2. Quantum Matter, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

4:45

K9-05. **Anomalous temperature dependences of lower critical field in heavy-fermion superconductors $PrOs_4Sb_{12}$ and $CeCu_2Si_2$.** J. Juraszek[1], A. Rudenko[1], L. Bochenek[1], D.G. Franco[2], S. Seiro[2,3], C. Geibel[2], M. Konczykowski[4] and *T. Cichorek*[1] *1. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland; 2. Max-Planck-Institute for Chemical Physics of Solids, Dresden, Germany; 3. Institute for Solid State Physics, IFW, Dresden, Germany; 4. Laboratoire des Solides Irradiés, École Polytechnique, CNRS, CEA, Université Paris-Saclay, Palaiseau, France*

TUESDAY AFTERNOON 3:30 — ROOM 313/314

Session K10
DIMERS IN FRUSTRATED MAGNETS: SHASTRY-SUTHERLAND LATTICES AND BEYOND

Frederic Mila, Chair
EPFL, Lausanne, Switzerland

3:30

K10-01. **Bound States and Topological Triplons in a Shastry Sutherland Quantum Magnet.** ***(Invited)*** *P.A. McClarty*[1], F. Kruger[2], T. Guidi[3], S.F. Parker[5], K. Refson[6], T. Parker[7], D. Prabhakaran[4] and R. Coldea[4] *1. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 2. UCL, London, United Kingdom; 3. ISIS, STFC, Didoct, United Kingdom; 4. Department of Physics, University of Oxford, Oxford, United Kingdom; 5. STFC, ISIS, Didcot, United Kingdom; 6. Physics, Royal Holloway, London, United Kingdom; 7. STFC, CLF, Didcot, United Kingdom*

4:00

K10-02. **Direct Observation of the Pressure Induced Phase Transition in Shastry-Sutherland Model Substance $SrCu_2(BO_3)_2$ by High Pressure THz ESR.** *H. Ohta*[1,2], T. Sakurai[3], Y. Hirao[2], K. Hijii[1], S. Okubo[1], Y. Uwatoko[4], K. Kudo[5] and Y. Koike[6] *1. Molecular Photoscience Research Center, Kobe University, Kobe, Japan; 2. Graduate School of Science, Kobe University, Kobe, Japan; 3. Research Facility Center for Science and Technology, Kobe University, Kobe, Japan; 4. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 5. Research Institute for Interdisciplinary Science, Okayama University, Okayama, Japan; 6. Department of Applied Physics, Tohoku University, Sendai, Japan*

4:15

K10-03. **NMR of the Shastry-Sutherland system $SrCu_2(BO_3)_2$ at highest pulsed magnetic fields.** *H. Kuehne*[1], J. Kohlrautz[2], J. Haase[2], E. Green[1], Z. Zhang[1], J. Wosnitza[1], T. Herrmannsdoerfer[1], H. Dabkowska[3], B. Gaulin[3] and R. Stern[4] *1. Hochfeld-Magnetlabor Dresden (HLD-EMFL), Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Faculty of Physics and Earth Sciences, University of Leipzig, Leipzig, Germany; 3. Brockhouse Institute for Materials Research and Department of Physics and Astronomy, McMaster University, Hamilton, ON, Canada; 4. National Institute of Chemical Physics and Biophysics (NICPB), Tallinn, Estonia*

4:30

K10-04. **Spin-Orbit Dimers and Non-Collinear Phases in d^1 Cubic Double Perovskites.** ***(Invited)*** *J. Romhanyi*[1], L. Balents[2] and G. Jackeli[3,4] *1. Theory of Quantum Matter Unit, Okinawa Institute of Science and Technology, Onna-son, Japan; 2. University of California, Santa Barbara, Santa Barbara, CA, United States; 3. Max Planck Institute for Solid State Research, Stuttgart, Germany; 4. Institute for Functional Matter and Quantum Technologies, University of Stuttgart, Stuttgart, Germany*

TUESDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session L1
ADVANCES WITH NANOPARTICLES IV (Poster Session)

Yumi Ijiri, Chair
Oberlin College, Oberlin, OH, United States

L1-01. **Size effects on magnetic property and crystal structure of Mn_3O_4 nanoparticles in mesoporous silica.** *T. Tajiri*[1], K. Sakai[2], H. Deguchi[2], M. Mito[2] and A. Kohno[1] *1. Faculty of Science, Fukuoka University, Fukuoka, Japan; 2. Graduate School of Engineering, Kyushu Institute of Technology, Kitakyushu, Japan*

L1-02. **Probing the Variability in Oxidation States of Magnetite Nanoparticles by Single-particle Spectroscopy.** *A. Fraile Rodríguez*[1,2], C. Moya[1,2], M. Escoda-Torroella[1,2], A. Romero[1,2], A. Labarta[1,2] and X. Batlle[1,2] *1. Física Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia (IN2UB), Universitat de Barcelona, Barcelona, Spain*

L1-03. **Crystal field excitations and Medium Range Antiferromagnetism in $TbCu_2$ nanoparticles.** M. de la Fuente Rodríguez[1], P. Bender[1], J. Espeso[1], J. Rodríguez Fernández[1], J.C. Gomez Sal[2], J. Alonso[1], C. Echevarria Bonet[3], D. Rojas Pupo[4], A. Michels[5], D. Alba Venero[6], B. Fåk[7], A. García-Prieto[8], *M. Fernández-Gubieda*[8], A. García-Arribas[8], J.A. Blanco[9] and L. Fernández Barquín[1] *1. CITIMAC, Universidad de Cantabria, Santander, Spain; 2. D Fisica Materia Condensada, Universidad de Cantabria, Santander, Spain; 3. BCMaterials, Derio, Spain; 4. Estructuras Y Fisica. ETSAM, Madrid Polytechnic University, Madrid, Spain; 5. University of Luxembourg, Luxembourg, Luxembourg; 6. ISIS Neutron and Muon Source, Harwell, United Kingdom; 7. Institut Laue-Langevin, Grenoble, France; 8. Universidad del País Vasco, Leioa, Spain; 9. Physics, University of Oviedo, Oviedo, Spain*

L1-04. **Magnetic states of nanostructures containing Ni^{2+} ions at the surface of SiO_2 nanospheres.** *P. Tiberto*[1], G. Barrera[1], G. Alberto[2], G. Martra[2] and P. Allia[3] *1. INRIM, Torino, Italy; 2. Chemistry, Università di Torino, Torino, Italy; 3. DISAT, Politecnico di Torino, Torino, Italy*

L1-05. **Probing Core and Shell Contributions to Exchange Bias in Co/Co_3O_4 Nanoparticles of Controlled Size.** D. De[4,3], *O. Iglesias*[1,2], S. Majumdar[3] and S. Giri[3] *1. Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia UB, Barcelona, Spain; 3. Solid State Physics, Indian Association for the Cultivation of Science, Kolkata, India; 4. Physics Dept., Neotia University, Neotia, India*

L1-06. **Magnetic Properties of Aerosol $Fe_{87.5}Cr_{12.5}$ Ferrite Nanoparticles Generated by Spark Discharge.** *C.E. Bulbucan*[1], C. Preger[2], A. Virdian[1], M.E. Messing[2] and R. Westerström[1] *1. Synchrotron Research Division, Lund University, Lund, Sweden; 2. Solid State Physics, Lund University, Lund, Sweden*

L1-07. **NiO nanoparticles for diluted magnetic semiconductor by co-doping of transition metal ions.** *Y. Ichiyanagi*[1,2], K. Fujiwara[1], T. Oka[1], T. Ide[1], A. Oshima[1], T. Hashimoto[1], D. Aihara[1] and K. Kanda[1] *1. Department of Physics, Yokohama National University, Yokohama, Japan; 2. Osaka University, Osaka, Japan*

L1-08. **Enhanced thermal stability and magnetic properties in Ni substituted MnZn-Ferrite nanoparticles.** *M. Shanigaram*[1], P. Mondal[1], K. Srikanti[2] and V. Srinivas[3] *1. Physics, Indian Institute of Technology, Madras, Chennai, India; 2. Centre for Automotive Energy Materials, ARCI, Chennai, India; 3. Department of Physics, Indian Institute of Technology Madras, Chennai, India*

L1-09. **Thermal stability and magnetic properties of Ni-nanoparticles prepared by chemical reduction methods.** *S. Vishvakarma*[1] and V. Srinivas[1] *1. Department of Physics, Indian Institute of Technology Madras, Chennai, India*

L1-10. **Synthesis of Giant Single-Crystal Hematite Hexagonal Nanoplates : Elaborate Analysis of Microstructure, Size and Static Magnetic Properties.** *F. Chen*[1], J. Liu[1], H. Luo[1], X. Wang[1], Y. Nie[1], Z. Feng[1], R. Gong[1] and Z. Zhang[2] *1. School of Optical and Electric Information, Huazhong University of Science & Technology, Wuhan, China; 2. School of Optical and Electronic Information, Wuhan, China*

L1-11. **On the Magnetic Anisotropy of Co-doped Magnetosome Chains.** *L. Marcano Prieto*[1*], D. Muñoz[2], R. Martín Rodríguez[3,4], I. Orue[5], J. Alonso Masa[6], A. García Prieto[7], A. Serrano[8,9], S. Valencia[10], R. Abrudan[10], L. Fernandez-Barquín[11], A. García Arribas[1,6], A. Muela[2,6] and M. Fernández-Gubieda[1,6] *1. Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 2. Inmunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 3. QUIPRE, University of Cantabria, Santander, Spain; 4. Nanomedicin Group, IDIVAL, Santander, Spain; 5. SGIker, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 6. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 7. Física Aplicada I, Universidad del País Vasco (UPV/EHU), Bilbao, Spain; 8. SpLine, Spanish CRG BM25 Beamline, ESRF, Grenoble, France; 9. Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain; 10. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany; 11. CITIMAC, Universidad de Cantabria, Santander, Spain*

L1-12. **XMCD as a powerful tool to examine the structural and magnetic properties of Mn and Co-doped magnetosomes.** *L. Marcano Prieto*[1], D. Muñoz[2,1], D. Gandia[3,1], A. García Prieto[4,3], S. Valencia[5], A. Muela[2,3] and M. Fernández-Gubieda[1,3] *1. Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 2. Inmunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 3. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 4. Física Aplicada I, Universidad del País Vasco, Bilbao, Spain; 5. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany*

L1-13. **Investigation of the optical and magnetic properties of $Bi_xBa_{1-x}fe_{12}O_{19}$ nano composites.** *H.M. Basma*[1], H. Rahal[1], M. Mansour[1] and R. Awad[1] *1. Physics, Beirut Arab University, Debbiyeh, Lebanon*

L1-14. **High Magnetic Moment Metal-Polymer Nanoparticles with Superparamagnetic-Like Characteristics.** *I. Nekrashevich*[1], D. Litvinov[1] and L. Chang[2] *1. Materials Engineering, University of Houston, Houston, TX, United States; 2. Electrical and Computer Engineering, University of Houston, Houston, TX, United States*

L1-15. **AC Magnetometry Characterization of Magnetic Nanoparticles for Magnetic Hyperthermia.** *I. Rodrigo Arrizabalaga*[1,2], J. Alonso-Valdesueiro[2], E. Garaio[3], Z. Nemati[4], J. Alonso Masa[1], R. Das[4], I. Orue[5], J. García[6], M. Phan[4], J. Collantes[2], H. Srikanth[4] and F. Plazaola[2] *1. BCMaterials, Basque Center of Materials, Applications and Nanostructures, Getxo, Spain; 2. Department of Electricity and Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 3. Department of Physics, Public University of Navarre (UPNA), Pamplona, Spain; 4. Physics Department, University of South Florida, Tampa, FL, United States; 5. SGIker Magnetic Measurements, University of the Basque Country (UPV/EHU), Leioa, Spain; 6. Department of Applied Physics II, University of the Basque Country (UPV/EHU), Leioa, Spain*

TUESDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session L2
ANISOTROPY ENGINEERING OF MAGNETIC THIN FILMS AND MULTILAYERS I (Poster Session)

Vincent Castel, Chair
IMT Atlantique, Brest, France

L2-01. **The correlation between magnetic dead layer and perpendicular magnetic anisotropy in MgO/CoFeB/Ta top structure.** S.H. Shen[1], *D.S. Lee*[2], C.W. Cheng[1], W.J. Chan[1] and G. Chern[1] *1. Physics Department, National Chung Cheng University, Chia-Yi, Taiwan; 2. Electrical Engineering Department, Da-Yeh University, Changhua, Taiwan*

L2-02. **Effects of MgO Sputtering Power and Thermal Annealing on Perpendicular Magnetic Anisotropy Properties of Pt/Co/MgO Trilayers.** *H. Gweon*[1] and S. Lim[1] *1. Materials Science and Engineering, Korea University, Seoul, The Republic of Korea*

L2-03. **Investigation of localized spin wave eigen-modes in a triangular magnet by micro-focused Brillouin light scattering.** *B. Cho*[1] *1. Gwangju Institute of Science and Technology (GIST), Gwangju, The Republic of Korea*

L2-04. **Thermally induced anisotropy transition in Gd-Fe thin film structures.** E. Kirk[3], C. Bull[2], J. Raabe[3], S. Finizio[4], T. Thomson[2], *G. Hrkac*[1] and L. Heyderman[3] *1. Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, United Kingdom; 2. School of Computer Science, University of Manchester, Manchester, United Kingdom; 3. Paul Scherrer Institut, Villigen PSI, Switzerland; 4. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland*

L2-05. **Uniaxial Magnetic Anisotropy of bct FeCo-based Alloy Films.** *T. Hasegawa*[1], M. Sakamoto[1], T. Niibori[1], Y. Nakamura[1], M. Oikawa[1], Y. Takemasa[1] and D. Yamamoto[1] *1. Department of Materials Science, Akita University, Akita City, Japan*

L2-06. **Disentangling and quantifying temperature-driven symmetry-breaking effects in magnetic nanostructures with competing magnetic anisotropy contributions.** *J.F. Cuñado*[1,2], P. Perna[1], A. Bollero[1], R. Miranda[2,1] and J. Camarero[2,1] *1. IMDEA Nanociencia, Madrid, Spain; 2. Universidad Autónoma de Madrid, Madrid, Spain*

L2-07. **Modulation of magnetic anisotropy in CoPt thin films by local and fast heat induced by surface acoustic waves.** *B. Casals*[1], N. Statuto[2], R. Cichelero[1], F. Sanchez[1], A. Hernández-Mínguez[3], J. Hernàndez[2], G. Herranz[1] and F. Macià[1] *1. Magnetic Materials and Functional Oxides, ICMAB-CSIC, Bellaterra, Spain; 2. Condensed Matter Physics Department, University of Barcelona, Barcelona, Spain; 3. Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany*

L2-08. **Tailoring magnetic properties of TMR sensors via oblique-incidence deposition of CoFeB.** *S. Willing*[1,2], K. Schlage[1], T. Gurieva[1] and R. Roehlsberger[1,3] *1. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 2. Physics, Hamburg University, Hamburg, Germany; 3. The Hamburg Centre for Ultrafast Imaging, Hamburg, Germany*

L2-09. **Focused ion beam direct writing of magnetic patterns with controlled structural and magnetic properties.** *M. Urbánek*[1], L. Flajsman[1], V. Krizakova[1], M. Horký[1], J. Gloss[2], M. Schmid[2] and P. Varga[2,1] *1. Brno University of Technology, Brno, Czechia; 2. TU Wien, Vienna, Austria*

L2-10. **Effect of anisotropy on Magnetic and Ferromagnetic Resonance Studies on Tb-Fe and Tb-Fe-Co thin films.** R. P[1] and *G. Markandeyulu*[1] *1. Physics, Indian Institute of Technology, Chennai, India*

L2-11. **First-principles Study of Perpendicular Magnetocrystalline Anisotropy on Co/Ni Multilayers.** *T. Nguyen*[1,2], K. Nakamura[2,3] and T. Oguchi[1,2] *1. Institute of Industrial and Scientific Research, Osaka, Japan; 2. MaDIS-CMI2, National Institute for Materials Science, Ibaraki, Japan; 3. Physics Engineering, Mie University, Tsu, Japan*

L2-12. **Dynamic and symmetry effects in magnetic nanostructures.** J. Fernández Cuñado[2,1], P. Perna[2], J. Diez[1,2], A. Gudin[2], P. Olleros[2], A. Bollero[2], R. Miranda[1,2] and *J. Camarero*[1,2] *1. Universidad Autónoma de Madrid, Madrid, Spain; 2. IMDEA Nanociencia, Madrid, Spain*

Session L3
BULK DEVICE MEASUREMENTS AND DESIGNS (Poster Session)

Akinobu Yamaguchi, Chair
University of Hyogo, Ako-gun, Japan

L3-01. **Magnetoelastic resonance sensor for water-cut applications.** *L. Swanepoel*[1,2], A. Kaidarova[2], A. Almansouri[2], M. Khan[2], J.H. Müller[1] and J. Kosel[2] *1. Mechanical Engineering, Stellenbosch University, Stellenbsoch, South Africa; 2. CEMSE, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia*

L3-02. **Magnetic Sensing of Residual Stress and Cold Work in a Biometallic Ti-6Al-4V Alloy.** *H. Carreon*[1], S. Barriuso[2], J. Gonzalez-Carrasco[2], J. Ocaña[3] and M. Carreon[1] *1. Universidad Michoacana, Morelia, Mexico; 2. Centro Nacional de Investigaciones Metalúrgicas, Madrid, Spain; 3. Universidad Politécnica de Madrid, Madrid, Spain*

L3-03. **An Improved Method for Measuring the Magnetic Properties of Silicon Steel with Double Sheets at High Frequency.** Y. Li[1], R. Chen[1] and *C. Zhang*[1] *1. Hebei University of Technology, Tianjin, China*

L3-04. **3D magnetic properties measurement of silicon steel under biased magnetic excitation along laminated direction.** *C. Zhang*[1], X. Yan[3], Y. Li[1], Q. Yang[1] and J. Zhu[2] *1. Hebei University of Technology, Tianjin, China; 2. School of Electrical Engineering, University of Technology Sydney, Sydney, NSW, Australia; 3. School of Electrical Engineering, Hebei University of Technology, Tianjin, China*

L3-05. **Ultrahigh Anisotropic Magnetoelectric Sensor Based on FeCoSiB/AlN Thin Film Composites.** *J. Ouyang*[1], W. Wang[1], B. Tong[1], Y. Zhang[1], B. Zhu[1], S. Chen[1] and X. Yang[1] *1. School of Optical and Electronic Information, Huazhong University of Science and Technology, Wuhan, China*

L3-06. **Measurement of Magnetic Properties of Electrical Materials Considering The Effect of Temperature.** Y. Li[3], M. Yang[1,3], *C. Zhang*[2,3] and Q. Yang[3,4] *1. School of Electrical Engineering, Hebei University of Technology, Tianjin, China; 2. Hebei University of Technology, Tianjin, China; 3. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 4. Tianjin Key Laboratory of AEEET, Tianjin, China*

L3-07. **Optimization Design of Vibration and demagnetization Reduction by Winding Method of Electric Compressor Motor for Automotive Air Conditioning.** *J. Lee*[1], M. Kim[1], S.H. Jung[1] and D. Kang[1] *1. Electrical Energy Engineering, Keimyung University, Daegu, The Republic of Korea*

L3-08. **Permanent Magnet Modeling to Detect Single Particle in Two-Phase Lorentz Force Velocimetry.** *N.T. Tran*[1,2] and U. Luedtke[1] *1. Electrothermal Energy Conversion Group, Technical University of Ilmenau, Ilmenau, Germany; 2. Research Training Group Lorentz Force Velocimetry and Lorentz Force Eddy Current Testing, Technical University of Ilmenau, Ilmenau, Germany*

L3-09. **Magnetization detected in a single particle without mass measurement using a niobium permanent magnet.** *C. Uyeda*[1] *1. Graduate School of Science, Toyonaka, Japan*

L3-10. **A Versatile Demagnetization Refrigerator.** *A. Regnat*[1], J. Spallek[1], C. Duvinage[1], T. Schulz[1] and C. Pfleiderer[1] *1. Physics Department, Technical University of Munich, Garching, Germany*

L3-11. **A torque compensation control scheme of permanent magnet synchronous motor considering wide variation of permanent magnet temperature.** *S. Cho*[1] *1. Electric Powertrain R&D Center, Korea Automotive Technology Institute, Cheoan-si, The Republic of Korea*

L3-12. **Withdrawn**

Session L4
CHIRALITY, CRITICALITY AND OTHER FEATURES (Poster Session)

Ivica Zivkovic, Chair
EPFL, Lausanne, Switzerland

L4-01. **Frustration induced topological order.** *C. Agrapidis*[1], J. van den Brink[1,2] and S. Nishimoto[1,2] *1. Institute for Theoretical Solid State Physics, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 2. Department of Physics, Technical University Dresden, Dresden, Germany*

L4-02. **Frustrated magnetism in the chiral system $EuIr_2P_2$.** *D.G. Franco*[1] and C. Geibel[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

L4-03. **Magnetocaloric effect in exactly solvable spin-1/2 Ising-Heisenberg double tetrahedral chain.** *L. Galisova*[1] *1. Technical University of Kosice, Kosice, Slovakia*

L4-04. **Quantum Criticality in a Three-Dimensional Spin System at Zero Field and Pressure.** *K. Povarov*[1], A. Mannig[1], G. Perren[1], J. Möller[1], E. Wulf[1], J. Ollivier[2] and A. Zheludev[1] *1. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 2. Institut Laue-Langevin, Grenoble, France*

L4-05. **Stabilizing the Skyrmion Phase in Cu_2OSeO_3: The Influence of Field, Temperature and Time.** *J.D. Reim*[1], K. Makino[1], D. Higashi[1], D. Okuyama[1], T.J. Sato[1], Y. Nambu[2], E.P. Gilbert[3], N. Booth[3], S. Seki[4] and Y. Tokura[4] *1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. ACNS, Australian Nuclear Science and Technology Organization, Kirrawee DC, NSW, Australia; 4. RIKEN Center for Emergent Matter Science (CEMS), Saitama, Japan*

L4-06. **Chirality domain walls in frustrated spin system.** *P. Rusek*[1] *1. Wroclaw University of Technology and Science, Wroclaw, Poland*

L4-07. **Withdrawn**

L4-08. **Ground State and Excitation Properties of the Frustrated Spin Nematic Candidate Material $BaCdVO(PO_4)_2$.** *M. Skoulatos*[1], A. Smerald[2], Y. Kubo[3], N. Shannon[3], R. Georgii[1], A. Schneidewind[4], A. Senyshyn[1], F. Rucker[5], C. Pfleiderer[5], C. Rüegg[6], L. Keller[7], E. Pomjakushina[7], G.J. Nilsen[8], N. Qureshi[8] and J. Ollivier[8] *1. Technical University of Munich, Heinz Maier-Leibnitz Zentrum (MLZ) and Physics Department E21, Garching, Germany; 2. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany; 3. Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan; 4. Jülich Centre for Neutron science (JCNS) at MLZ, Garching, Germany; 5. Technische Universität München, Physics Department E21, Garching, Germany; 6. Neutrons and Muons, Paul Scherrer Institute, Villigen PSI, Switzerland; 7. Paul Scherrer Institut, Laboratory for Neutron Scattering and Imaging, Villigen, Switzerland; 8. Institut Laue-Langevin, Grenoble, France*

L4-09. **The new WAND² diffractometer at HFIR - ideal for magnetism.** *M. Frontzek*[1] *1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

TUESDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session L5
HEAVY FERMIONS IV: NOVEL MATERIALS (Poster Session)

Heike Pfau, Chair
SLAC & Stanford, Menlo Park, CA, United States

L5-01. **Quantum Criticality below the Néel temperature in a frustrated heavy fermion magnet.** *C. O'Neill*[1], J. Schmehr[1], H. Keen[1], D.A. Sokolov[1], A. Hermann[1], P. Manuel[2], D. Wermeille[3] and A. Huxley[1] *1. Physics and Astronomy, University of Edinburgh, Edinburgh, United Kingdom; 2. ISIS Pulsed Neutron Facilty, Rutherford Appleton Laboratory, Chilton, United Kingdom; 3. ESRF, Grenoble, France*

L5-02. **Magnon Bose-Einstein Condensation in a Metal: Implications for Magnetically Frustrated Heavy Fermion Metals.** S. Gazit[1] and *J. Pixley*[2] *1. University of California, Berkeley, Berkeley, CA, United States; 2. Rutgers University, Piscataway, NJ, United States*

L5-03. **The Effect of Rashba Spin-Orbit Coupling on f-electron Materials.** *Y. Michishita*[1] and R. Peters[1] *1. Kyoto University, Kyoto, Japan*

L5-04. **Valence-Bond-Solid State in Shastry-Sutherland Tetrahedron Lattice Ce_5Si_3.** *R. Kobayashi*[1], K. Nakahara[1], K. Chinen[1] and S. Yano[2] *1. Department of Physics and Earth Sciences, University of the Ryukyus, Nishihara, Nakagami, Japan; 2. NSRRC, Hsinchu, Taiwan*

L5-05. **Dense Kondo Behavior in the Low Temperature Resistivity and Specific Heat for Amorphous $Ce_{50}Al_{50}$ Alloy.** S. Ito[1], K. Seki[1], *Y. Amakai*[1], S. Murayama[1], H. Takano[1], N. Momono[1] and T. Kuwai[2] *1. Muroran Institute of Technology, Muroran, Japan; 2. University of Toyama, Toyama, Japan*

L5-06. **Pressure Effect on Ce-based Kondo Approximant Crystal.** T. Sawano[1], Y. Shinagawa[1], *T. Shiino*[1], K. Imura[1], K. Deguchi[1] and N. Sato[1] *1. Department of Physics, Graduate School of Science, Nagoya University, Nagoya, Japan*

L5-07. **Point-contact Andreev reflection spectroscopy of Ce compound/superconductor interface.** *M. Shiga*[1], H. Takata[1], Y. Inagaki[1], F. Iga[2], Y. Onuki[3] and T. Kawae[1] *1. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan; 2. College of Science, Ibaraki University, Mito, Japan; 3. Faculty of Science, University of the Ryukyus, Okinawa, Japan*

L5-08. **Withdrawn**

L5-09. **Magnetic Phase Transitions in Single Crystalline Non-centrosymmetric URhSn under Pressure.** *A. Maurya*[1], F. Honda[1], Y. Shimizu[1], A. Nakamura[1], Y.J. Sato[1], Y. Homma[1], D. Li[1] and D. Aoki[1] *1. Institute for Materials Research, Tohoku University, Higashiibaraki, Japan*

L5-10. **Withdrawn**

L5-11. **Novel Heavy-Fermion Compound $U_{11}Hg_{45}$.** *E. Svanidze*[1], A. Amon[1], R. Borth[1], M. Nicklas[1], A. Leithe-Jasper[1] and Y. Grin[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

L5-12. **Tracking aluminum in UBe_{13} single crystals.** A. Amon[1], I. Zelenina[1], P. Simon[1], M. Bobnar[1], M. Naumann[1], E. Svanidze[1], F. Arnold[1], H. Borrmann[1], U. Burkhardt[1], W. Schnelle[1], E. Hassinger[1], A. Leithe-Jasper[1] and *Y. Grin*[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

Session L6
MAGNETIC SEMICONDUCTORS III (Poster Session)

Yang Ji, Chair
Institute of Semiconductors, Chinese Academy of Science, Beijing, China

L6-01. **Insights into the Origin of Room Temperature Ferromagnetism in SnO_2 and Mn doped SnO_2 Quantum Dots.** *D. Manikandan*[1], A. Yadav[2], S. Jha[2], D. Bhattacharyya[2] and R. Murugan[1] *1. Department of Physics, Pondicherry University, Puducherry, India; 2. Atomic& Molecular Physics Division, Bhabha Atomic Research Centre, Mumbai, India*

L6-02. **Magnetic Interaction and Spin Dynamics in Cr doped 3C-SiC.** *G.P. Moharana*[1], S. Singh[2] and H. Narayanan[3] *1. Physics, IIT Madras, Chennai, India; 2. CSIR Innovation Centre For Plasma Processing, IMMT, Bhubaneswar 751013, India, IMMT Bhubaneswar, Bhubaneswar, India; 3. Physics, IIT Madras, Chennai, India*

L6-03. ***ac* magnetic susceptibility in GaMnAsP films with perpendicular anisotropy.** J.K. Furdyna[2], *X. Liu*[2], S. Bac[1,2], S. Dong[2], S. Lee[1] and M. Dobrowolska[2] *1. Physics, Korea University, Seoul, The Republic of Korea; 2. Department of Physics, University of Notre Dame, Notre Dame, IN, United States*

L6-04. **Magnetic anisotropy of GaMnAsP ferromagnetic semiconductor films grown by MBE with a graded phosphorus concentration.** *S. Dong*[1], X. Liu[1], S. Bac[1,2], T. Yoo[1], S. Lee[2], X. Li[1], M. Dobrowolska[1] and J.K. Furdyna[1] *1. Department of Physics, University of Notre Dame, Notre Dame, IN, United States; 2. Physics, Korea University, Seoul, The Republic of Korea*

L6-05. **Characterization of ternary alloys (III-V) Mn deposited by magnetron sputtering.** *J.G. Doria Andrade*[1,2], C.A. Pulzara-Mora[2], A. Pulzara-Mora[2], R.A. Bernal Correa[5] and A. Rosales Rivera[6] *1. Laboratorio de Materialografia, Facultad de Ingenieria, Institución Universitaria Pascual Bravo, Medellin, Colombia; 2. Departamento de Física, Universidad Nacional de Colombia, Manizales, Colombia; 5. Universidad Nacional de Colombia, Arauca, Colombia; 6. Laboratorio de Magnetismo y Materiales Avanzados, Universidad Nacional de Colombia, Sede Manizales, Manizales, Colombia*

L6-06. **Interlayer exchange coupling between Fe and GaMnAs ferromagnetic semiconductor.** K. Tivakornsasithorn[2], S. Lee[1], S. Bac[1], S. Choi[1], *S. Lee*[1], X. Liu[3] and J.K. Furdyna[3] *1. Physics, Korea University, Seoul, The Republic of Korea; 2. Physics, Mahidol University, Bangkok, Thailand; 3. Department of Physics, University of Notre Dame, Notre Dame, IN, United States*

L6-07. **Magnetic properties of (Ga, Mn)As films epitaxied on GaAs (110).** *J. Ma*[1], H. Wang[1], X. Wang[1] and J. Zhao[1] *1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China*

L6-08. **Withdrawn**

Session L7
MAGNETOCALORIC MATERIALS VI (Poster Session)

Radhika Barua, Chair
Northeastern University, Quincy, MA, United States

L7-01. **Effect of Graphene on Magnetocaloric Properties of $La_{0.7}Ca_{0.3}MnO_3$ Perovskite Manganese Oxide.** K. Sarlar[1,3], *E. Civan*[2], N. Kucuk[1] and I. Kucuk[1] *1. Physics Department, Uludag University, Bursa, Turkey; 2. National Defence University, Izmir, Turkey; 3. Physics Department, Karamanoglu Mehmetbey University, Karaman, Turkey*

L7-02. **Magnetocaloric effect in promising magnetocaloric materials in cyclic magnetic fields.** *A. Aliev*[1], A. Gamzatov[1], A. Batdalov[1], L. Khanov[1], A. Mukhuchev[1], V. Koledov[2], V. Shavrov[2], A.P. Kamantsev[2], G. Govor[3], K.P. Skokov[4] and O. Gutfleisch[5] *1. LTP&M, Amirkhanov Institute of Physics of Daghestan Scientific Center of RAS, Makhachkala, Russian Federation; 2. Kotelnikov Institute of Radioengineering and Electronics of RAS, Moscow, Russian Federation; 3. Scientific-Practical Materials Research Centre of the National Academy of Sciences of Belarus, Minsk, Belarus; 4. FM, TU Darmstadt, Darmstadt, Germany; 5. Fb11, FG FM, TU Darmstadt, Darmstadt, Germany*

L7-03. **Mechanical alloying influence on the preparation of single-phase Mn-Fe-P-Si magnetocaloric compounds.** *J.H. da Silva*[1], A. Davarpanah[1], F. Mohseni[1], J.S. Amaral[1] and V.S. Amaral[1] *1. CICECO & Physics Dept., Universidade de Aveiro, Aveiro, Portugal*

L7-04. **Influence of the characterization protocols for erasing the thermal and magnetic history on the direct-ΔT_{ad} of FOPT magnetocaloric materials.** L.M. Moreno-Ramírez[1], A. Delgado-Matarín[1], J. Law[1], *V. Franco*[1], A. Conde[1] and A. Giri[2] *1. Universidad de Sevilla, Sevilla, Spain; 2. Weapons and Materials Research Directorate, US Army Research Laboratory, Aberdeen, MD, United States*

L7-05. **Dynamic Magnetic Losses along different Directions in Hi-B GO Laminations.** *C. Appino*[1], E. Ferrara[1], L. Rocchino[1], F. Fiorillo[1] and C. Ragusa[2] *1. Nanoscience and Materials Division, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Energy Department, Politecnico di Torino, Turin, Italy*

L7-06. **Severe Plastic Deformation as a Tool for Production Advanced Magnetic Materials.** *S.V. Taskaev*[1], K.P. Skokov[2], V. Khovaylo[3], A.A. Dyakonov[4] and M. Bogush[1] *1. Physics department, Chelyabinsk State University, Chelyabinsk, Russian Federation; 2. FM, TU Darmstadt, Darmstadt, Germany; 3. National University of Science and Technology "MIS&S", Moscow, Russian Federation; 4. South Ural state University, Chelyabinsk, Russian Federation*

L7-07. **Vibration Analysis, Calculation, and Reduction in Surface-mounted Permanent Magnet Motors.** *J. Hong*[1] and S. Wang[1] *1. Tsinghua University, Beijing, China*

L7-08. **Recovering of REE from Waste Magnets and End-of-life Devices: A Novel Acid Free Method.** D. Prodius[1] and *C.I. Nlebedim*[1] *1. Critical Materials Institute, Ames Laboratory, US Department of Energy, Ames, IA, United States*

TUESDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session L8
MAGNON SPINTRONICS AND CONDENSATES (Poster Session)

Matthias Benjamin Jungfleisch, Chair
University of Delaware, Newark, DE, United States

L8-01. **Chaotic magnetization dynamics in elliptical nanodots excited by spin transfer torque.** *E.A. Montoya*[3], S. Perna[1], M. d'Aquino[2], C. Serpico[1] and I. Krivorotov[3] *1. DIETI, Università di Napoli Federico II, Napoli, Italy; 2. Dipartimento di Ingegneria, Università degli Studi di Napoli "Parthenope", Napoli, Italy; 3. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States*

L8-02. **Excitation of Short Spin-Wave Packets by Pure Spin Current.** *B. Divinskiy*[1], V.E. Demidov[1], S. Demokritov[1] and S. Urazhdin[2] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Emory University, Atlanta, GA, United States*

L8-03. **Increased Gilbert Damping at Low Temperature in Polycrystalline YIG Films with Pt Capping layer.** *S. Pati*[1] and Y. Endo[1,2] *1. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network (CSRN), Tohoku University, Sendai, Japan*

L8-04. **Ferromagnetic Resonance and Spin Pumping in Heterostructures with $SrIrO_3$.** *S. Crossley*[1], A.G. Swartz[1], K. Nishio[2], Y. Hikita[2] and H. Hwang[1,2] *1. Applied Physics, Stanford University, Stanford, CA, United States; 2. Stanford Institute for Materials and Energy Sciences, SLAC National Accelerator Laboratory, Menlo Park, CA, United States*

L8-05. **Enhanced Gilbert Damping Due to the Oxide Interface in $Py/LaTiO_3/SrTiO_3$ Trilayers.** *M.J. Veit*[1], J. Wisser[1], S. Emori[1,2], Y. Deng[1], M. Chan[3], B. Ramshaw[3,4], R. Arras[6], R. Pentcheva[5], S. Wang[1] and Y. Suzuki[1] *1. Stanford University, Stanford, CA, United States; 2. Virginia Tech, Blacksburg, VA, United States; 3. Los Alamos National Laboratory, Los Alamos, NM, United States; 4. Cornell University, Ithaca, NY, United States; 5. University of Duisburg-Essen, Duisburg, Germany; 6. CEMES-CNRS, Toulouse, France*

L8-06. **$Mg(Al, Fe)_2O_4$: A New Magnetic Insulator for Spin Pumping.** *L. Riddiford*[1], S. Emori[3], J. Wisser[1] and Y. Suzuki[2] *1. Applied Physics, Stanford University, Menlo Park, CA, United States; 2. Stanford University, Stanford, CA, United States; 3. Virginia Tech, Blacksburg, VA, United States*

L8-07. **The dc voltage induced by Nonuniform microwave power in YIG/NM system.** *H. Zhou*[1,2], Q. Zhang[1], X. Fan[1], D. Xue[1] and L. Ma[4,3] *1. The Key Lab for Magnetism and Magnetic Materials of Ministry of Education, Lanzhou University, Lanzhou, China; 2. State Key Laboratory of Low-Dimensional Quantum Physics and Department of Physics, Tsinghua University, Beijin, China; 3. Physics, Tongji University, Shanghai, China; 4. Xi'an University of Technology, Xi'an, China*

L8-08. **Caustic-like Spin Transport by Hybrid Magneto-Elastic Bosons in a Ferrimagnetic Film.** *D.A. Bozhko*[1], P. Frey[1], A.A. Serga[1] and B. Hillebrands[1] *1. Physics, Technische Universität Kaiserslautern, Kaiserslautern, Germany*

L8-09. **Measurements and simulations of micron scale dipole-exchange spin waves in an yttrium iron garnet film.** *J. Lim*[1], W. Bang[1,4], J.S. Trossman[1], A. Kreisel[2], A. Hoffmann[4], C.C. Tsai[3] and J.B. Ketterson[1,5] *1. Department of Physics and Astronomy, Northwestern University, Evanston, IL, United States; 2. Institut für Theoretische Physik, Universität Leipzig, Leipzig, Germany; 3. Department of Engineering & Management of Advanced Technology, Chang Jung Christian University, Tainan, Taiwan; 4. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 5. Department of Electrical and Computer Engineering, Northwestern University, Evanston, IL, United States*

L8-10. **Analytical Study of Broadband Nonlinear Ferromagnetic Resonance in Uniaxial Nanoparticles.** *C. Serpico*[1], M. d'Aquino[2], V. Scalera[1], A. Quercia[1], S. Perna[1] and I. Mayergoyz[3] *1. DIETI, Università di Napoli Federico II, Napoli, Italy; 2. Dipartimento di Ingegneria, Università degli Studi di Napoli "Parthenope", Napoli, Italy; 3. ECE Department, University of Maryland, College Park, MD, United States*

L8-11. **Analysis of Transient Chaos in Nanomagnets Subject to Time-harmonic excitations.** *M. d'Aquino*[1], C. Serpico[2], A. Quercia[2], S. Perna[2], P. Ansalone[3] and I. Mayergoyz[4] *1. Dipartimento di Ingegneria, Università degli Studi di Napoli "Parthenope", Napoli, Italy; 2. DIETI, Università di Napoli Federico II, Napoli, Italy; 3. INRIM, Torino, Italy; 4. ECE Department, University of Maryland, College Park, MD, United States*

L8-12. **Withdrawn**

LB-13. **Spin wave propagation in the nanostripes – tuning of dynamical coupling.** *J.N. Rychly*[1,2], G. Centala[2], J.W. Klos[2] and V. Novosad[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland*

TUESDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session L9
SPIN-TORQUE NANO-OSCILLATORS (Poster Session)

Shigemi Mizukami, Chair
Tohoku University, Sendai, Japan

L9-01. **Manufactured Easy-Plane Spin Hall Oscillator.** *E.A. Montoya*[1], C.J. Safranski[1], A. Smith[1], J. Chen[1] and I. Krivorotov[1] *1. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States*

L9-02. **Coupled dynamics of magnetizations in spin-Hall oscillators via spin current injection.** *T. Taniguchi*[1] *1. Spintronics Research Center, AIST, Tsukuba, Japan*

L9-03. **Spin Waves of Two Spin Transfer Torque Nano-oscillators As a Function of Their Position.** *D. Mancilla-Almonacid*[1], R. Arias[2], R.A. Escobar[1], D. Altbir[1] and S. Allende[1] *1. Universidad de Santiago de Chile, Santiago, Chile; 2. Departamento de Física, FCFM, Universidad de Chile, Santiago, Chile*

L9-04. **Spin-torque nano-oscillators in magnetic tunnel junction with double reference layers.** *M. Carpentieri*[1], R. Tomasello[2], P. Khalili Amiri[3], Z. Zeng[4] and G. Finocchio[5] *1. Elettrotecnica ed Elettronica, Politecnico of Bari, Bari, Italy; 2. Department of Computer Science, Modeling, Electronics and System Science, University of Calabria, Arcavacata di Rende, Italy; 3. Northwestern University, Chicago, IL, United States; 4. Suzhou Institute of Nano-tech and Nano-bionics, CAS, Suzhou, China; 5. Electronic Engineering, Industrial Chemistry and Engineering, University of Messina, Messina, Italy*

L9-05. **Normal form of nonlinear oscillator model relevant to spin-torque nano-oscillator theory.** *A. Quercia*[1], M. d'Aquino[2], V. Scalera[1], S. Perna[1] and C. Serpico[1] *1. DIETI, Università di Napoli Federico II, Napoli, Italy; 2. Dipartimento di Ingegneria, Università degli Studi di Napoli "Parthenope", Napoli, Italy*

L9-06. **Spin torque nano-oscillators based on fully perpendicular magnetic tunnel junctions subject to a planar magnetic field.** *I. Firastrau*[1], M. Volmer[1], V. Iurchuk[2], L.D. Buda-Prejbeanu[2], C. Murapaka[2], N. Lamard[2], J. Langer[3], J. Wrona[3], I.L. Prejbeanu[2], L. Vila[2], R.C. Sousa[2] and U. Ebels[2] *1. Transilvania University of Brasov, 500036 Brasov, Romania; 2. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, INAC, SPINTEC, F-38000 Grenoble, France; 3. Singulus Technologies AG, Kahl am Main, Germany*

L9-07. **Asymmetric and partial injection locking of a three-terminal spin-torque oscillator.** *E. Jué*[1], M. Pufall[2,1] and W. Rippard[1] *1. National Institute of Standards and Technology, Boulder, CO, United States; 2. NIST, Boulder, CO, United States*

L9-08. **Low frequency noise in vortex spin torque nano-oscillators.** *S. Wittrock*[1], S. Tsunegi[2], K. Yakushiji[2], A. Fukushima[2], H. Kubota[2], P. Bortolotti[1], U. Ebels[3], S. Yuasa[2], G. Cibiel[4], S. Galliou[5], E. Rubiola[5] and V. Cros[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Spintronics Research Center, National Institute of Advanced Industrial Science And Technology (AIST), Tsukuba, Japan; 3. Univ. Grenoble Alpes, CEA, CNRS, SPINTEC, Grenoble, France; 4. Centre National d'Etudes Spatiales (CNES), Toulouse, France; 5. FEMTO-ST Institute, CNRS, Université Bourgogne Franche Comté, Besançon, France*

L9-09. **Discovery of chiral Majorana fermion.** *X. Sun*[1] *1. Physics, Stanford University, Palo Alto, CA, United States*

L9-10. **Ferromagnetic resonance linewidth in nanoscale magnetic tunnel junctions.** *C. Sha*[1] and I. Krivorotov[2] *1. Physics & Astronomy, University of California, Irvine, Irvine, CA, United States; 2. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States*

L9-11. **Irreversible Thermodynamics and Transverse Magnetization in Spintronics.** *W. Saslow*[1] *1. Physics, Texas A&M University, College Station, TX, United States*

L9-12. **Magnetostatic interaction between closely located magnetic tunnel junction.** H. Kubota[1], *T. Taniguchi*[1], A. Fukushima[1], K. Yakushiji[1] and S. Yuasa[1] *1. National Institute of Advance Industrial Science and Technology (AIST), Tsukuba, Japan*

Session L10
QUANTUM SPIN LIQUIDS VII
(Poster Session)

Kazushi Kanoda, Chair
The University of Tokyo, Tokyo, Japan

L10-01. **Nature of the Spin Liquid Ground State in a Breathing Kagome Compound studied by NMR and Series Expansion.** *J. Orain*[1], B. Bernu[2], P. Mendels[3], L. Clark[4], P. Lightfoot[5], R.E. Morris[5] and F. Bert[3] *1. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Laboratoire de Physique Théorique de la Matière Condensée, Université Pierre et Marie Curie, Paris, France; 3. Lab. Physique des solides, Université Paris-Sud, ORSAY, France; 4. Departments of Chemistry and Physics, University of Liverpool, Liverpool, United Kingdom; 5. School of Chemistry and EaStChem, University of St Andrews, Saint Andrews, United Kingdom*

L10-02. **Withdrawn**

L10-03. **Quantum Fluctuations on a Hyperkagome Lattice.** *L. ØRDUK. Sandberg*[1], K. Lefmann[1], M. Ciomaga Hatnean[2], G. Balakrishnan[3], G. Ehlers[4], G. Sala[4] and P. Deen[5,1] *1. Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark; 2. Physics, University of Warwick, Coventry CV4 7AL, United Kingdom; 3. Physics, University of Warwick, Coventry CV4 7AL, United Kingdom; 4. Spallation Neutron Source, Oak Ridge, TN, United States; 5. European Spallation Source, Lund, Sweden*

L10-04. **Majorana Representations of Spin and an Alternative Solution of the Kitaev Honeycomb Model.** *J. Fu*[1], J. Knolle[2] and N. Perkins[1] *1. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Blackett Laboratory, Imperial College London, London, United Kingdom*

L10-05. **Dilute Magnetic Impurity Effect on a Quantum Spin Liquid Candidate $Ba_3ZnRu_2O_9$ with $S = 3/2$ Dimer Lattice.** *T. Yamamoto*[1], H. Taniguchi[1] and I. Terasaki[1] *1. Department of Physics, Nagoya University, Nagoya, Japan*

L10-06. **Electronic Nematicity in Strongly Correlated Layer-Frustrayed $In_3Cu_2VO_9$.** S. Jia[1], *H. Lin*[2] and L. Zou[1] *1. Research Laboratory of Computational Materials Sciences, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Beijing Computational Science Research Center, Beijing, China*

L10-07. **The Order of Magnetic Phase Transitions in Disordered Double Perovskite Oxides Sm_2FeCoO_6 and Dy_2FeCoO_6.** *G. Haripriya*[1], P. R[1,2], S. K[1] and S. V[1] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Physics, National Institute of Technology Calicut, Kozhikode, India*

L10-08. **Probing the ground state magnetic structure of $M_2V_2O_7$ (M = Co, Mn).** *J. Sannigrahi*[1], D. Adroja[1], D. Khalyavin[1], P. Manuel[1], M. Gutmann[1], S. Capelli[1] and R. Perry[1] *1. ISIS neutron and muon facility, Rutherford Appleton Laboratory, STFC, Harwell Campus, Didcot, Oxfordshire, United Kingdom*

L10-09. **Long Wavelength Correlations in Ferromagnetic Titanate Pyrochlores as Revealed by Small Angle Neutron Scattering.** *C.R. Buhariwalla*[2], Q. Ma[2], L. Debeer-Schmitt[4], K. Xie[3], D. Pomaranski[3], J. Gaudet[2], T. Munsie[2], H. Dabkowska[1], J. Kycia[3] and B. Gaulin[2,1] *1. Brockhouse Institute for Materials Research, McMaster University, Hamilton, ON, Canada; 2. Physics & Astronomy, McMaster University, Hamilton, ON, Canada; 3. Physics & Astronomy, University of Waterloo, Waterloo, ON, Canada; 4. Large Scale Structures Group, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

L10-10. **Withdrawn**

Session L11
SKYRMIONS I
(Poster Session)

Riccardo Tomasello, Chair
University of Perugia, Terni, Italy

L11-01. **Stable Bloch point in helimagnetic nanostructures containing boundary between grains with different chirality.** *M. Beg*[1,2], D.I. Cortés-Ortuño[2], R.A. Pepper[2], M. Bisotti[2], G. Downing[2], B. Atie[2], O. Hovorka[2] and H. Fangohr[1,2] *1. European XFEL GmbH, Schenefeld, Germany; 2. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom*

L11-02. **Micromagnetics of Anti-skyrmions in Ultrathin Films.** L. Camosi[1], N. Rougemaille[1], O. Fruchart[2], *J. Vogel*[1] and S. Rohart[3] *1. Institut Néel, CNRS, Grenoble, France; 2. SPINTEC, CNRS, Grenoble, France; 3. Université Paris-Sud, Orsay, France*

L11-03. **Antiferromagnetic and conventional skyrmion crystals: Generation, topological Hall and topological spin Hall effect.** *B. Göbel*[1], A. Mook[2,1], J. Henk[2] and I. Mertig[2,1] *1. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany; 2. Martin-Luther University, Halle, Germany*

L11-04. **Magnetic Globule – New particle-like object for three-dimensional nanomagnetism.** *G.P. Müller*[2,1], F. Rybakov[3], H. Jónsson[1], S. Blügel[2] and N.S. Kiselev[2] *1. Science Institute, VR-III, University of Iceland, Reykjavik, Iceland; 2. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany; 3. Department of Physics, KTH-Royal Institute of Technology, Stockholm, Sweden*

L11-05. **Collective excitations of magnetic bubble domains in an antidot lattice.** *A. Laurenson*[1], A. Marchenko[2], V. Krivoruchko[2], J. Bertolotti[1] and V. Kruglyak[1] *1. Physics, University of Exeter, Exeter, United Kingdom; 2. National Academy of Sciences of Ukraine | ISP, Kiev, Ukraine*

L11-06. **Skyrmion Confinement in Magnonic Antidot Lattices.** *S. Saha*[1,2], S. Finizio[3], M. Mruczkiewicz[4], M. Zelent[5], A. Suszka[1,2], S. Wintz[6], J. Raabe[3], M. Krawczyk[7] and L. Heyderman[2,1] *1. Laboratory for Mesoscopic Systems, Department of Materials, ETH Zurich, Zurich, Switzerland; 2. LMX, Paul Scherrer Institut, Villigen, Switzerland; 3. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 5. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 6. Paul Scherrer Institut, Villigen PSI, Switzerland; 7. Faculty of Physics, Adam Mickiewicz Univeristy in Poznan, Poznan, Poland*

L11-07. **Hybrid Magnetic Skyrmions.** *B. Miao*[1], H. Wu[1], L. Sun[1], D. Wu[1] and H. Ding[1] *1. Department of Physics, Nanjing University, Nanjing, China*

L11-08. **Study of hedgehog skyrmions in sub-100 nm soft magnetic nanodots.** E. Berganza[1], M. Jaafar[1], M. Goiriena-Goikoetxea[5,3], J. Pablo-Navarro[4], A. García-Arribas[2,5], K. Guslienko[2,6], C. Magen[4,7], J. de Teresa[4,7], *O. Chubykalo-Fesenko*[1] and A. Asenjo[1] *1. ICMM-CSIC, Madrid, Spain; 2. UPV/EHU, Leioa, Spain; 3. University of California, Berkeley, Berkeley, CA, United States; 4. LMA, INA-Universidad de Zaragoza, Zaragoza, Spain; 5. BCMaterials, Derio, Spain; 6. IKERBASQUE, Bilbao, Spain; 7. ICMA-CSIC, Zaragoza, Spain*

L11-09. **Withdrawn**

TUESDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session L12
SPIN STRUCTURES AND TRANSPORT PROPERTIES II (Poster Session)

Hwanbeom Cho, Chair
Seoul National University, Seoul, The Republic of Korea

L12-01. **3D Ferromagnetism in Bulk $Cr_2Ge_2Te_6$.** *C. Nelson*[1], Y. Liu[2] and C. Petrovic[2] *1. NSLS-II, Brookhaven National Laboratory, Upton, NY, United States; 2. Condensed Matter Physics, Brookhaven National Laboratory, Upton, NY, United States*

L12-02. **LnT_2Si_2: Single crystal growth and characterization of bulk and surface properties.** *K. Kliemt*[1], J. Sichelschmidt[2], C. Geibel[2], C. Krellner[1] and D. Vyalikh[3,4] *1. Institute of Physics, Goethe-University Frankfurt, Frankfurt, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. Departamento de Fisica de Materiales UPV/EHU, Donostia International Physics Center (DIPC), San Sebastian, Spain; 4. Basque Foundation for Science, IKERBASQUE, Bilbao, Spain*

L12-03. **Magnetic strutures of (locally) non-centrosymmetric Mn-based systems.** P. Dalmas de Réotier[2], R. Khasanov[1], A. Maisuradze[3], A. Yaouanc[2], E. Morenzoni[1], Z. Guguchia[1], B. Roessli[4], D. Andreica[5], H. Luetkens[1] and *A. Amato*[1] *1. Laboratory for Muon-Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. INAC-PHELIQS, CEA, Grenoble, France; 3. Department of Physics, Tbilisi University, Tbilisi, Georgia; 4. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen, Switzerland; 5. Faculty of Physics, Babes-Bolyai University, Cluj-Napoca, Romania*

L12-04. **Withdrawn**

L12-05. **Withdrawn**

L12-06. **Crystal structure and magnetic properties of oxyfluorides $(Co, Ni)_3Sb_4O_6F$.** *S. Shimono*[1], H. Ishibashi[1], Y. Ishii[2], N. Otsuki[2], S. Kawaguchi[3], S. Mori[2] and Y. Kubota[1] *1. Department of Physical Science, Osaka Prefecture University, Sakai, Japan; 2. Department of Materials Science, Osaka Prefecture University, Sakai, Japan; 3. Japan Synchrotron Radiation Research Institute (JASRI), Sayo-cho, Japan*

L12-07. **First-principles study on magnetism and phase stability of antiferromagnetic V_2 based Heusler alloys.** *F. Kuroda*[1], H. Fujii[2], T. Fukushima[3] and T. Oguchi[4] *1. Graduate School of Engineering Sience, Osaka University, Ibaraki, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. INSD Osaka Univ., Toyonaka, Japan; 4. ISIR Osaka Univ., Ibaraki, Japan*

L12-08. **The magnetic anomaly and the thermodynamic properties of the charge-ordered system $Ca_{1-x}Sr_xMn_{1-y}Sb_yO_3$.** *H. Taniguchi*[1], A. Terui[1], S. Kobayashi[1], M. Matsukawa[1] and R. Suryanarayanan[2] *1. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Universite Paris-Sud, Orsay, France*

L12-09. **Complex magnetic structure of the swedenborgite $CaBa(Co_3Fe)O_7$ derived by unpolarized neutron diffraction and spherical neutron polarimetry.** *N. Qureshi*[1,2], M. Fernández Díaz[1], L. Chapon[3], A. Senyshyn[4], W. Schweika[5] and M. Valldor[6] *1. Institut Laue Langevin, Grenoble, France; 2. II. Physikalisches Institut, Universität zu Köln, Cologne, Germany; 3. Diamond Light Source Ltd, Didcot, United Kingdom; 4. Forschungs-Neutronenquelle Heinz Maier-Leibnitz, Garching, Germany; 5. Forschungszentrum Julich, Jülich, Germany; 6. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany*

L12-10. **Withdrawn**

L12-11. **X-ray emission spectroscopy study of pressure-induced magnetic transitions in magnetite Fe_3O_4.** *A. Efimenko*[1], S. Agrestini[2], S. Liao[3], S. Petitgirard[4], A.C. Komarek[3], C.J. Sahle[1] and Z. Hu[3] *1. ESRF (The European Synchrotron), Grenoble, France; 2. Experiments, ALBA Synchrotron Light Source, Barcelona, Spain; 3. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 4. Bavarian Research Institute of Experimental Geochemistry and Geophysics, University of Bayreuth, Bayreuth, Germany*

TUESDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session L13
NEW MAGNETIC MATERIALS I (Poster Session)

Yunpeng Chen, Co-Chair
University of Delaware, Newark, DE, United States
Zhongqiang Hu, Co-Chair
Xi'an Jiaotong University, Xi'an, China

L13-01. **Synthesis of (In, Co) co-doped ZnO films by RF magnetron sputtering: Structural, electrical and magnetic properties.** *S. Chen*[1,2], H. Sun[3], C. Wang[1], C. Wen[4] and T. Chuang[4] *1. Department of Materials Engineering and Center for Thin Film Technologies and Applications, Ming Chi University of Technology, Taipei 243, Taiwan; 2. Department of Electronic Engineering, Chang Gung University, Taoyuan 333, Taiwan; 3. School of Space Science and Physics, Shandong University at Weihai, Weihai 264209, China; 4. Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan*

L13-02. **Magneto-optical Spectroscopy of Ferromagnetic Fe-Mn-Ga Heusler alloys.** *D. Kral*[1], M. Veis[1], O. Heczko[2] and P. Cejpek[3] *1. Institute of Physics, Charles University in Prague, Prague, Czechia; 2. Department of Functional Materials, Institute of Physics ASCR, Prague, Prague, Czechia; 3. Department of Condensed Matter Physics, Charles University, Praha, Czechia*

L13-03. **Magnetic and electrical properties of (Al, Co) co-doped ZnO films deposited by RF magnetron sputtering.** *S. Chen*[1,2], H. Sun[3], C. Wang[1], C. Wen[4] and T. Chuang[4] *1. Department of Materials Engineering and Center for Thin Film Technologies and Applications, Ming Chi University of Technology, New Taipei City, Taiwan; 2. Department of Electronic Engineering, Chang Gung University, Taoyuan 333, Taiwan; 3. School of Space Science and Physics, Shandong University at Weihai, Weihai 264209, China; 4. Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan*

L13-04. **Hysteresis-free Highly Magnetostrictive Ceramics.** *A. Lisfi*[1], S. Pokharel[1], S. Alomari[1], A. Davis[1], A. Alqarni[1] and M. Wuttig[2] *1. Physics, Morgan State University, Baltimore, MD, United States; 2. Materials Science and Engineering, University of Maryland, College Park, ME, United States*

L13-05. **Anisotropy in Antiferromagnetic Thin films.** *J. Sinclair*[1], A. Hirohata[2], J. Balluff[3], M. Meinert[3] and K. O'Grady[1] *1. Department of Physics, University of York, York, United Kingdom; 2. Department of Electronics, University of York, York, United Kingdom; 3. Center for Spinelectronic Materials and Devices, Bielefeld University, Bielefeld, Germany*

L13-06. **Magnetic properties and magnetocaloric effect of Pd-Ni-Mn-Sn Heusler alloys.** *H. Yako*[1], T. Shima[2] and M. Doi[3] *1. Tohoku Gakuin University, Tagajo, Japan; 2. Faculty of Engineering, Tohoku Gakuin University, Tagajo, Japan; 3. Tohoku Gakuin University, Tagajo, Japan*

L13-07. **Helical magnetic ordering in epitaxial $SrFeO_3$ and $CaFeO_3$ heterostructures.** P.C. Rogge[1], R.J. Green[2,3] and *S. May*[1] *1. Materials Science and Engineering, Drexel University, Philadelphia, PA, United States; 2. Department of Physics and Engineering, University of Saskatchewan, Saskatoon, SK, Canada; 3. Stewart Blusson Quantum Matter Institute, University of British Columbia, Vancouver, BC, Canada*

L13-08. **Magnetic properties of quaternary silicide carbides RFe_2SiC (R= rare earth).** *M. Ohashi*[1], K. Maeta[1] and S. Hirokawa[1] *1. Kanazawa University, Kanazawa, Japan*

L13-09. **Structural and Magnetic Properties of (111) $CaRuO_3$/ $CaMnO_3$ Heterostructures.** *M. Kane*[1], C. Flint[2] and Y. Suzuki[2] *1. Materials Science and Engineering, Stanford University, Stanford, CA, United States; 2. Stanford University, Stanford, CA, United States*

L13-10. **Magnetic states and band gaps of $Ba_2Pr(Bi,Sb)O_6$ double perovskite oxide compounds.** K. Onodera[1], M. Matsukawa[1], *H. Taniguchi*[2] and A. Matsushita[3] *1. Iwate University, Morioka, Japan; 2. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 3. National Institute for Materials Science (NIMS), Tsukuba, Japan*

L13-11. **Highly sensitive flexible zero-biased magnetic sensor based on Metglas/poly(vinylidene fluoride) magnetoelectric heterostructures.** *J. Qiu*[1], Y. Long[1], X. He[1], Q. Chang[1], Z. Hu[1] and H. Liu[1] *1. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

L13-12. **Study of highly uniform Heusler based Ni-Mn-Ga Nanowires fabricated by DC Electrodeposition.** *K. Javed*[1,2], W. Li[2], N. Ahmad[3], S.S. Ali[2], U. Khan[2] and X. Han[2] *1. Department of Physics, Forman Christian College(University), Lahore, Pakistan; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 3. Department of Physics, FBAS, International Islamic University, Islamabad, Pakistan*

L13-13. **Withdrawn**

L13-14. **Barkhausen noise analysis in Fe-Co magnetostrictive alloy wire for monitoring stress and damage accumulation.** *T. Yamazaki*[1], Y. Furuya[2] and W. Nakao[1] *1. Department of Materials Science and Engineering, Yokohana National University, Yokohama, Japan; 2. Micro System Integration Center, Tohoku University, Sendai, Japan*

Session L14
SUPERCONDUCTING SCES IV: NOVEL MATERIALS (Poster Session)

Georg Knebel, Chair
CEA, Universite Grenoble Alpes, Grenoble, France

L14-01. **High Pressure Phases and Superconductivity in Cerium Hydrides.** *B. Li*[1] *1. Information Physics Research Center, Nanjing University of Posts and Telecommunications, Nanjing, China*

L14-02. **Electron-Hole Asymmetry and Two Superconducting Phases in Carrier Doped Molecular Conductor κ-$(ET)_2X$.** *H. Watanabe*[1], H. Seo[2,3] and S. Yunoki[2,3] *1. Waseda Institute for Advanced Study (WIAS), Waseda University, Tokyo, Japan; 2. RIKEN, Saitama, Japan; 3. RIKEN CEMS, Saitama, Japan*

L14-03. **Paramagnetic Meissner Effect in Metal-Molecule Hybrid Systems.** *M.D. Rogers*[1], F. Al Ma'Mari[1,2], H. Bradshaw[1], S. Lee[3], R. Stewart[3], M. Flokstra[3], T. Prokscha[4], T. Moorsom[1], M. Ali[1], G. Burnell[1] and O. Cespedes[1] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Department of Physics, Sultan Qaboos University, Muscat, Oman; 3. School of Physics and Astronomy, University of St. Andrews, St. Andrews, United Kingdom; 4. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland*

L14-04. **Minimal microscopic model for the quasi-one-dimensional superconductor $K_2Cr_3As_3$.** G. Cuono[1], C. Autieri[3], F. Forte[2,1], G. Busiello[1], M. Mercaldo[1,2], A. Romano[1,2], C. Noce[1,2] and *A. Avella*[1,2] *1. Dipartimento di Fisica "E.R. Caianiello", Università degli Studi di Salerno, Fisciano, Italy; 2. UoS di Salerno, CNR-SPIN, Fisciano, Italy; 3. UoS dell'Aquila - Chieti, CNR-SPIN, Chieti, Italy*

L14-05. **^{11}B NMR studies of YNiBC system.** *P.L. Paulose*[1] and S.M. Patil[2] *1. Department of Condensed Matter Physics&MS, Tata Institute of Fundamental Research, Mumbai, India; 2. Department of Physics, Wilson College, Mumbai, India*

L14-06. **Vortex Lattice Domain Formation in the Type-II/1 Superconductor Niobium.** *A. Backs*[2,1], T. Reimann[2,1], M. Schulz[2,1], V. Pipich[3], P. Böni[1] and S. Muehlbauer[2] *1. Physik-Department E21, Technische Universität München, Garching, Germany; 2. Heinz Maier-Leibnitz Zentrum (MLZ), Technische Universität München, Garching, Germany; 3. Jülich Centre for Neutron Science, Forschungszentrum Jülich GmbH, Garching, Germany*

L14-07. **Superconductivity in some new Remeika Phases.** *R. Gumeniuk*[1], W. Schnelle[2], L. Akselrud[2], Q. Zheng[3], U. Schwarz[2] and A. Leithe-Jasper[2] *1. Institut für Experimentelle Physik, TU Bergakademie Freiberg, Freiberg, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

L14-08. **LE-m^+SR Study of Superconductivity in the Thin Film Battery Material $LiTi_2O_4$.** *E. Nocerino*[1], O.K. Forslund[2], H. Nozaki[3], I. Umegaki[4], S. Shiraki[5], T. Hitosugi[5], T. Prokscha[6], Z. Salman[7], A. Suter[6], Y. Sassa[8], J. Sugiyama[4] and M. Månsson[1] *1. Applied Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 2. Materials and Nano Physics, KTH Royal Institute of Technology, Kista, Stockholm, Sweden; 3. Materials Analysis Evaluaiton Dept., Toyota Central R&D Labs., Inc., Nagakute, Japan; 4. Toyota Central R&D Labs., Inc., Nagakute, Japan; 5. Tohoku University, Sendai, Japan; 6. Paul Scherrer Institut, Zurich, Switzerland; 7. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland; 8. Uppsala University, Uppsala, Sweden*

L14-09. **Withdrawn**

Session L15
TOPOLOGICAL SCES III: TM PNICTIDES AND CHALCOGENIDES (Poster Session)

Alexander Steppke, Chair
Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

L15-01. **Magnetoresistance and Hall resistivity in $MoTe_2$ under pressure.** *S. Lee*[1], T. Park[2], S. Jung[2], S. Kim[2], J. Kim[2], S. Cho[1], S. Kim[1], J. Jang[1] and J. Rhee[1] *1. Sungkyunkwan University, Suwon, The Republic of Korea; 2. Physics, Sungkyunkwan University, Suwon, The Republic of Korea*

L15-02. **Shubnikov–de Haas oscillations in Weyl semimetal WTe_2 measured up to 56 T.** *S. Onishi*[1], R. Jha[1], A. Miyake[2], R. Higashinaka[1], T. Matsuda[1], M. Tokunaga[2] and Y. Aoki[1] *1. Department of Physics, Tokyo Metropolitan University, Hachioji, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan*

L15-03. **Anisotropic electrical resistivity of Weyl semimetal WTe_2.** *R. Jha*[1], S. Onishi[1], R. Higashinaka[1], T. Matsuda[1], R.A. Ribeiro[2] and Y. Aoki[1] *1. Department of Physics, Tokyo Metropolitan University, Hachioji, 192-0397, Japan; 2. CCNH, Universidade Federal do ABC, Santo Andre, 09210-580, Brazil*

L15-04. **Longitudinal magneto-thermopower in Weyl semimetal TaAs.** A. Rudenko[1], J. Juraszek[1] and *T. Cichorek*[1] *1. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland*

L15-05. **Absence of the chiral anomaly – the longitudinal magnetoresistance in TaAs-type Weyl metals.** *M. Naumann*[1,2], F. Arnold[1], K. Modic[1], M. Bachmann[1], P.J. Moll[1], B. Ramshaw[3], V. Süß[1], M. Schmidt[1] and E. Hassinger[1,2] *1. Max-Planck-Institut for Chemical Physics of Solids, Dresden, Germany; 2. Physik Departement, Technische Universität München, 85748 Garching, Germany; 3. Laboratory of Atomic and Solid State Physics, Cornell University, Ithaca, NY, United States*

L15-06. **Tunable Topological Properties of Rare-earth Monopnictides.** *F. Wu*[1], C. Guo[1], M. Smidman[1], J. Zhang[2], C. Cao[3], Y. Liu[1] and H. Yuan[1] *1. Center for Correlated Matter, Zhejiang University, Hangzhou, China; 2. Chinese Academy of Sciences, High Magnetic Field Laboratory, Hefei, China; 3. Department of Physics, Condensed Matter Group, Hangzhou, China*

TUESDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session L16
TWO DIMENSIONAL FRUSTRATED LATTICES (Poster Session)

Ovidiu Garlea, Chair
ORNL, Oak Ridge, TN, United States

L16-01. **Frozen state and persistent spin dynamics of new kagome compound $Fe_4Si_2Sn_7O_{16}$: An NMR, μSR and AC-susceptibility study.** *S. Dengre*[1], R. Sarkar[1], J. Orain[2], C. Baines[2], L. Opherden[3], M. Uhlarz[3], T. Herrmannsdoerfer[3], T. Söhnel[4], M. Allison[5], C. Ling[5], J.S. Gardner[6] and H. Klauss[1] *1. Institute for Solid State and Material Phyiscs, Technical University Dresden, Dresden, Germany; 2. Paul Scherrer Institut, Villigen PSI, Switzerland; 3. Dresden High Magnetic Field Laboratory, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 4. School of Chemical Sciences, The University of Auckland, Auckland, New Zealand; 5. School of Chemistry, The University of Sydney, Sydney, NSW, Australia; 6. Neutron Group, NSRRC, Hsinchu, Taiwan*

L16-02. **A Novel Kagome-like Cu_2OSO_4 Crystal.** *V.Y. Favre*[1], G.S. Tucker[1], I. Zivkovic[1] and H.M. Ronnow[1] *1. Physics, EPFL, Lausanne, Switzerland*

L16-03. **Re-investigation of the Magnetic Phase Diagram of Na_xCoO_2.** *O.K. Forslund*[1], E. Nocerino[1], J. Sugiyama[2], H. Nozaki[2], I. Umegaki[2], M. Månsson[1], D. Andreica[3], C. Delmas[4] and Y. Sassa[5] *1. Materials and Nano Physics, KTH Royal Institute of Technology, Kista, Stockholm, Sweden; 2. Toyota Central R&D Laboratories, Inc., Nagakute, Japan; 3. Babes-Bolyai University, Cluj-Napoca, Romania; 4. The Institute for Solid State Chemistry Bordeaux, Bordeaux, France; 5. Uppsala University, Uppsala, Sweden*

L16-04. **Spin Stripe in $Fe_4Si_2Sn_7O_{16}$.** *J.S. Gardner*[1], C. Ling[2], M. Allison[2], S. Schmid[2], D. Ryan[3], M. Avdeev[4], R. Mole[4], M. Zbiri[5], R. Sarkar[6] and T. Söhnel[7] *1. National Taiwan University, Taipei, Taiwan; 2. The University of Sydney, Sydney, NSW, Australia; 3. McGill University, Montreal, QC, Canada; 4. ACNS, ANSTO, Sydney, NSW, Australia; 5. ILL, Grenoble, France; 6. Technische Universität Dresden, Dresden, Germany; 7. University of Auckland, Auckland, New Zealand*

L16-05. **Emergent Ising criticality in a magnetization process of the frustrated FM/AF spin-1/2 Heisenberg square bilayer.** *K. Karlova*[1] and J. Strecka[2] *1. Department of Theoretical Physics and Astrophysics, P. J. Safarik University in Kosice, Kosice, Slovakia; 2. P. J. Safarik University, Kosice, Slovakia*

L16-06. **Modulated magnetic order in a frustrated antiferromagnet.** *H. Keen*[1] and A. Hermann[1] *1. Physics and Astronomy, University of Edinburgh, Edinburgh, United Kingdom*

L16-07. **Magnetization plateaus of the spin-1/2 antiferromagnetic Heisenberg model on a square-kagome lattice with three nonequivalent exchange interactions.** *K. Morita*[1] and T. Tohyama[1] *1. Tokyo University of Science, Katsushika, Japan*

L16-08. **Equation of Motion for Spin-1 Magnets with Applications to Nematic Phases.** *K. Remund*[1], R. Pohle[1], J. Romhanyi[1] and N. Shannon[1] *1. Theory of Quantum Matter Unit, Okinawa Institute of Science and Technology, Onna-son, Japan*

L16-09. **A low-energy effective model for the S=1/2 Kagome-triangular-strip Heisenberg model.** *K. Okunishi*[1], Y. Onozato[1] and K. Seki[1] *1. Physics, Niigata University, Niigata, Japan*

L16-10. **Z_6 Parafermions in the Triangular Lattice Ising Antiferromagnet.** *G. Rakala*[2], S. Shivam[1] and K. Damle[2] *1. IIT Bombay, Mumbai, India; 2. Dept. of Theoretical Physics, Tata Institute of Fundamental Research, Mumbai, India*

L16-11. **Ground state with nonzero spontaneous magnetization of the two-dimensional spin-1/2 Heisenberg antiferromagnet with frustration.** *T. Sakai*[1,2] and H. Nakano[1] *1. Graduate School of Material Science, University of Hyogo, Ako, Japan; 2. QST SPring-8, Sayo, Japan*

L16-12. **Frustration vs. magnetic Ordering in the Cr-Triangles of $TiCrIr_{2-x}Os_xB_2$.** *J. Scheifers*[1], M. Küpers[2] and B.P. Fokwa[1] *1. Department of Chemistry, University of California, Riverside, Riverside, CA, United States; 2. IAC, RWTH Aachen University, Aachen, Germany*

L16-13. **Heat Capacity of the Highly Frustrated Triangulated Kagome Lattice $Cu_9X_2(cpa)_6$.** *W.M. Farmer*[1], S.F. Skinner[1] and L.W. Ter Haar[1] *1. Chemistry, University of West Florida, Pensacola, FL, United States*

L16-14. **Ising versus Potts Criticality in Low-temperature Magneto-thermodynamics of a Frustrated Spin-1/2 Heisenberg Triangular Bilayer.** *J. Strecka*[1], K. Karlova[2], V. Baliha[3] and O. Derzhko[3] *1. P. J. Safarik University, Kosice, Slovakia; 2. Department of theoretical physics and astrophysics, P. J. Safarik University in Kosice, Kosice, Slovakia; 3. Institute for Condensed Matter Physics, Lviv, Ukraine*

WEDNESDAY MORNING 8:30 — ESPLANADE 157

Session M1
SPIN DIFFUSION AND RELAXATION

Antonio Azevedo, Chair
UFPE, Recife, Brazil

8:30

M1-01. **Position Dependence of Spin Scattering in Lateral Spin Valves.** *G. Stefanou*[1], J. Adams[1], K.A. Moran[1], M. Rosamond[2], M. Ali[1], G. Burnell[1] and B. Hickey[3] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom; 3. Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

8:45

M1-02. **Size-Dependent Elliott-Yafet Phonon Spin Relaxation in Al Non-Local Spin Valves.** *J.D. Watts*[1,2], J. Batley[2], J.P. Hoch[3,2], L. O'Brien[4,2], J.S. Jeong[2], A. Mkhoyan[2], N.A. Rabideau[2], P.A. Crowell[1] and C. Leighton[2] *1. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 3. Materials Department, University of California, Santa Barbara, CA, United States; 4. Department of Physics, University of Liverpool, Liverpool, United Kingdom*

9:00

M1-03. **Observation of Rashba effect induced electrochemical potentials in a multi-terminal spin valve device.** *J. Lee*[1,2], H. Kim[2], J. Chang[2], S. Han[2], K. Lee[1,3], H. Koo[1,2], S. Hong[2,4], S. Sayed[4] and S. Datta[4] *1. KU-KIST Graduate School of Converging Science and Technology, Seoul, The Republic of Korea; 2. Center for Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 3. Materials Science and Engineering, Korea University, Seoul, The Republic of Korea; 4. School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, United States*

9:15

M1-04. **Out of plane superconducting Nb/Cu/Ni/Cu/Co triplet spin-valves.** *Z. Feng*[1] and M. Blamire[1] *1. Material Sciences and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

9:30

M1-05. **Magnon auto-oscillation in domain walls.** *N. Nishida*[1], T. Hache[1,2], P. Arekapudi[2], A.A. Awad[3], O. Hellwig[1,2], J. Fassbender[1] and H. Schultheiss[1] *1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Physics, Chemnitz University of Technology, Chemnitz, Germany; 3. Physics Department, Gothenburg University, Gothenburg, Sweden*

9:45

M1-06. **Effect of the electron-phonon scattering on the spin diffusion length and its effect on the spin mixing conductance at NiFe/Pt bilayers.** *C.A. Gonzalez-Fuentes*[1] *1. Physics, UTFSM, Valparaiso, Chile*

WEDNESDAY MORNING 8:30 — ESPLANADE 158

Session M2
FUNCTIONAL MULTIFERROICS I

William Ratcliff, Chair
NIST, Gaithersburg, MD, United States

8:30

M2-01. **Phase Coexistence in Multiferroic $BiFeO_3$-based Superlattices.** ***(Invited)*** *J. Mundy*[1], C. Heikes[2], Z. Wang[3], D. Ferenc Segedin[4], D. Schlom[3] and R. Ramesh[4] *1. Harvard University, Cambridge, MA, United States; 2. NIST Center for Neutron Research, Gaithersburg, MD, United States; 3. Cornell University, Ithaca, NY, United States; 4. Physics / MSE, UCBerkeley, Berkeley, CA, United States*

9:00

M2-02. **Fe/$BaTiO_3$ nanoengineering towards a switchable spin state multiferroic.** C.D. Amorim[1], *J.S. Amaral*[1], J. Gonçalves[1] and V.S. Amaral[1] *1. Physics Department & CICECO, University of Aveiro, Aveiro, Portugal*

9:15

M2-03. **Electric-field manipulation of magnetism in mesoscopic multiferroic heterostructures.** ***(Invited)*** Y. Ba[1], *Y. Zhao*[1], C. Nan[2], J. Unguris[3], D. Pierce[3], J. Zhang[4], X. Han[5] and J. Cai[5] *1. Physics, Tsinghua University, Beijing, China; 2. School of Materials Science and Engineering and State Key Lab of New Ceramics and Fine Processing, Tsinghua University, Beijing, China; 3. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, MD, MD, United States; 4. Beijing Normal University, Beijing, China; 5. State Key Lab of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

9:45

M2-04. **The multicaloric effect in multiferroics: recent developments and future directions.** *M.M. Vopson*[1] *1. University of Portsmouth, Portsmouth, United Kingdom*

WEDNESDAY MORNING 8:30

ESPLANADE 159

Session M3
NEW SENSORS AND NEW PROBES

Hendrik Ohldag, Chair
SLAC National Accelerator Laboratory, California, United States

8:30

M3-01. **Magnetic sensor system for real-time marine animals monitoring.** *A. Kaidarova*[1], M.A. Karimi[1], S. Amara[1], A. Shamim[1], N. Geraldi[2], C.M. Duarte[2] and J. Kosel[1] *1. CEMSE, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia; 2. RSRC, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia*

8:45

M3-02. **Self-Powered Magneto-Acoustic Tag for Aquatic Animal Tracking.** *A. Almansouri*[1], M. Khan[1], H. Al Malki[1], K. Salama[1] and J. Kosel[1] *1. CEMSE, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia*

9:00

M3-03. **Comprehensive Model of the ΔE Effect for Sensor Applications.** *B. Spetzler*[1], P. Durdaut[2], A. Kittmann[1], R. Knöchel[2], M. Höft[2], E. Quandt[1] and F. Faupel[1] *1. Materials Science, Christian-Albrechts-University Kiel, Kiel, Germany; 2. Institute of Electrical Engineering and Information Technology, Christian-Albrechts-University Kiel, Kiel, Germany*

9:15

M3-04. **Josephson Parametric Amplification of Circuit Quantum Electrodynamic Signals.** *N.J. Stevenson*[1,2], K.P. O'Brien[1,2] and I. Siddiqi[1,2] *1. Quantum Nanoelectronics Laboratory, Department of Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Center for Quantum Coherent Science, University of California, Berkeley, Berkeley, CA, United States*

9:30

M3-05. **Ferromagnetic resonance in a low damping ferrimagnet probed with circularly and linearly polarized soft X-rays.** *C. Klewe*[2], S. Emori[1], P. Shafer[2], B.A. Gray[4], H. Jeon[4,3], B.M. Howe[4] and E. Arenholz[2] *1. Department of Physics, Virginia Tech, Blacksburg, VA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Wright State University, Dayton, OH, United States; 4. Materials and Manufacturing Directorate, Air Force Research Lab, Wright Patterson Air Force Base, OH, United States*

9:45

M3-06. **Novel Ultra-wide Band (10 MHz- 26 GHz) Permeability Measurements System for Magnetic Films.** *Y. Chen*[1], X. Wang[2], H. Chen[2], Y. Gao[1] and N. Sun[2] *1. Winchester Technologies, Burlington, MA, United States; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States*

WEDNESDAY MORNING 8:30

ESPLANADE 160

Session M4
MAGNETIC CONFIGURATION AND APPLICATION OF NANOWIRES AND NANOTUBES

Oscar Iglesias, Chair
University of Barcelona, Barcelona, Spain

8:30

M4-01. **Resolving the Three-Dimensional Magnetic Configuration of Nanowire Arrays using Neutron Techniques.** ***(Invited)*** *A.J. Grutter*[1], K.L. Krycka[1], E. Tartakovskaya[2], J. Borchers[1], K. Reddy[4], E. Ortega[3], A. Ponce[3] and B. Stadler[4] *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. Institute of Magnetism NAS Ukraine, Kiev, Ukraine; 3. Physics and Astronomy, University of Texas at San Antonio, San Antonio, TX, United States; 4. University of Minnesota, Minneapolis, MN, United States*

9:00

M4-02. **Magnetization Reversal in Individual Multisegmented $[FeCo/Cu]_n$ Nanowires as determined by Local Magnetooptic Kerr Effect Magnetometry.** C. Bran[1], E.M. Palmero[1,2], J. Meier[1], J. Fernandez-Roldan[1], O. Chubykalo-Fesenko[1], R. Perez del Real[1] and *M. Vázquez*[1] *1. Instituto de Ciencia de Materiales de Madrid (CSIC), Madrid, Spain; 2. IMDEA, Madrid, Spain*

9:15

M4-03. **Micromagnetic evaluation of the dissipated heat in cylindrical magnetic nanowires.** *O. Chubykalo-Fesenko*[1], J. Fernandez-Roldan[2], D. Serantes[3], R. Perez del Real[1] and M. Vázquez[4] *1. Insituto de Ciencia de Materiales de Madrid, Madrid, Spain; 2. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 3. Universidade de Santiago de Compostela, Santiago de Compostela, Spain; 4. Instituto de Ciencia de Materiales de Madrid (CSIC), Madrid, Spain*

9:30

M4-04. **Magnetization configurations and reversal of individual ferromagnetic nanotubes.** ***(Invited)*** *M. Poggio*[1] *1. Department of Physics, University of Basel, Basel, Switzerland*

Session M5
RARE EARTH TRANSITION METAL PERMANENT MAGNETS I

Johann Fischbacher, Chair
Danube University Krems, Wiener Neustadt, Austria

8:30

M5-01. **Permanent Magnets Beyond Nd-Dy-Fe-B.** ***(Invited)*** *S. Hirosawa*[1] *1. Elements Strategy Initiative Center for Magnetic Materials, National Institute for Materials Science, Tsukuba, Japan*

9:00

M5-02. **Effects of GaF_3/Ag co-doping on the magnetic properties and Nd-rich grain boundary structure of Nd-Fe-B sintered magnet.** *K. Bae*[1], S. Lee[1], H. Kim[2], M. Lee[3] and T. Jang[3] *1. Dept. of Materials Science and Engineering, Korea University, Seoul, The Republic of Korea; 2. R&D Center of Jahwa Electronics Co. Ltd., Cheongwon, The Republic of Korea; 3. Dept. of Advanced Materials Engineering, Sunmoon University, Asan, The Republic of Korea*

9:15

M5-03. **Enhancing the Magnetic Properties of Pr-Co-B Melt-spun Ribbons via Microstructural Refinement.** *C.I. Nlebedim*[1], M. Huang[2], L. Zhou[3] and M.J. Kramer[2] *1. Critical Materials Institute, Ames Laboratory, US Department of Energy, Ames, IA, United States; 2. Ames Laboratory, Iowa State University, Ames, IA, United States; 3. Ames Lab, Ames, IA, United States*

9:30

M5-04. **Machine learning-based prediction of magnetization process in magnetic materials.** *K. Ono*[1], H. Tsukahara[2], H. Hino[3], T. Ishikawa[1], K. Iwano[4] and C. Mitsumata[5] *1. KEK, Tsukuba, Japan; 2. High Energy Accelertaor Research Organization, Tsukuba, Japan; 3. University of Tsukuba, Tsukuba, Japan; 4. IMSS, KEK, Tsukuba, Japan; 5. NIMS, Tsukuba, Japan*

9:45

M5-05. **Using FORC to Understand the Microstructure-Micromagnetism Relationship in Supermagnets.** *S.E. Ilse*[1], F. Groß[1], J. Gräfe[1] and E.J. Goering[1] *1. Modern Magnetic Systems, Max Planck Institute for Intelligent Systems, Stuttgart, Germany*

Session M6
DOMAIN WALL DYNAMICS II

Andrew Rushforth, Chair
University of Nottingham, Nottingham, United Kingdom

8:30

M6-01. **Antiferromagnetic domain wall dynamics at an angular momentum compensation temperature of ferrimagnets.** ***(Invited)*** *K. Kim*[1], S. Kim[2], Y. Tserkovnyak[2], A. Tsukamoto[3], T. Moriyama[4], K. Lee[5] and T. Ono[6] *1. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Physics and Astronomy, UCLA, Los Angeles, CA, United States; 3. Nihon University, Chiba, Japan; 4. Kyoto University, Uji, Japan; 5. Korea University, Seoul, The Republic of Korea; 6. Institute for Chemical Research, Kyoto University, Uji, Japan*

9:00

M6-02. **Spin-Transfer Torques in the Vicinity of the Angular Momentum Compensation Temperature of Ferrimagnetic GdFeCo.** *T. Okuno*[1], D. Kim[1], S. Oh[2], S. Kim[3], Y. Hirata[4], T. Nishimura[1], Y. Futakawa[5], H. Yoshikawa[6], A. Tsukamoto[7], Y. Tserkovnyak[3], Y. Shiota[1], T. Moriyama[4], K. Kim[8], K. Lee[9] and T. Ono[1,10] *1. Institute for Chemical Research, Kyoto University, Uji-City, Japan; 2. Department of Materials Science and Engineering, Korea University, Seoul, The Republic of Korea; 3. Physics and Astronomy, UCLA, Los Angeles, CA, United States; 4. Kyoto University, Uji, Japan; 5. College of Science and Technology, Nihon University, Funabashi, Chiba, Japan; 6. Graduate School of Science and Technology, Nihon University, Funabashi, Japan; 7. Electronic Engineering, College of Science and Technology Nihon University, Funabashi, Japan; 8. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 9. Korea University, Seoul, The Republic of Korea; 10. Center for Spintronics Research Network, Graduate School of Engineering Science, Osaka University, Osaka, Japan*

9:15

M6-03. **Ultrafast and Ultrasmall: Domain Walls and Skyrmions in Compensated Ferrimagnetic Thin Films.** *L.M. Caretta*[1], M. Mann[1], F. Buettner[1], K. Ueda[1], B. Pfau[2], C. Guenther[2], P. Hessing[2], A. Churikova[1], M. Schneider[2], D. Engel[2], C. Marcus[1], D. Bono[1], K. Bagschick[3], S. Eisebitt[2] and G. Beach[1] *1. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 2. Max-Born Institut, Berlin, Germany; 3. Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany*

9:30

M6-04. **Observation of Domains During Spin-Orbit Torque Induced Memristive Switching in Antiferromagnet/Ferromagnet Heterostructures.** *A. Kurenkov*[1], M. Baumgartner[2], G. Sala[2], G. Krishnaswamy[2], F. Maccherozzi[3], S. Fukami[1,4] and H. Ohno[1,4] *1. RIEC, Tohoku University, Sendai, Japan; 2. ETH Zurich, Zurich, Switzerland; 3. Diamond Light Source Ltd, Didcot, United Kingdom; 4. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan*

9:45

M6-05. **Controlled current-driven bidirectional motion of trains of domain walls along a ferromagnetic strip.** *L. Sánchez-Tejerina*[1], E. Martinez[2], V. Raposo[2] and ÓSCAR. Alejos[1] *1. Electricidad y Electrónica, Universidad de Valladolid, Valladolid, Spain; 2. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*

WEDNESDAY MORNING 8:30 — ROOM 104

Session M7
SPIN CALORITRONICS II

Andrii Chumak, Chair
TU Kaiserslautern, Kaiserslautern, Germany

8:30

M7-01. **Probing spin-wave dynamics using single-spin magnetometry.** ***(Invited)*** *T. Van der Sar*[1,2] *1. Quantum Nanoscience, Delft University of Technology, Delft, Netherlands; 2. Faculty of Applied Sciences, Harvard University, Cambridge, MA, United States*

9:00

M7-02. **Spin Seebeck Voltage Enhancement by Inserting Mn System Metals into Interface between Magnetic and Nonmagnetic Layers.** *H. Yuasa*[1,2], F. Nakata[1], T. Niimura[1], H. Li[1] and Y. Kurokawa[1] *1. Graduate School and Faculty of Information Science and Electrnical Engineering, Kyushu University, Fukuoka, Japan; 2. JST-PRESTO, Kawaguchi, Japan*

9:15

M7-03. **Experimental verification of the Onsager-Thomson reciprocity for spin thermoelectric effects in a ferrimagnetic insulator.** *A. Sola*[1], M. Kuepferling[1], V. Basso[1] and M. Pasquale[1] *1. INRIM, Torino, Italy*

9:30

M7-04. **Magneto-Seebeck Tunneling Across a Vacuum Barrier.** *C. Friesen*[1], H. Osterhage[1], J. Friedlein[1], A. Schlenhoff[1] and S. Krause[1] *1. Department of Physics, University of Hamburg, Hamburg, Germany*

9:45

M7-05. **Data-Intensive Spatial Mapping of the Longitudinal Spin Seebeck Effect in Normal Metal/Magnetic Insulator Devices.** *M.J. Grossnickle*[1], M.H. Aldosary[2], J. Li[1], M. Lohmann[1], J. Shi[1] and N. Gabor[1] *1. Physics, University of California, Riverside, Riverside, CA, United States; 2. Physics, University of California - Riverside, Riverside, CA, United States*

WEDNESDAY MORNING 8:30 — ROOM 306

Session M8
MOTT INSULATOR-TO-METAL TRANSITION

Meigan Aronson, Chair
Texas A&M University, College Station, TX, United States

8:30

M8-01. **High-Pressure Fermiology of the Metallized Mott Insulator NiS_2.** ***(Invited)*** *J. Baglo*[1], K. Semeniuk[1], H. Chang[1], X. Chen[1], P. Reiss[1], H. Tan[1], P. Alireza[1], A. Grockowiak[2], W. Coniglio[2], S. Tozer[2], A. McCollam[3], I. Leermakers[3], S. Friedemann[4], M. Gamza[5] and M. Grosche[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 3. High Field Magnet Laboratory, Nijmegen, Netherlands; 4. HH Wills Laboratory, University of Bristol, Bristol, United Kingdom; 5. Jeremiah Horrocks Institute, University of Central Lancashire, Preston, United Kingdom*

9:00

M8-02. **Electronic Structure Change of $NiS_{2-x}Se_x$ in the Metal-Insulator Transition Probed by X-ray Absorption Spectroscopy.** *H. Noh*[1], J. Jeong[1], E. Cho[1], S. Kim[2] and H. Kim[3] *1. Physics, Chonnam National University, Gwangju, The Republic of Korea; 2. The College of Liberal Arts, Konyang University, Chungnam, The Republic of Korea; 3. Pohang Accelerator Laboratory, POSTECH, Pohang, The Republic of Korea*

9:15

M8-03. **Coulomb localization in orbital degenerate, doped Mott insulators.** *A. Avella*[1,2], A.M. Oles[3,4] and P. Horsch[3] *1. Dipartimento di Fisica "E.R. Caianiello", Università degli Studi di Salerno, Fisciano, Italy; 2. UoS di Salerno, CNR-SPIN, Fisciano, Italy; 3. Max-Planck-Institut fuer Festkoerperforschung, Stuttgart, Germany; 4. Marian Smoluchowski Institute of Physics, Jagiellonian University, Krakow, Poland*

9:30

M8-04. **Electronic and Magnetic Properties of the $4d^4$ Mott Insulator $Ca_{2-x}La_xRuO_4$: a Combined Ru L-edge Resonant Elastic X-ray Scattering (REXS) and Absorption Study.**
D. Pincini[1,2], L.S. Veiga[1], S. Boseggia[1], R. Perry[1], S. Ricco[4], S. Collins[2], G. Nisbet[2], A. Rogalev[5], F. Wilhelm[5], F. Baumberger[4,6] and D.F. McMorrow[1] *1. Department of Physics and Astronomy, University College London, London, United Kingdom; 2. Diamond Light Source Ltd, Didcot, United Kingdom; 4. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland; 5. ESRF, Grenoble, France; 6. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland*

9:45

M8-05. **Orbital Selective Mott Transition in Thin Film VO_2.**
T. Eustance[1] and *W. Lee*[1] *1. Physics, Binghamton University - SUNY, Binghamton, NY, United States*

WEDNESDAY MORNING 8:30 — ROOM 307/308

Session M9
UNCONVENTIONAL SUPERCONDUCTORS
Catherine Kallin, Chair
McMaster University, Hamilton, ON, Canada

8:30

M9-01. **Möbius Topological Superconductivity in UPt_3 and UCoGe.**
(Invited) *Y. Yanase*[1], A. Daido[1], T. Yoshida[1] and K. Shiozaki[2] *1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan*

9:00

M9-02. **Unconventional gap structure depending on angular momentum.** *S. Sumita*[1] and Y. Yanase[1] *1. Department of Physics, Kyoto University, Kyoto, Japan*

9:15

M9-03. **Unconventional Superconductivity in Single Crystal YFe_2Ge_2.** *J. Chen*[1], K.J. Murphy[1], M. Gamza[2], K. Semeniuk[1] and M. Grosche[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Jeremiah Horrocks Institute for Mathematics, Physics and Astrophysics, University of Central Lancashire, Preston, United Kingdom*

9:30

M9-04. **Phase transitions and topological states in odd-parity superconductors interfaced with antiferromagnets.**
M. Mercaldo[1], P. Kotetes[2] and M. Cuoco[3,1] *1. Dipartimento di Fisica, University of Salerno, Fisciano, Italy; 2. Center for Quantum Devices, Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark; 3. CNR-SPIN Salerno, Fisciano, Italy*

9:45

M9-05. **Pairing Mechanism of the FeSe monolayer and related Systems: Dynamical Tuning of Pairing Cutoff Energy.**
Y. Bang[1] *1. Dept of Physics, POSTECH, Pohang, The Republic of Korea*

WEDNESDAY MORNING 8:30 — ROOM 313/314

Session M10
PYROCHLORES AND MAGNETIC FRAGMENTATION
Alannah Hallas, Chair
Rice University, Houston, TX, United States

8:30

M10-01. **Testing laws of thermodynamics with meta magnets.**
(Invited) *B. Canals*[1], N. Rougemaille[2], Y. Perrin[2] and I. Chioar[3] *1. CNRS - Institut NEEL, Grenoble, France; 2. CNRS - Institut NEEL, Grenoble, France; 3. Departement of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

9:00

M10-02. **Spin dynamics in pyrochlore iridates $Ho_2Ir_2O_7$ and $Dy_2Ir_2O_7$.**
V. Cathelin[1,2], E. Lefrancois[3,4], E. Lhotel[1], J. Robert[1], P. Lejay[1], F. Damay[5], L. Chapon[6], R. Ballou[1] and V. Simonet[1] *1. Institut Néel CNRS, Grenoble, France; 2. Univ. Grenoble Alpes, Grenoble, France; 3. Max Planck Institute, Stuttgart, Germany; 4. Institut Laue Langevin, Grenoble, France; 5. Laboratoire Léon Brillouin, Saclay, France; 6. Diamond Light Source Ltd, Didcot, United Kingdom*

9:15

M10-03. **Quantum features in the spin dynamics of the frustrated pyrochlore $Er_2Ti_2O_7$.** *R. Coldea*[1], P.A. McClarty[2], J. Rau[2], D. Prabhakaran[1] and D. Voneshen[3] *1. Department of Physics, University of Oxford, Oxford, United Kingdom; 2. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 3. ISIS Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom*

9:30

M10-04. **Strong Quantum Character of the Magnetic Phase Diagram of $Yb_2Ti_2O_7$.** *S. Säubert*[1], C. Duvinage[1], A. Scheie[2], J. Kindervater[2], H. Changlani[2], S. Zhang[2], S. Koohpayeh[2], O. Tchernyshyov[2], C.L. Broholm[2] and C. Pfleiderer[1] *1. Physics Department, Technical University of Munich, Garching-Forschungszentrum, Germany; 2. Institute for Quantum Matter and Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD, United States*

9:45

M10-05. Creating a large density of monopoles at 200 mK in the spin ice Ho2Ti2O7, and watching them disappear. *C. Paulsen*[1,5], E. Lhotel[1,5], S.R. Giblin[2], S.T. Bramwell[3] and K. Matsuhira[4] *1. Institut Néel CNRS, Grenoble, France; 2. School of Physics and Astronomy, Cardiff Univeristy, Cardiff, United Kingdom; 3. Physics & Astronomy, University College London, London, United Kingdom; 4. Department of Electronics, Faculty of Engineering, Kyushu Institute of Technology, Kitakyushu, Japan; 5. Université Grenoble Alps, Grenoble, France*

WEDNESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session N1
CYLINDRICAL NANOSTRUCTURES: PROPERTIES AND APPLICATIONS (Poster Session)

Martino Poggio, Chair
University of Basel, Basel, Switzerland

N1-01. Magnetic groundstate of curved nanotubes. *V.L. Carvalho-Santos*[1], J.M. Fonseca[1] and D. Altbir[2] *1. Physics, Universidade Federal de Viçosa, Viçosa, Brazil; 2. Physics, Universidad de Santiago de Chile, Santiago, Chile*

N1-02. Effect of Dipolar Interactions on the Magnetic Properties of Tubular Nanostructures. *O. Iglesias*[1,2], H.D. Salinas[3] and J. Restrepo[3] *1. Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociencia i Nanotecnologia de la UB, Barcelona, Spain; 3. Instituto de Física, Universidad de Antioquia, Medellín, Colombia*

N1-03. Effect of Segment Length on Domain Wall Pinning in Multisegmented Co/Ni nanowires for 3D Memory Applications. *H. Mohammed*[1], J.A. Moreno[2] and J. Kosel[1] *1. Computer, Electrical and Mathematical Sciences & Engineering Division, King Abdullah University of Science and Technology, Thuwal - Jeddah, Saudi Arabia; 2. Physical Science and Engineering Division, King Abdullah University of Science and Technology, Thuwal - Jeddah, Saudi Arabia*

N1-04. Control of the magnetization reversal processes in FeNi nanowires with chemical notches. S. Ruiz-Gomez[1], C. Fernandez-Gonzalez[1,2], M. Foerster[3], L. Aballe[3], R. Guerrero[2], J. de la Figuera[4], A. Quesada[5], A. Mascaraque[1] and *L. Perez*[1,2] *1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. IMDEA Nanoscience, Madrid, Spain; 3. Alba Synchrotron Light Facility, CELLS, Barcelona, Spain; 4. Material's Physical Chemistry, Instituto de Química Física "Rocasolano", Madrid, Spain; 5. Electroceramics, Instituto de Cerámica y Vidrio, Madrid, Spain*

N1-05. The effect of magnetization on the capacitance of capacitor structures based on nanoporous alumina with electrodeposited Ni nanowires. *G.M. Oliveira*[1], E. Padrón Hernandez[2], A.A. Quivy[1] and D.R. Cornejo[1] *1. DFMT, Physics Institute Of São Paulo University, São Paulo, Brazil; 2. Physics Department, Universidade Federal de Pernambuco, Recife, Brazil*

N1-06. Magnetic energy optimization of Cobalt-based nanowires and nanostructured magnet. *H.T. Nong*[1], K. Mrad[1], F. Schoenstein[1], N. Jouini[1], J. Piquemal[2], B. Leridon[3] and S. Mercone[1] *1. Department of Physics, Laboratoire des Sciences des Procédés et des Matériaux (LSPM (CNRS UPR3407)), Villetaneuse, France; 2. Chemistry Department, Laboratoire ITODYS, CNRS UMR 7086, University Paris Diderot, Paris, France; 3. Department of Physics, LPEM-ESPCI, CNRS UMR 8213, PSL Research University, CNRS, Sorbonne University, Paris, France*

N1-07. Synthesis and Characterization of γ'-Fe_4N Nanowire for Biomedical Application. *Y. Jiang*[1] *1. Jiangnan University, Wuxi, China*

N1-08. Magnetic entropy change and thermomagnetic behavior in $La_{0.7}Ca_{0.23}Sr_{0.07}MnO_3$ nanofibers obtained by electrospinning. *L.A. Burrola Gándara*[1], L. Vazquez Zubiate[1], D.M. Carrillo Flores[2] and J.T. Elizalde Galindo[3] *1. Instituto de Ingeniería y Tecnología, Universidad Autónoma de Ciudad Juárez, Juárez, Mexico; 2. Physicis and Mathematics, Universidad Autonoma de Ciudad Juarez, Juarez, Mexico; 3. Physics and Matemathics, Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Mexico*

N1-09. Withdrawn

N1-10. Magnetic Behavior of Ultra-Short 1D Ferromagnetic Chains Based on Metallo-Phthalocyanine Superlattices. *N.M. Vargas*[1], C. Monton[2] and I.K. Schuller[1] *1. Physics, University of California, San Diego, San Diego, CA, United States; 2. Physics and Astronomy, University of Texas at San Antonio, San Antonio, TX, United States*

N1-11. Magnetic nanowires as permanent magnets: modeling strategies to increase the coercive field. *H.D. Salinas*[1], J. Fernandez-Roldan[2], J. Restrepo[1] and O. Chubykalo-Fesenko[3] *1. Antioquia, Universidad de Antioquia, Medellin, Colombia; 2. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 3. Insituto de Ciencia de Materiales de Madrid, Madrid, Spain*

N1-12. Magnetization reversal modes of single-wall zig-zag ferromagnetic nanotubes with Dipolar Interactions. *H.D. Salinas*[1], J. Restrepo[1] and O. Iglesias[2] *1. Antioquia, Universidad de Antioquia, Medellin, Colombia; 2. Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain*

Session N2
ELECTRIC FIELD EFFECTS AND MAGNETIC SWITCHING I (Poster Session)

Cheng Song, Chair
Tsinghua University, Beijing, China

N2-01. **A comprehensive Study of Sign Change in Electric Field Control Perpendicular Magnetic Anisotropy Energy at Fe/MgO Interface: First-Principles Calculation.** *I. Pardede*[1], T. Kanagawa[1], N. Ikhsan[1], M. Obata[1,2] and T. Oda[1,2] *1. Graduate School of Natural Science and Technology, Kanazawa University, Kakuma-machi, Japan; 2. Institute of Science and Engineering, Kanazawa University, Kakuma-machi, Japan*

N2-02. **Effect of metallic Mg insertion on the Voltage-Controlled Magnetic Anisotropy Effect in MgO/CoFeB-Based Magnetic Tunnel Junctions.** *J. Ko*[1] and J. Hong[1] *1. Materials Science and Engineering, Yonsei University, Seoul, The Republic of Korea*

N2-03. **Electrically Programmable Magnetoresistive Switching in AlO_x Magnetic Tunnel Junctions.** *C. Hung*[1], J. Hong[2], K. Ou Yang[1], K. Chiu[1] and M. Lin[1,3] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Physics, Tamkang University, New Taipei City, Taiwan; 3. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan*

N2-04. **Electric-Field Induced Control of Magnetization in Thicker CoPd Multi-layered Films.** *A. Siddique*[1], C. Nwokoye[2], A. Aslani[3], L.H. Bennett[1] and E. Della Torre[1] *1. Electrical and Computer Engineering, The George Washington University, Ashburn, VA, United States; 2. Naval Surface Warfare Center, Carderock Division, West Bethesda, MD, United States; 3. Electrical and Computer Engineering, The George Washington University, Washington, DC, United States*

N2-05. **Electrochemical Manipulation of Magnetism and Magnetization Reorientation in $LiFePO_4$ by Li-ion Intercalation.** *T. Tumurbaatar*[1], D. Odkhuu[2] and S. Hong[3] *1. Department of Physics, University of Ulsan, Ulsan, The Republic of Korea; 2. Department of Physics, Incheon National University, Incheon, The Republic of Korea; 3. Physics, University of Ulsan, Ulsan, The Republic of Korea*

N2-06. **Ferroelectric control of magnetic anisotropy across the $CoFe/BaTiO_3$ interface.** *A.P. Chen*[1], W. Lin[2], Y. Feng[1,3] and J. Chen[1,2] *1. NUS Graduate School of Integrative Sciences and Engineering, National University of Singapore, Singapore, Singapore; 2. Department of Materials Sciences and Engineering, National University of Singapore, Singapore, Singapore; 3. Department of Physics, National University of Singapore, Singapore, Singapore*

N2-07. **Magnetic domain writing defined by electrical gating in Pt/Co film.** *F. Ando*[1], M. Ishibashi[1], T. Koyama[2], Y. Shiota[1], T. Moriyama[1], D. Chiba[2] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Kyoto, Japan; 2. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*

N2-08. **Observation of reversal process of perpendicular exchange bias during magnetoelectric field cooling.** *Y. Shiratsuchi*[1], S. Watanabe[1] and R. Nakatani[1] *1. Osaka University, Osaka, Japan*

N2-09. **Reversible electrical field control of magnetization and anomalous Hall effect in Co/PMN-PT hybrid heterostructures.** *Y. Tian*[1] and Y. Chen[1] *1. School of Physics, Shandong University, Jinan, China*

N2-10. **Electric-field-induced ultra-fast switching of antiferromagnets.** *V. Lopez Dominguez*[1], H. Almasi[1] and P. Khalili Amiri[1] *1. Electrical Engineering and Computer Science, Northwestern University, Evanston, IL, United States*

N2-11. **Asymmetric Electron-Hole Decoherence in Epitaxial Graphene.** *K. Min*[2,1], J. Park[1], W. Kim[1] and D. Chae[1,2] *1. Center for electromagnetic metrology, KRISS, Daejeon, The Republic of Korea; 2. University of Science and Technology, Daejeon, The Republic of Korea*

Session N3
KONDO INSULATORS, KONDO SEMIMETALS, DOPED GRAPHENE (Poster Session)

Liling Sun, Chair
Institute of Physics, Chinese Academy of Sciences, Beijing, China

N3-01. **Magnetic order, Kondo effect and crystalline electric field effect in Semiconducting CeSbTe.** *B. Lv*[1] *1. Physics Department, Zhejiang University, Hangzhou, China*

N3-02. **Electronic Structure of CeNiSn: is it a Kondo Insulator or not?** *T. Nam*[1], B. Cédric[2], C. Kang[1], D. Ryu[1], K. Kim[1] and B. Min[1] *1. POSTECH, Pohang, The Republic of Korea; 2. The University of Tokyo, Tokyo, Japan*

N3-03. **Low energy excitations of the topological non-trivial Kondo insulators $CeRu_4Sn_6$ and SmB_6: A high resolution Resonant Inelastic soft X-ray Scattering (RIXS) study.** *A. Amorese*[1,2], K. Kummer[3], O. Stockert[2], D. Adroja[4], A. Strydom[5], A. Prokofiev[6], S. Paschen[6], D. Kim[8], Z. Fisk[8], M. Haverkort[7], L. Tjeng[2] and A. Severing[1] *1. Institute of Physics II, University of Cologne, Dresden, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. European Synchrotron Radiation Facility (ESRF), Grenoble, France; 4. ISIS Facility, Didcot, United Kingdom; 5. Physics, University of Johannesburg, Auckland Park, South Africa; 6. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 7. Institute for Theoretical Physics, Heidelberg University, Heidelberg, Germany; 8. Department of Physics and Astronomy, University of California, Irvine, Irvine, CA, United States*

N3-04. **Divalent ion substitution effect on Yb-site in Kondo Insulator YbB_{12}.** *W. Matsuhra*[1], K. Yokomichi[1], W. Hirano[1], S. Kikuchi[1], N. Uematsu[1], H. Nakayama[2], A. Kondo[3], K. Kindo[3] and F. Iga[1,2] *1. Graduate School and Engineering, Ibaraki University, Mito-shi, Japan; 2. College of science, Ibaraki University, Mito-shi, Japan; 3. ISSP, The University of Tokyo, Tokyo, Japan*

N3-05. **Kondo effect at carbon vacancies in graphene sheets: A Numerical Renormalization Group study.** *D. May*[1] and F. Anders[2] *1. Theoretical Physics, Technical University Dortmund, Dortmund, Germany; 2. Theoretical Physics, Technical University Dortmund, Dortmund, Germany*

N3-06. **Observation of a resonant-type ground state in graphene intercalated with cerium.** *C. Hwang*[1] *1. Physics, Pusan National University, Busan, The Republic of Korea*

N3-07. **Withdrawn**

N3-08. **Abnormal mixed-valent behavior in $Sm_{1-x}Y_xS$.** *D.G. Mazzone*[1], J. Hancock[2], K. Imura[3], J. Rueff[4], J. Ablett[4], H. Yamaoka[5], N. Hiraoka[6], K. Tsuei[6] and I. Jarrige[1] *1. National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, NY, United States; 2. Department of Physics, University of Connecticut, Storrs, CT, United States; 3. Department of Physics, Graduate School of Science, Nagoya University, Nagoya, Japan; 4. Synchrotron SOLEIL, Gif-sur-Yvette Cedex, France; 5. RIKEN SPring-8 Center, Hyogo, Japan; 6. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

N3-09. **Withdrawn**

Session N4
MAGNON BANDSTRUCTURE ENGINEERING (Poster Session)

Joachim Gräfe, Chair
Max Planck Institute for Intelligent Systems, Stuttgart, Germany

N4-01. **Strong interlayer magnon-magnon coupling in magnetic metal/insulator hybrid nanostructures.** *J. Chen*[1], C. Liu[1], T. Liu[2], Y. Xiao[3], K. Xia[4], G. Bauer[5], M. Wu[2] and H. Yu[1] *1. Spintronics Interdisciplinary Center, Beihang University, Beijing, China; 2. Department of Physics, Colorado State University, Fort Collins, CO, United States; 3. Department of Applied Physics, Nanjing University of Aeronautics and Astronautics, Nanjing, China; 4. Department of Physics, Beijing Normal University, Beijing, China; 5. IMR, Tohoku University, Sendai, Japan*

N4-02. **Spin waves in configurational antiferromagnetic states: transitions to and from ferromagnetic states.** *F. Montoncello*[1], D. Kuzma[1,2], P. Sobieszczyk[2], A. Wal[3], L. Giovannini[1] and P. Zielinski[2] *1. Department of Physics and Earth Sciences, University of Ferrara, Ferrara, Italy; 2. Institute of Nuclear Physics, Polish Academy of Sciences, Cracow, Poland; 3. University of Rzeszow, Rzeszow, Poland*

N4-03. **Spin-Resolved Inelastic Electron Scattering by Spin Waves in Noncollinear Magnets.** *F. dos Santos*[1], M. dos Santos Dias[1], F. Souza Mendes Guimaraes[1], J. Bouaziz[1] and S. Lounis[1] *1. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich & JARA, Jülich, Germany*

N4-04. **Excitation and propagation of spin wave pulses in a magnonic crystal.** *C.L. Ordóñez-Romero*[1], Z. Lazcano-Ortiz[2], N. Qureshi[3] and G. Monsivais[1] *1. Solid State, Physics Institute, UNAM., Mexico City, Mexico; 2. BUAP, Puebla, Mexico; 3. CCADET, UNAM, Mexico City, Mexico*

N4-05. **Magnonic Spectra of Spin Wave in Antiferromagnetic Skyrmion Crystals.** *F. Ma*[1,2], P. Pan[2], X. Jin[2] and Y. Li[2] *1. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; 2. School of Physics and Technology, Nanjing Normal University, Nanjing, China*

N4-06. **Withdrawn**

N4-07. **Withdrawn**

N4-08. **Reconfigurable magnonic band structure in Py/Cu/Py nanowires.** *G. Gubbiotti*[1], X. Zhou[3], Z. Haghshenasfard[2], A. Adeyeye[3] and M. Kostylev[4] *1. IOM-CNR, Perugia, Italy; 2. Department of Physics and Astronomy, University of Western Ontario, London, ON, Canada; 3. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 4. School of Physics, The University of Western Australia, Crawley, WA, Australia*

N4-09. **Collective spin waves in arrays of permalloy nanowires with single- and double-side periodical width-modulation.** *G. Gubbiotti*[1], L. Xiong[2], F. Montoncello[3], L. Giovannini[3] and A. Adeyeye[4] *1. IOM-CNR, Perugia, Italy; 2. ECE, NUS, Singapore, Singapore; 3. Physics, University of Ferrara, Ferrara, Italy; 4. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore*

WEDNESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session N5
NEW MAGNETIC MATERIALS II (Poster Session)

Zhongqiang Hu, Co-Chair
Xi'an Jiaotong University, Xi'an, China
Ziyao Zhou, Co-Chair
Xi'an Jiaotong University, Xi'an, China

N5-01. **Optical and Magneto-optical Studies of Doped Magnetic Shape Memory Ni-Mn-Ga Heusler alloys.** *D. Kral*[1], M. Veis[2], P. Cejpek[3], O. Heczko[4], L. Straka[4], L. Beran[1] and M. Zeleny[4] *1. Institute of Physics, Charles University in Prague, Prague, Czechia; 2. Institute of Physics, Charles University, Prague, Czechia; 3. Department of Condensed Matter Physics, Charles University, Praha, Czechia; 4. Department of Functional Materials, Institute of Physics ASCR, Prague, Prague, Czechia*

N5-02. **Dewetting Of Ni Thin Films Obtained By Atomic Layer Deposition Due To The Thermal Reduction Process: Variation Of The Thickness.** D. Alburquenque[2], M. Del Canto[1], C. arenas[2], F.S. Tejo[2], *A. Pereira*[1] and J. Escrig[2] *1. Centro para el Desarrollo de la Nanociencia y la Nanotecnología CEDENNA, Santiago, Chile; 2. Department of Physics., University of Santiago of Chile, Santiago, Chile*

N5-03. **Structural and magnetic properties of bulk $SrMnO_3$ samples.** *V.C. Isaza*[1], C.E. Maya[1], M.E. Moncada[3], I. Supelano[2], C. Parra[2], A. Gomez[4], J.A. Astudillo[5], G. Bolaños Pantoja[5], S. Dionizio[5], O. Morán[4] and J.L. Izquierdo[1] *1. Facultad de Ingeniería, Institución Universitaria Pascual Bravo, Medellín, Colombia; 2. Facultad de Ciencias, Universidad Pedagógica y Tecnológica de Colombia, Tunja, Colombia; 3. Grupo de Investigación en Materiales Avanzados y Energía MATyER, Institución Universitaria ITM, Medellín, Colombia; 4. Facultad de Ciencias- Escuela de Física, Universidad Nacional de Colombia – Sede Medellín, Medellín, Colombia; 5. Departamento de fisica, Universidad del Cauca, Popayan, Colombia*

N5-04. **Magnetic Properties of reactive sputtered NiFe-oxide samples.** *B. D C*[1], W.J. Geerts[2], A. Oliva[1], A. Ayala[1], S.C. Acharya[1], J. Talbert[1], L. Scolfaro[1] and F. Twagirayezu[1] *1. Physics, Texas State University, San Mrcos, TX, United States; 2. Physics, Texas State University, San Marcos, TX, United States*

N5-05. **Recrystallization behavior and magnetostrictive property in the rolled Fe-Ga alloy slab.** *Q. Qi*[1], X. Gao[1] and J. Li[1] *1. State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, China*

N5-06. **Ferrimagnetic resonance lineshape of annealed Ni ferrites.** *M. Pessoa*[1], F. Pelegrini[2], P.S. Moscon[1], J.R. Proveti[3], E.P. Muniz[1] and P.S. Porto[4] *1. Departamento de Ciências Naturais, Universidade Federal do Espirito Santo, São Mateus, Brazil; 2. Instituto de Física, Universidade Federal de Goiás, Goiânia, Brazil; 3. Departamento de Física, Universidade Federal do Espírito Santo, Vitória, Brazil; 4. Departamento de Engenharias e Tecnologia, Universidade Federal do Espirito Santo, São Mateus, Brazil*

N5-07. **Magnetic phase diagrams of $TbFe_2Al_{10}$ single crystal.** *T. Mizushima*[1], Y. Kamide[1], T. Kuwai[1] and Y. Isikawa[1] *1. Department of Physics, University of Toyama, Toyama, 930-8555, Japan*

N5-08. **Enhanced magnetic anisotropy in Mn_3Ga thin films grown on LSAT.** J. Karel[2], *F. Casoli*[1], L. Nasi[1], P. Lupo[1], R. Sahoo[3], E. Benedikt[3], A. Markou[4], A. Kalache[3], R. Cabassi[1], F. Albertini[5] and C. Felser[4] *1. CNR - IMEM, Parma, Italy; 2. Materials Science and Engineering, Monash University, Clayton, VIC, Australia; 3. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 4. Solid State Chemistry, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 5. IMEM-CNR, Parma, Italy*

N5-09. **Structural, Magnetic and Transport Properties in Epitaxial Thin Films of spin-filter Heusler Alloy CrVTiAl.** V.K. Kushwaha[1], J. Rani[1,3], A. Tulapurkar[2] and *C. Tomy*[1,4] *1. Department of Physics, Indian Institute of Technology Bombay, Mumbai, India; 2. Department of Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, India; 3. Department of Physics, Vardhaman College, Bijnor, India; 4. School of Natural Sciences, Shiv Nadar University, Gautam Buddha Nagar, India*

N5-10. **Temperature evolution of unconventional magnetic domains in multiferroic $Sr_3Co_2Fe_{24}O_{41}$.** *S. Mori*[1] *1. Materials Sceince, Osaka Prefecture University, Osaka, Japan*

N5-11. **Spinel Ferrite Bulk and Surface Cation and Defect Contribution to the Ferrimagnetic Response.** *V. Zviagin*[1], P. Huth[2], C. Sturm[1], J. Lenzner[1], A. Setzer[1], R. Denecke[2], P. Esquinazi[1], M. Grundmann[1] and R. Schmidt-Grund[1] *1. Felix Bloch Institute for Solid State Physics, University of Leipzig, Leipzig, Germany; 2. Wilhelm-Ostwald-Institute for Physical and Theoretical Chemistry, University of Leipzig, Leipzig, Germany*

N5-12. **Nanoporous Amorphous Alumina Membranes — A Model System for d^0 Magnetism.** *M. Coey*[1], A. Esmaeily[1], M. Venkatesan[1] and S. Sen[1] *1. Trinity College, Dublin, Dublin, Ireland*

N5-13. **X-ray Nanobeam Irradiation Induced Structural Relaxation for the Control of the Domain Walls Displacement in Amorphous $Fe_{80}B_{20}$ Strips.** *U. Urdiroz*[1,2], E. Navarro[1], M. Alonso[1], A. Ruiz[1], M. Sánchez-Agudo[2], F. Palomares[1], F. Cebollada[2], G. Martínez-Criado[1] and J.M. González[1] *1. Nanostructures and Surfaces, ICMM - CSIC, Madrid, Spain; 2. POEMMA-CEMDATIC, ETSI de Telecomunicación - UPM, Madrid, Spain*

N5-14. **Magnetic anisotropy and martensitic transformation in thin films of Ni-Mn-Ga and Ni-Fe(Co)-Ga ferromagnetic shape memory alloys.** *I. Rodriguez Aseguinolaza*[1], V. Chernenko[1,2], V. Golub[3] and J. Barandiaran[1,4] *1. University of the Basque Country (UPV/EHU), Leioa, Spain; 2. Ikerbasque, Bilbao, Spain; 3. Institute of Magnetism, NASU and MESYSU, Kyiv, Ukraine; 4. BCMaterials, Leioa, Spain*

WEDNESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session N6
QUANTUM AND LOW-DIMENSIONAL MAGNETISM I (Poster Session)

Jaime Merino, Chair
Universidad Autónoma de Madrid, Madrid, Spain

N6-01. **Singlet Ground State in the Spin-1/2 Weakly Coupled Dimer Compound $NH_4[(V_2O_3)_2(4,4'\text{-}bpy)_2(H_2PO_4)(PO_4)_2]\ 0.5H_2O$.** *A. Unnikrishnan*[1], V. Kumar[2], P. Anjana[3], A. Thirumurugan[3], J. Sichelschmidt[4], A. Mahajan[2] and R. Nath[1] *1. School of Physics, Indian Institute of Science Education and Research Thiruvananthapuram, Thiruvananthapuram, India; 2. Department of Physics, Indian Institute of Technology Bombay, Mumbai, India; 3. School of Chemistry, Indian Institute of Science Education and Research Thiruvananthapuram, Thiruvananthapuram, India; 4. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

N6-02. **Quantum bar magnets: a study of dipolar-coupled antiferromagnets, $LiErF_4$ and $LiYbF_4$.** *P. Babkevich*[1], M. Jeong[1,2], Y. Matsumoto[3], I. Kovacevic[1], R. Toft-Petersen[4], C. Ritter[5], M. Månsson[6], S. Nakatsuji[7] and H.M. Ronnow[8] *1. Laboratory for Quantum Magnetism, EPFL, Lausanne, Switzerland; 2. School of Physics and Astronomy, University of Birmingham, Birmingham, United Kingdom; 3. Max Planck Institute for Solid State Research, Stuttgart, Germany; 4. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany; 5. Institut Laue-Langevin, Grenoble, France; 6. Department of Materials and Nanophysics, KTH Royal Institute of Technology, Kista, Sweden; 7. Institute for Solid State Physics, The University of Tokyo, Tokyo, Japan; 8. Laboratory for Quantum Magnetism, EPFL, Lausanne, Switzerland*

N6-03. **Critical Behavior of Quasi-one Dimensional Ferromagnetic $CrTe_{1-x}Sb_x$.** *K.A. Ziq*[1] and M.K. Hamad[1] *1. Physics, King Fahad University of Petroleum and Minerals, Dhahran, Saudi Arabia*

N6-04. **High-field TF-μSR study on the ground state of the quantum spin dimer system NH_4CuCl_3 around the 1/4 plateau.** *K. Matsui*[1,2], I. Watanabe[4], T. Suzuki[6], M. Fujisawa[3], H. Tanaka[3], T. Goko[5], R. Scheuermann[5] and T. Goto[1] *1. Physics Division, Sophia University, Tokyo, Japan; 2. Research Fellow of Japan Society for the Promotion of Science, Tokyo, Japan; 3. Department of Physics, Tokyo Institute of Technology, Tokyo, Japan; 4. Advanced Meson Science Laboratory, RIKEN, Saitama, Japan; 5. Paul Scherrer Institut, Villigen, Switzerland; 6. Faculty of Engineering, Shibaura Institute of Technology, Saitama, Japan*

N6-05. **Universality of magnetic-field-induced Bose-Einstein condensation of magnons in the singlet ground state magnet $CsFeBr_3$.** *K. Shirasawa*[1], N. Kurita[1] and H. Tanaka[1] *1. Tokyo Institute of Technology, Meguro-ku, Japan*

N6-06. **Quantum Phases of the S=1 Triangular Bilinear-Biquadratic Model in a Magnetic Field.** *C. Suzuki*[1], D. Yamamoto[1] and N. Furukawa[1] *1. Department of Physics and Mathematics, Aoyama-Gakuin University, Kanagawa, Japan*

N6-07. **Magnetic Properties of the Quasi-1D Compound $Ca_{1-x}Na_xCr_2O_4$ Studied under High Pressures.** *E. Nocerino*[1], O.K. Forslund[1], Y. Sassa[2], D. Andreica[3], H. Nozaki[4], G. Simutis[5], J. Orain[6], H. Sakurai[7], R. Khasanov[6], I. Umegaki[4], J. Sugiyama[4] and M. Månsson[1] *1. Applied Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 2. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 3. Faculty of Physics, Babes-Bolyai University, Cluj-Napoca, Romania; 4. Toyota Central R&D Labs., Inc., Nagakute, Japan; 5. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Zurich, Switzerland; 6. Paul Scherrer Institut, Villigen PSI, Switzerland; 7. National Institute for Materials Science (NIMS), Tsukuba, Japan*

N6-08. **Stabilized Higgs Mode in Anisotropic Quantum Magnets near the Quantum Critical Point.** *Y. Su*[1], W. Zhu[1], J. Zhu[1] and S. Lin[1] *1. T4 group, Los Alamos National Laboratory, Los Alamos, NM, United States*

N6-09. **Magnetic Phase Diagram of Quantum Spin-Dimer Antiferromagnets on the Square and Triangular Lattices.** *T. Kanesaka*[1], D. Yamamoto[1] and N. Furukawa[1] *1. Department of Physics and Mathematics, Aoyama-Gakuin University, Sagamihara-Shi, Japan*

N6-10. **Withdrawn**

N6-11. **An Alternate Journey Towards A Quantum Chiral Magnet Family.** *L. Testa*[1], P. Babkevich[1], H.M. Ronnow[1], G.S. Tucker[1,2] and K. Kimura[3] *1. LQM, EPFL, Lausanne, Switzerland; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. The University of Tokyo, Tokyo, Japan*

WEDNESDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session N7
QUANTUM CRITICAL SCES I: OXIDES, THIN FILMS, MOTT TRANSITION (Poster Session)

Adolfo Avella, Chair
Università degli Studi di Salerno, Fisciano, Italy

N7-01. **Emergent quantum coherent state on the border of ferroelectricity.** *M.J. Coak*[1,2], C.R. Haines[2,3], C. Liu[2,4], S.E. Rowley[2,5] and S.S. Saxena[2,6] *1. IBS Centre for Correlated Electron Systems, Seoul National University, Seoul, The Republic of Korea; 2. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 3. Department of Earth Sciences, University of Cambridge, Cambridge, United Kingdom; 4. CamCool Research Ltd, Cambridge, United Kingdom; 5. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil; 6. National University of Science and Technology, Moscow, Russian Federation*

N7-02. **Magnetism of Two-dimensional Electron Liquids within $SrTiO_3$ Quantum Wells.** *R. Need*[1], P. Marshall[2], B. Isaac[2], B.J. Kirby[1], J. Borchers[1], E. Kenney[3], A. Suter[4], M. Graf[3], S. Stemmer[5] and S.D. Wilson[2] *1. NIST Center for Neutron Research, Gaithersburg, MD, United States; 2. Materials, University of California, Santa Barbara, Santa Barbara, CA, United States; 3. Physics, Boston College, Chestnut Hill, MA, United States; 4. Paul Scherrer Institut, Villigen - PSI, Switzerland; 5. University of California, Santa Barbara, Santa Barbara, CA, United States*

N7-03. **Withdrawn**

N7-04. **Correlation between lattice parameter and critical temperature in V_2O_3 thin films.** *J. Ha*[1] and J. Hong[1,2] *1. Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Hyeonpung, The Republic of Korea; 2. Emerging Materials Science, Global Center for Bio Convergence Spin Systems, Daegu, The Republic of Korea*

N7-05. **Metal-insulator Transition in $CaVO_3$ Thin Films: Interplay between Epitaxial Strain, Dimensional Confinement, and Surface Effects.** S. Beck[1] and *C. Ederer*[1] *1. Materials Theory, ETH Zurich, Zurich, Switzerland*

N7-06. **Magnetic Excitations in $Sr_3Ir_2O_7$: Linear Spin-Wave or Quantum Dimer?** *C.D. Dashwood*[1], D. Pincini[1,2], J.G. Vale[1], L.S. Veiga[1], M. Moretti[3], R. Perry[1] and D.F. McMorrow[1] *1. London Centre for Nanotechnology, University College London, London, United Kingdom; 2. Diamond Light Source Ltd, Didcot, United Kingdom; 3. European Synchrotron Radiation Facility, Grenoble, France*

N7-07. **Putative magnetic quantum critical point in $(Sr_{1-x}La_x)_3Ir_2O_7$.** *J.G. Vale*[1] *1. London Centre for Nanotechnology, University College London (UCL), London, United Kingdom*

N7-08. **Mott Transition in the Pyrochlore Oxides.** *N. Swain*[1] and P. Majumdar[2] *1. School of Physical and Mathematical Sciences, Nanyang Technological University, Jurong West, Singapore; 2. Harish-Chandra Research Institute, Allahabad, India*

N7-09. **The origin of the metal insulator phase transition of β-type pyrochlore oxide CsW_2O_6.** *H. Harima*[1] *1. Physics, Kobe University, Kobe, Japan*

N7-10. **Quantum Monte Carlo Study of Phase Transitions in the ionic Honeycomb Lattice.** *T. Ma*[1] *1. Physics, Beijing Normal University, Beijing, China*

N7-11. **Withdrawn**

WEDNESDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session N8
RARE EARTH TRANSITION METAL PERMANENT MAGNETS II (Poster Session)

Yasutomi Tatetsu, Chair
The University of Tokyo, Tokyo, Japan

N8-01. **High Throughput Experimental Technologies for Hard Magnetic Materials.** *A. Huang*[1], X. Jiang[1] and P. Liu[1] *1. R&D, MTI Corporation, Richmond, CA, United States*

N8-02. **The study of composition effect of FeCoSm material system using combinatorial method.** *H. Kim*[1], D. Ha[1], K. Chung[2] and K.P. Shinde[3] *1. Korea Electrotechnology Research Institute, Changwon, The Republic of Korea; 2. Functional nano-materials research, Korea Institute of Materials Science, Changwon, The Republic of Korea; 3. Nano Functional Materials Department, Korea Institute of Materials Science (KIMS), Changwon, Changwon, The Republic of Korea*

N8-03. **The comparison of magnetic properties at room temperature in RCo_5 (R = Y, Sm, Gd) nanoflakes synthesized via time-staged HEBM.** *A. Bajorek*[1,2], P. Lopadczak[1,2], K. Prusik[2,3], M. Zubko[2,3] and G. Chelkowska[1,2] *1. A. Chelkowski Institute of Physics, University of Silesia in Katowice, Poland, Chorzów, Poland; 2. Silesian Center for Education and Interdisciplinary Research, University of Silesia in Katowice, Chorzów, Poland; 3. Institute of Materials Science, University of Silesia in Katowice, Chorzów, Poland*

N8-04. **Coercivity enhancement of Nd-Fe-B sintered magnet by grain boundary diffusion process with $Pr_{70-x}Tb_xCu_{15}Al_{15}$ alloys.** *K. Lu*[1], X. Bao[1], G. Chen[1], X. Mu[1], J. Li[1] and X. Gao[1] *1. University of Science and Technology Beijing, Beijing, China*

N8-05. **Synthesis of NdFeB Nanoparticles and Nano-Flakes by One Step Surfactant-Assisted Planetary Ball Milling.** *N. Gunduz Akdogan*[1,2] and O. Akdogan[3,2] *1. Piri Reis University, Istanbul, Turkey; 2. Nanotechnology Research and Application Center, Sabanci University, Istanbul, Turkey; 3. Engineering and Natural Sciences, Bahcesehir University, Istanbul, Turkey*

N8-06. **Changes in the Magnetic Domain Structure of Nd-Fe-B Sintered Magnets by Applying Compressive Stress and Heat.** *M. Takezawa*[1], K. Fukushima[1], Y. Morimoto[1] and N. Matsumoto[2] *1. Faculty of Engineering, Kyusyu Institute of Technology, Kitakyushu, Japan; 2. Mitsubishi Electric Corporation, Amagasaki, Japan*

N8-07. **Magnetic domain observation of ferrite sintered magnets using MFM images observed from multiple distances and image processing.** G. Obara[1], *T. Sakurai*[1] and O. Ono[1] *1. School of Science and Technology, Meiji University, Kawasaki, Japan*

N8-08. **Comparative Magnetic Force Microscopy Study on the Sintered Nd-Fe-B Permanent Magnet Prepared by Mechanically Polishing Technique and Focused Ion Beam Technique.** *H. Chen*[1], Y. Yao[2], Z. ye[3], F. Yun[1], J. Qu[1] and R. Zheng[1] *1. The University of Sydney, Sydney, NSW, Australia; 2. University of New South Wales, Sydney, NSW, Australia; 3. Hengdian Group DMEGC Magnetics Co. Ltd, Hengdian, China*

N8-09. **Magnetic performance and electrical resistivity of ceramics-bonded Nd-Fe-B-type magnet.** *M. Kang*[1], H. Kwon[1], D. Kim[2], J. Lee[3] and J. Yu[3] *1. Pukyong National University, Busan, The Republic of Korea; 2. Star-Group Ind. Co., Daegu, The Republic of Korea; 3. Korea Institute of Materials Science, Changwon, The Republic of Korea*

N8-10. **The Effect of Nd_8Cu_2 Alloy on the Microstructure and Magnetic Properties of (Nd, MM) FeB Sintered Magnets.** Q. Ma[1,2], Z. Zhang[2], Z. Hu[2], Y. Liu[1,2], *X. Zhang*[1,2], F. Liu[2], X. Ju[2] and Y. Li[1,2] *1. Inner Mongolia Key Laboratory for Utilization of Bayan Obo Multi Metallic Resources: Elected State Key Laboratory, Inner Mongolia University of Science and Technology, Baotou 014010, China; 2. School of Science, Inner Mongolia University of Science and Technology, Baotou 014010, China*

N8-11. **Origin of crystaline magnetic anisotropy of $Sm_2Fe_{17}N_3$ permanent magnet material.** *H. Akai*[1] *1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan*

WEDNESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session N9
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING IV (Poster Session)

Eric Theisen, Chair
Metglas, Conway, SC, United States

N9-01. **Effect of Stress Annealing on Domain Structures and noise performance of METGLAS 2714AZ for Fluxgate sensing applications.** *P. Sarkar*[1], C. Lu[1], J. Jeng[2], F. Yuan[3], M. Lai[3], P. Ripka[4], K. Zaveta[5] and C. Chang[6] *1. Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; 2. Mechanical Engineering, National Kaohsiung University of Applied Sciences, Kaohsiung, Taiwan; 3. iSentek Inc., Taipei, Taiwan; 4. Faculty of Electrical Engineering, Czech Technical University, Prague, Czechia; 5. Institute of Physics, Prague, Czechia; 6. Department of Physics, National Taiwan University, Taipei, Taiwan*

N9-02. **A Steinmetz Equation as a Function of Duty Cycle for Transformer Applications.** *S.R. Moon*[1,2], K. Byerly[1,3] and P. Ohodnicki[1] *1. National Energy Technology Laboratory, Pittsburgh, PA, United States; 2. US Department of Energy, Oak Ridge Institute for Science and Education, Oak Ridge, TN, United States; 3. Contractor to the US Department of Energy, AECOM, Pittsburgh, PA, United States*

N9-03. **Study on Vibration of Iron Core of Transformer and Reactor based on Maxwell Stress and Anisotropic Magnetostriction.** *P. Zhang*[1], L. Li[1], Z. Cheng[2] and C. Tian[1] *1. North China Electric Power University, Beijing, China; 2. Baoding Tianwei Group Co. Ltd, Baoding, China*

N9-04. **Measurement Research on magnetostriction influence of Electrical Sheet Steel under Different DC Bias.** *D. Chen*[1], Z. Feng[1] and B. Bai[1] *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China*

N9-05. **Analytical study of magnetic properties of Fe-(6, 6.5, 7) mass% Si alloys prepared by high purity metallurgy.** *I. Sasaki*[1], K. Matsuyama[1], X. Ren[1], Z. LEI[2], M. Takezawa[1], H. Era[1], C. Kaido[3] and T. Ogawa[4] *1. Kyushu Institute of Technology, Kitakyushu, Japan; 2. Nippon Koshuha Steel, Imizu, Japan; 3. Kitakyushu National College of Technology, Kitakyushu, Japan; 4. Fukuoka Industrial Technology Center, Kitakyushu, Japan*

N9-06. **Magnetic Loss Decomposition in Non-Oriented Steels after Loss-Reducing Dynamic/Continuous Heat Processing.** *S. Dobak*[1], J. Fuzer[1], P. Kollar[1], F. Kovac[2] and I. Petryshynets[2] *1. Institute of Physics, Faculty of Science, P.J. Safarik University, Kosice, Slovakia; 2. Division of Metals Systems, Institute of Materials Research, Slovak Academy of Sciences, Kosice, Slovakia*

N9-07. **Effect of Cut-Edge Residual Stress on Magnetic Properties in Non-oriented Electrical Steel.** *H. Lee*[1] and J. Park[1] *1. POSCO, Pohang, The Republic of Korea*

N9-08. **The dependence of magnetic properties on the areal fraction of Goss orientation in Fe-2% Si steel.** *H. Ko*[1], K. Han[1] and J. Park[1] *1. POSCO, Pohang, The Republic of Korea*

N9-09. **Magnetic characterization of ARMCO Pure Iron for the HL-LHC magnets.** *A. Parrella*[1], P. Arpaia[2], M. Buzio[1], A. Liccardo[2], M. Pentella[2], R. Principe[1] and P. Ramos[3] *1. TE, CERN, St Genis Pouilly, France; 2. DIETI, University of Naples, Naples, Italy; 3. Institute of telecomunication, Instituto Superior Tecnico, University of Lisbon, Lisbon, Portugal*

WEDNESDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session N10
SPIN MAGNETORESISTANCE II (Poster Session)

Josep Fontcuberta, Chair
Institut de Ciència de Materials de Barcelona, Bellaterra, Spain

N10-01. **Experimental study of the spin Hall effect in platinum films by using scanning tunneling microscopy.** *T. Xie*[1], M. Dreyer[2], D. Bowen[3], D. Hinkel[3], R. Butera[3], C. Krafft[3] and I. Mayergoyz[1] *1. ECE, University of Maryland, College Park, MD, United States; 2. Physics, University of Maryland, College Park, MD, United States; 3. LPS, College Park, MD, United States*

N10-02. **Low current modifications in anomalous Hall Effect signals in perpendicularly magnetized system.** *R. Guerrero*[3], A. Anadon[3], A. Gudin[3], J. Diez[3], F. Ajejas[3], J. Camarero[1], R. Miranda[2] and P. Perna[3] *1. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain; 2. IMDEA Nanociencia, Madrid, Spain; 3. IMDEA NANOSCIENCE, Madrid, Spain*

N10-03. **Unidirectional spin Hall magnetoresistance of FM/W bilayers.** *S. Kim*[1,4], T. Li[2], W. Ham[1], T. Ikebuchi[2], H. Mizuno[1], K. Kim[3], Y. Shiota[1], T. Moriyama[2] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Uji, Japan; 2. Kyoto University, Kyoto, Japan; 3. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 4. Department of Physics, University of Ulsan, Uji, Japan*

N10-04. **Universality of anisotropic magnetoresistance in spintronics systems.** F. Ajejas[1], P. Perna[1], D. Maccariello[3], *J.L. Fernandez Cuñado*[2], A. Bollero[4], J.L. Prieto[5], M. Muñoz[7], J. Camarero[6] and R. Miranda[2] *1. IMDEA NANOSCIENCE, Madrid, Spain; 2. IMDEA Nanociencia, Madrid, Spain; 3. CNRS, University of Paris-Sud, Paris, France; 4. IMDEA Nanoscience, Madrid, Spain; 5. Física Aplicada, Universidad Politécnica de Madrid, Madrid, Spain; 6. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain; 7. CSIC, Madrid, Spain*

N10-05. **Electron-phonon and magnetic impurity scatterings in copper oxides.** *Y. Tazaki*[1], Y. Kageyama[1] and K. Ando[1] *1. Applied Physics and Physico-Informatics, Keio University, Kanagawa, Japan*

N10-06. **Crystalline-direction dependent spin transport in single crystal Fe/GaAs(110) films.** *F. Zeng*[1], C. Zhou[1], M. Jia[1], Y. Huo[1] and Y. Wu[1] *1. Physics Department, Fudan University, Shanghai, China*

N10-07. **Withdrawn**

WEDNESDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session N11
SUPERCONDUCTING SCES V: HEAVY FERMION SUPERCONDUCTORS II (Poster Session)

Daniel Braithwaite, Chair
Inac, CEA, Universite Grenoble Alpes, Grenoble, France

N11-01. **Field-induced antiferromagnetic order and its quantum critical fluctuations in $CeCo(In_{1-x}Zn_x)_5$.** *M. Yokoyama*[1], Y. Oshima[1], K. Suzuki[1], H. Mashiko[1], K. Tenya[2], Y. Shimizu[3], A. Nakamura[3], D. Aoki[3], A. Kondo[4], K. Kindo[4], S. Nakamura[4] and T. Sakakibara[4] *1. Physics Department, Ibaraki University, Mito, Japan; 2. Department of Education, Shinshu University, Nagano, Japan; 3. Institute for Materials Research, Tohoku University, Oarai, Japan; 4. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan*

N11-02. **Non-linear Meissner response in unconventional superconductors: $CeCoIn_5$ and KFe_2As_2.** *J.A. Wilcox*[1], D. Kaczorowski[2] and A. Carrington[1] *1. Physics, University of Bristol, Bristol, United Kingdom; 2. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland*

N11-03. **Thermal Conductivity of Heavy-Fermion Superconductor $CeCo(In_{1-x}Zn_x)_5$.** *A. Osawa*[1], Y. Oshima[1], K. Suzuki[1], K. Tenya[2] and M. Yokoyama[1] *1. Physics Department, Ibaraki University, Mito, Japan; 2. Shinshu University, Nagano, Japan*

N11-04. **Withdrawn**

N11-05. **Pressure Effect on the Antiferromagnetic Compound $Ce_2Ni_3Ge_5$.** *J. Gouchi*[1], Y. Nakamura[2], M. Nakashima[3], Y. Amako[3] and Y. Uwatoko[1] *1. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. Graduate School of Science, Shinshu University, Matsumoto, Japan; 3. Faculty of Science, Shinshu University, Matsumoto, Japan*

N11-06. **Electronic correlations within Fermi-liquid regime of the *T-P* phase diagram of quantum critical heavy Fermion superconductors.** P.B. Castro[1], J.L. Ferreira[1], M.B. Neto[1] and *M. ElMassalami*[1] *1. Fisica dos Solidos, Instituto de Física, Rio de Janeiro, Brazil*

N11-07. **Withdrawn**

N11-08. **Withdrawn**

WEDNESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session N12
THEORY AND MODELLING OF NANOSTRUCTURES II (Poster Session)

Vasyl Tyberkevych, Chair
Oakland University, Rochester, MI, United States

N12-01. **Electro-Magnetic Modeling of the Light Interactions with Nano-Gain-Medium.** *Y. Yu*[1] *1. College of Electronic & Control Engineering, Chang'an University, Xi'an, China*

N12-02. **Transverse-field-induced magnetization dynamics of two-body Stoner particles.** *Z. Sun*[1], Y. Yang[1] and F. Li[1] *1. College of Physics, Optoelectronics and Energy, Soochow University, Suzhou, China*

N12-03. **Influence of Hydrogen on Noncollinear Magnetic Order in Ultrathin Fe Films on Ir(111).** *L. Rózsa*[1], P. Hsu[2,1], A. Finco[1], L. Schmidt[1], K. Palotás[3,4], O. Vedmedenko[1], L. Udvardi[5], L. Szunyogh[5], A. Kubetzka[1], K. von Bergmann[1] and R. Wiesendanger[1] *1. University of Hamburg, Hamburg, Germany; 2. National Tsing Hua University, Hsinchu, Taiwan; 3. Institute of Physics, Slovak Academy of Sciences, Bratislava, Slovakia; 4. University of Szeged, Szeged, Hungary; 5. Budapest University of Technology and Economics, Budapest, Hungary*

N12-04. **Nanoparticles of Anti-Ferromagnetic Chromium Oxide.** *H. Gokturk*[1] *1. Ecoken, San Francisco, CA, United States*

N12-05. **Insight into Magnetism of Graphene and Graphene-derivatives from Experiment and Electronic-structure Calculations.** *P.S. Blonski*[1], J. Tucek[1], Z. Sofer[2], M. Pumera[3], M. Otyepka[1] and R. Zboril[1] *1. Department of Physical Chemistry, Regional Centre of Advanced Technologies and Materials, Palacky University Olomouc, Olomouc, Czechia; 2. Department of Inorganic Chemistry, University of Chemistry and Technology Prague, Prague, Czechia; 3. Division of Chemistry & Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore*

N12-06. **The role of faceting and shape on the effective magnetic anisotropy of magnetite nanocrystals.** S. Poyser[1], *R. Moreno Ortega*[1], A. Meo[1], G. Vallejo-Fernandez[4], S. Majetich[3], V. Lazarov[1] and R.F. Evans[2] *1. Physics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom; 3. Carnegie Mellon University, Pittsburgh, PA, United States; 4. The University of York, York, United Kingdom*

N12-07. **Toward Two-Dimensional Dirac Half-metallic MnX_3 for Spintronics.** *Q. Sun*[1] and N. Kioussis[2] *1. Physics and Astronomy Department, California State University, Northridge, Northridge, CA, United States; 2. Physics, California State University Northridge, Northridge, CA, United States*

N12-08. **MonteCarlo calculation of the magnetic properties of $(S=3/2)_{10}$ rings.** *F. Bartolome*[1,2], E. Bartolome[3] and J. Bartolomé[1,2] *1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 2. Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 3. Escola Universitària Salesiana de Sarrià, Barcelona, Spain*

N12-09. **Free-Energy Landscapes in Magnetic Systems from Metadynamics.** *J. Tobik*[1], R. Martonak[2] and V. Cambel[1] *1. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 2. Comenius University, Faculty of Mathematics, Physics and Information Technology, Bratislava, Slovakia*

N12-10. **Highly efficient energy dissipation in soft magnetic nanoparticles in single-domain state.** M. Kim[1], J. Sim[1], J. Lee[1], M. Kim[1] and *S. Kim*[1] *1. Department of Materials Science and Engineering, Seoul National University, Seoul, The Republic of Korea*

Session N13
THEORY AND SIMULATION OF MAGNETIC SYSTEMS II
(Poster Session)

Yoshiyuki Fukumoto, Chair
Tokyo University of Science, Noda, Japan

N13-01. **Phase Transitions in the Antiferromagnetic Kagome XY Model with and without Next-Nearest-Neighbor Interactions.** *S. Okazaki*[1], D. Yamamoto[1] and N. Furukawa[1] *1. Department of Physics and Mathematics, Aoyama-Gakuin University, Kanagawa, Japan*

N13-02. **A Husimi-cactus Approximation Study on the Diluted Spin Ice.** *H. Otsuka*[1], Y. Okabe[1] and K. Nefedev[3,2] *1. Physics, Tokyo Metropolitan University, Hachioji, Japan; 2. Far Eastern Branch, Russian Academy of Science, Vladivostok, Russian Federation; 3. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation*

N13-03. **Magnetic transitions in ordered double perovskite Sr_2FeMoO_6 by first principle calculations.** *A.M. Reyes Usuga*[1,4], J.A. Montoya Martinez[3], Y. Arredondo Leon[2] and O. Navarro Chavez[1] *1. Unidad Morelia del Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Morelia, Mexico; 2. Escuela Nacional de Estudios Superiores, Unidad Morelia, Universidad Nacional Autonoma de Mexico, Morelia, Mexico; 3. Facultad de Ciencias Exactas y Naturales, Universidad de Cartagena, Cartagena, Colombia; 4. Facultad de Ciencias Fisico Matematicas, Universidad Michoacana de San Nicolas de Hidalgo, Morelia, Mexico*

N13-04. **Variational Monte Carlo simulations on 2D Rectangular Heisenberg Spin 1/2 Lattices using Gutzwiller projected Staggered flux Ansatz.** *N. Shaik*[1], B. Dalla Piazza[1], D. Ivanov[2] and H.M. Ronnow[1] *1. Physics, Ecole Polytechnique Federale De Lausanne, Lausanne, Switzerland; 2. Physics, ETH Zurich, Zurich, Switzerland*

N13-05. **Anderson Localization of Spin waves in 2D Ferromagnets: Theory and Numerics.** *D. Tay*[1], B. Gremaud[1,2], C. Miniatura[1,2] and C. Ong[1] *1. Science, National University of Singapore, Singapore, Singapore; 2. Center for Quantum Technologies, Singapore, Singapore*

N13-06. **A Novel Concentric Circular Ring Structure Applied in AUV's Inductive Power Transfer System for Resisting the Disturbance of Ocean Current.** H. Wen[1], K. Zhang[1], *Z. Yan*[2] and B. Song[3] *1. School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China; 2. Northwestern Polytechnical University, Xi'an, China; 3. School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China*

N13-07. **Synthetic Electric Field Calculation Method Based on a Three-coils Structure WPT System for Resisting the Seawater Current Vibration.** *K. Zhang*[1] and X. Zhang[1] *1. School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China*

N13-08. **Withdrawn**

N13-09. **Withdrawn**

N13-10. **Withdrawn**

Session N14
THIN FILM AND HYBRID NANOSTRUCTURES I
(Poster Session)

Robert Streubel, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

N14-01. **Asymmetric relaxation of magnetic frustration observed in freestanding B2-ordered FeRh thin films.** *J. Massey*[1], R.C. Temple[2], T.P. Almeida[3], R. Lamb[3], N. Peters[2,4], R. Campion[5], D. McGrouther[3], S. McVitie[6], P. Steadman[7] and C.H. Marrows[2] *1. Condensed Matter, University of Leeds, Leeds, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 3. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 4. School of Electrical and Electronic Engineering, University Of Leeds, Leeds, United Kingdom; 5. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom; 6. Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 7. Diamond Light Source Ltd, Didcot, United Kingdom*

N14-02. **Ferromagnetic Manganese Based Ultra Thin Films: Structural, Spectroscopic and Magnetic Characterization.** *C. Navío*[1], M. Villanueva[1], E. Céspedes[1], F.J. Mompean[2], M. García-Hernández[2], J. Camarero[3,1] and A. Bollero[1] *1. IMDEA Nanoscience, Madrid, Spain; 2. ICMM CSIC, Madrid, Spain; 3. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain*

N14-03. **Electrical Control of 2D Magnetism in Bilayer CrI_3.** *B. Huang*[1], G. Clark[2], D.R. Klein[3], D. MacNeill[3], E. Navarro-Moratalla[4], K.L. Seyler[1], N.P. Wilson[1], M. McGuire[5], D.H. Cobden[1], D. Xiao[6], W. Yao[7], P. Jarillo-Herrero[3] and X. Xu[1,2] *1. Physics, University of Washington, Seattle, WA, United States; 2. Materials Science and Engineering, University of Washington, Seattle, WA, United States; 3. Physics, Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Instituto de Ciencia Molecular, Universidad de Valencia, Paterna, Spain; 5. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 6. Carnegie Mellon University, Pittsburgh, PA, United States; 7. Physics, The University of Hong Kong, Hong Kong, Hong Kong*

N14-04. **Influence of deposition techniques on the magnetic properties and microstructure of FePd thin films.** *M. Cialone*[1,2], M. Coisson[1], F. Celegato[1], G. Barrera[1], M. Fernandez Barcia[3], M. Uhlemann[3], A. Gebert[3], P. Rizzi[2] and P. Tiberto[1] *1. Nanoscience and Materials, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Chemistry and NIS, Università degli studi di Torino, Torino, Italy; 3. Chemistry of Functional Materials, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany*

N14-05. **Data Mining for New Two- and One-Dimensional Weakly Bonded Solids and Assembly-free Heterostructures.** *G. Cheon*[1], K.N. Duerloo[2], A.D. Sendek[1], C. Porter[1], Y. Chen[1] and E.J. Reed[1] *1. Stanford University, Stanford, CA, United States; 2. Boston Consulting Group, Amsterdam, Netherlands*

N14-06. **Magneto-dielectric behavior of CFO/BTO/CFO composite film.** *E. López-Moreno*[1], H. Montiel[1], G. Alvarez[2,3] and A. Conde[2] *1. Instituto de Ciencias Aplicadas y Tecnología, Universidad Nacional Autónoma de México, México City, Mexico; 2. Departamento de Física, CINVESTAV-IPN, México City, Mexico; 3. UACM-Cuautepec, Universidad Autonoma de la Ciudad de Mexico, Mexico City, Mexico*

N14-07. **Stress-induced Nanoscale Magnetic Domain Configurations Imprinted in Ni Thin Films by Proximity to V_2O_3.** *A. Fraile Rodríguez*[1,2], I. Valmianski[3], M. García del Muro[1,2], J. Ramirez[4], F. Kronast[5], I.K. Schuller[3], A. Labarta[1,2] and X. Batlle[1,2] *1. Física Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia, Universitat de Barcelona, Barcelona, Spain; 3. Physics, UCSD, La Jolla, CA, United States; 4. Department of Physics, Universidad de los Andes, Bogotá, Colombia; 5. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany*

N14-08. **Electronic and magnetic structure of epitaxial $Y(Mn_{1-x}Fe_x)O_3$ films studied with X-ray absorption spectroscopy.** S. Haw[1], J. Lee[1], S. Chen[1], *K. Lu*[1] and J. Chen[1] *1. Scientific Research Division, National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

N14-09. **Structural, Magnetic, and Optical Characterization of Fe/Ag Continuous Films and Nanodot Arrays.** *D. Markó*[1,2], W. Chuang[3], S. Ciou[4], H. Han[4], J. Chen[3], J. Wu[4], B. Alkadour[5], P. Manna[5], J. van Lierop[5], K. Lin[3] and D. Schmool[1,2] *1. GEMaC, CNRS, Versailles, France; 2. Université de Versailles/Saint-Quentin-en-Yvelines, Université Paris-Saclay, Versailles, France; 3. Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 4. Physics, National Changhua University of Education, Changhua, Taiwan; 5. Physics & Astronomy, University of Manitoba, Winnipeg, MB, Canada*

N14-10. **Soft X-Ray XAS, XMLD, and XMCD Study of Self-Organized 1D Transition Metal-Oxide Hybrid Chain Structures.** T. Kißlinger[2], L. Hammer[2], M. Ammon[2], P. Gargiani[1], S. Agrestini[1], *E. Pellegrin*[1] and M. Schneider[2] *1. Experiments, ALBA Synchrotron Light Source, Barcelona, Spain; 2. Department of Physics, Friedrich-Alexander University Erlangen-Nürnberg, Erlangen, Germany*

N14-11. **Metal-Insulator Transition in (111) $LaAlO_3/SrTiO_3$ Superlattices.** J. Beltrán[1] and *C. Muñoz*[2] *1. GFMC, Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. Instituto de Ciencia de Materiales de Madrid (ICMM), Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain*

N14-12. **Giant pseudo-magnetic fields, valley polarization and topological channels by nanoscale strain engineering of monolayer graphene.** J. Wang[1], *C. Hsu*[1], M. Teague[1], M. Jao[2] and N. Yeh[1,3] *1. Caltech, Pasadena, CA, United States; 2. National Taiwan University, Taipei, Taiwan; 3. Kavli Nanoscience Institute, Caltech, Pasadena, CA, United States*

N14-13. **Room Temperature Intrinsic Ferromagnetism in Epitaxial Manganese Selenide Films in the Monolayer Limit.** *D.J. O'Hara*[1], T. Zhu[2], A.H. Trout[3], A. Ahmed[2], Y. Luo[2], C. Lee[4], M. Brenner[4], S. Rajan[4], J. Gupta[2], D. McComb[1] and R. Kawakami[2] *1. Materials Science and Engineering, University of California, Riverside, Riverside, CA, United States; 2. Physics, The Ohio State University, Columbus, OH, United States; 3. Materials Science and Engineering, The Ohio State University, Columbus, OH, United States; 4. Electrical and Computer Engineering, The Ohio State University, Columbus, OH, United States*

WEDNESDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session N15
THREE DIMENSIONAL FRUSTRATED LATTICES (Poster Session)

Radu Coldea, Co-Chair
University of Oxford, Oxford, United Kingdom
Carley Paulsen, Co-Chair
Institut Néel CNRS, Grenoble, France

N15-01. **Magnetization plateaus in $Tb_2SrFe_2O_7$*.** *H. Cao*[1], J. Kim[2], W. Tian[1], Y. Wu[1] and S. Cheong[2] *1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Physics and Astronomy, Rutgers University, Piscataway, NJ, United States*

N15-02. **Synthesis and characterization of pyrochlore ruthenate $Gd_2Ru_{2-x}Mo_xO_7$ via a molten salt method.** *A. Castro Espinosa*[1], R. Escamilla Guerrero[1], M. Romero Martinez[2] and O. Olicón Hernandez[1] *1. Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; 2. Facultad de Ciencias, Universidad Nacional Autónoma de México, Ciudad de México, Mexico*

N15-03. **Physical behavior of the breathing pyrochlore lattice $Ba_3Yb_2Zn_5O_{11}$ under applied magnetic fields.** J.G. Rau[3,4], L.S. Wu[2], A.F. May[1], A.E. Taylor[2], I. Liu[5], J. Higgins[5], N. Butch[6,5], H.S. Nair[7], K. Ross[7,8], M. Lumsden[2], M. Gingras[3,9] and *A.D. Christianson[1,2] 1. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 3. Department of Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; 4. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 5. Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland, College Park, MD, United States; 6. National Institute of Standards and Technology, NIST Center for Neutron Research, Gaithersburg, MD, United States; 7. Department of Physics, Colorado State University, Fort Collins, CO, United States; 8. Quantum Materials Program, Canadian Institute for Advanced Research (CIFAR), Toronto, ON, Canada; 9. Perimeter Institute for Theoretical Physics, Waterloo, ON, Canada*

N15-04. **Simulation of Electron Holography of Pyrochlore Spin Ice.** *A. Dhar*[1], L. Jaubert[2], N. Shannon[1] and T. Shintake[1] *1. Okinawa Institute of Science and Technology, Onna-son, Japan; 2. Laboratoire Ondes et Matière d'Aquitaine (LOMA), Bordeaux, France*

N15-05. **Local susceptibility of frustrated pyrochlores. Polarized Neutrons and Point Charge model.** *A. Gukasov*[1] *1. CEA-CNRS, Leon Brillouin Laboratory, Gif sur Yvette, France*

N15-06. **Magnetisation and far infrared study of chromium spinels MCr_2O_4 (M = Co, Ni, Mn) with frustrated exchange interactions.** *D. Kamenskyi*[1], A. Bush[2], J. Law[4] and A.V. Pronin[3] *1. High Field Magnet Laboratory, Radboud University, Nijmegen, Netherlands; 2. Moscow Technological University, Moscow, Russian Federation; 3. 1. Physikalisches Institut, University of Stuttgart, Stuttgart, Germany; 4. Hochfeld Magnet Labor, Helmholtz Zentrum Dresden-Rossendorf, Dresden, Germany*

N15-07. **Discovery of new magnetic orders on pyrochlore spinels.** *G. Sim*[1] and S. Lee[1] *1. Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea*

N15-08. **Magnetization curves and low-temperature thermodynamics of two spin-1/2 Heisenberg edge-shared tetrahedrons.** *J. Strecka*[1] and K. Karlova[2] *1. P. J. Safarik University, Kosice, Slovakia; 2. Department of theoretical physics and astrophysics, P. J. Safarik University in Kosice, Kosice, Slovakia*

N15-09. **Withdrawn**

N15-10. **Withdrawn**

N15-11. **Withdrawn**

N15-12. **Learning to Discover Loop Algorithm on Spin Ice Model.** K. Zhao[1], *W. Kao*[1] and Y. Kao[1] *1. Physics, National Taiwan University, Taipei, Taiwan*

N15-13. **Magnetic frustration in low dimensional substructures of hulsite $Ni_{5.15}Sn_{0.85}(O_2BO_3)_2$.** *E.B. Saitovitch*[1], C.P. Contreras Medrano[1,2], D. Freitas[2], M. Continentino[1], E. Passamani Caetano[3], M. Alzamora[4] and D. Sanchez Candela[2] *1. CONAM, Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil; 2. Instituto de Física, Universidade Federal Fluminense, Niteroi, Brazil; 3. Departamento de Física, Universidade Federal do Espírito Santo, Vitoria, Brazil; 4. Instituto de Física, Universidade Federal do Rio de Janeiro, Xerém, Brazil*

WEDNESDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session N16
TOPOLOGICAL SCES IV: TM PNICTIDES, CHALCOGENIDES AND RELATED (Poster Session)

Alexander Steppke, Chair
Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

N16-01. **Impurity dominated weak antilocalization in sputtered polycrystalline topological insulator.** *P. Sahu*[1], J. Chen[2], J. Myers[4] and J. Wang[3] *1. Department of Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 3. Electrical and Computer Engineering, School of Physics & Astronomy, Minneapolis, MN, United States; 4. Characterization Facility, University of Minnesota, Minneapolis, MN, United States*

N16-02. **Withdrawn**

N16-03. **Gd doping effect in p-type Bi_2Te_3 single crystals.** S. Kim[1] and *M. Jung*[1] *1. Department of Physics, Sogang University, Seoul, The Republic of Korea*

N16-04. **Charge States of the Eu Impurities in the 3D Topological Semimetal Cd_3As_2 and Features of their RKKY- Interaction.** *Y. Goryunov*[1] and A. Nateprov[2] *1. E.K.Zavoisky Kazan Physical-Technical Institute, Kazan Federal Research Center of the FASO RF, Kazan, Russian Federation; 2. Institute of Applied Physics of the ASM, Chisinau, Moldova (the Republic of)*

N16-05. **Effects of pressure on the Fermi surface of Cd_3As_2.** *A. Vasiljković*[1], F. Orbanić[2], M. Novak[2], M. Grosche[1] and I. Kokanovic[2,1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Department of Physics, University of Zagreb, Zagreb, Croatia*

N16-06. **Features of the electronic transport in the 3D topological semimetal Cd_3As_2 doped by magnetic impurity.** *Y. Goryunov*[1], A. Nateprov[2] and Y. Proshin[3] *1. E.K.Zavoisky Kazan Physical-Technical Institute, Kazan Federal Research Center of the FASO RF, Kazan, Russian Federation; 2. Institute of Applied Physics of the ASM, Chishenau, Moldova (the Republic of); 3. Institute of Physics, Kazan Federal University, Kazan, Russian Federation*

N16-07. **Non-Trivial Phenomena at Low Temperatures on the Trigonal Tellurium under Pressure.** J. Ferreira de oliveira[1], C. Enderlein[2], M. Fontes[1] and *E.B. Saitovitch*[1] *1. COMAN, Centro Brasileiro de Pesquisas Fisicas, RIo de Janeiro, Brazil; 2. Universidade Federal do Rio de Janeiro, RIo de Janeiro, Brazil*

N16-08. **Withdrawn**

WEDNESDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session N17
ULTRAFAST MAGNETISM AND THZ SPINTRONICS II (Poster Session)

Carl Davies, Chair
Radboud University, Nijmegen, Netherlands

N17-01. **THz radiation generated from interfacial Rashba spin-orbit coupling.** M. Jungfleisch[1,2], Q. Zhang[3], W. Zhang[4], J.E. Pearson[1], H. Wen[3] and *A. Hoffmann*[1] *1. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Advanced Photon Source, Argonne National Laboratory, Lemont, IL, United States; 4. Department of Physics, Oakland University, Rochester, MI, United States*

N17-02. **Pulse laser-induced terahertz emission for Ta/CoFeB/MgO structure.** Y. Sasaki[1,2], K. Suzuki[1,3] and *S. Mizukami*[1,3] *1. WPI-AIMR, Tohoku University, Sendai, Japan; 2. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. CSRN, Tohoku University, Sendai, Japan*

N17-03. **Spin Transfer Torque Generation due to Ultrafast Demagnetization.** *K. Carva*[1], P. Baláž[1], P. Maldonado[2] and P.M. Oppeneer[2] *1. Dept. Condensed Matter Physics, Charles University, Prague, Czechia; 2. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

N17-04. **Giant thermal gradients and depth-dependent domain-wall broadening in response to ultrafast optical pumping of a 50 nm ferromagnetic film.** *D. Zusin*[1], T. Liu[2], L. le Guyader[3], A. Reid[4], W. Schlotter[4], D. Higley[2], P. Tengdin[1], C. Gentry[1], A. Blonsky[1], S.K. Patel[5], A. Shabalin[5], N. Hua[5], S. Hrkac[5], E. Iacocca[6], H. Nembach[7], J. Shaw[7], M. Hoefer[6], H. Kapteyn[1], M. Murnane[1], E.E. Fullerton[5], H. Durr[4,8] and T. Silva[7] *1. JILA, University of Colorado Boulder, Boulder, CO, United States; 2. SIMES/Physics, SLAC/Stanford University, Stanford, CA, United States; 3. European X-Ray Free-Electron Laser Facility GmbH, Schenefeld, Germany; 4. SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 5. University of California, San Diego, San Diego, CA, United States; 6. Applied Mathematics, University of Colorado, Boulder, Boulder, CO, United States; 7. NIST, Boulder, CO, United States; 8. Uppsala University, Uppsala, Sweden*

N17-05. **Ultrafast magnetization dynamics in an itinerant ferromagnetic model system with spin-orbit coupling: Elliott-Yafet and exchange scattering.** *K. Leckron*[1] and H. Schneider[1] *1. Physics Department and Research Center OPTIMAS, TU Kaiserslautern, Kaiserslautern, Germany*

N17-06. **Ultrafast dynamics of the Néel vector in aniferromagnetic Mn_2Au thin films detected with optical pump probe spectroscopy.** *V. Grigorev*[1,2], A. Sapozhnik[3,2], M. Jourdan[1,2], S. Bodnar[4], S.Y. Agustsson[1] and J. Demsar[1,2] *1. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 2. Graduate School of Excellence, Materials Science in Mainz (MAINZ), Mainz, Germany; 3. Institute of Physics, Johannes Gutenberg University, MAINZ, Germany; 4. Physics, Johannes Gutenberg University, Mainz, Germany*

N17-07. **Selective THz Control of Magnetic Order: Opportunities from the THz userfacility TELBE.** S. Kovalev[1], Z. Wang[1], J. Deinert[1], *N. Awari*[1,2], M. Chen[1], B. Green[1], S. Germanskiy[1], T. de Oliveira[1,3], J. Lee[4], A.M. Deac[1], D. Turchinovich[5,6], N. Stojanovic[7], S. Eisebitt[8,9], I. Radu[8], S. Bonetti[10], T. Kampfrath[11,12] and M. Gensch[1] *1. Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany; 2. Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands; 3. Technische Universität Dresden, Dresden, Germany; 4. Department of Physics and Photon Science, Gwangju Institute of Science and Technology, Gwangju, The Republic of Korea; 5. Fakultät für Physik, Universität Duisburg-Essen, Duisburg, Germany; 6. Max Planck Institute for Polymer Research, Mainz, Germany; 7. Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 8. MBI Max-Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Berlin, Germany; 9. Institut für Optik und Atomare Physik, Technische Universität Berlin, Berlin, Germany; 10. Department of Physics, Stockholm University, Stockholm, Sweden; 11. Fritz Haber Institute, Max Planck Society, Berlin, Germany; 12. Department of Physics, Freie Universität Berlin, Berlin, Germany*

N17-08. **Efficient continuously tunable narrowband spintronic THz Emission from $Mn_{3-x}Ga$ nanofilms.** *N. Awari*[1,2], S. Kovalev[1], C. Fowley[1], K. Rode[3], D. Betto[3], N. Thiyagarajah[3], B. Green[1], O. Yildrim[1], J. Lindner[4], J. Fassbender[1], M. Coey[3], A.M. Deac[1] and M. Gensch[1] *1. Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany; 2. University of Groningen, Groningen, Netherlands; 3. CRANN, AMBER and School of Physics, Trinity College Dublin, Dublin, Ireland; 4. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

N17-09. **Withdrawn**

N17-10. **Withdrawn**

WEDNESDAY MORNING 11:30 — ESPLANADE BALLROOM

Session O1
PLENARY II: ANTIFERROMAGNETIC SPINTRONICS

Laura J. Heyderman, Chair
Paul Scherrer Institut, Villigen PSI, Switzerland

11:30

O1-01. **Antiferromagnetic spintronics.** ***(Invited)*** *T. Jungwirth*[1,2] *1. Spintronics and Nanoelectronics, Institute of Physics, Academy of Sciences of the Czech Republic, Praha 6, Czechia; 2. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom*

THURSDAY MORNING 8:30 — ESPLANADE 157

Session P1
SKYRMIONS II: THIN FILMS

Gong Chen, Chair
University of California, Davis, Davis, CA, United States

8:30

P1-02. **Dynamics of skyrmions in magnetic multilayers at room temperature.** ***(Invited)*** *S. Woo*[1] *1. Center for Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea*

9:00

P1-02. **Resolving Thickness-Dependent Reorientation of Chiral Hybrid Textures in Magnetic Multilayers for Spin-torque Engineering.** *W. Legrand*[1], J. Chauleau[2,1], D. Maccariello[1], N. Reyren[1], S. Collin[1], K. Bouzehouane[1], N. Jaouen[2], V. Cros[1] and A. Fert[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. SEXTANTS, Synchrotron SOLEIL, L'Orme des merisiers, 91192 Gif sur Yvette, France*

9:15

P1-03. **Simultaneous stabilization of Skyrmions and Antiskyrmions in rank-1 DMI materials allowing the concept of a Skyrmion-Antiskyrmion Racetrack Memory.** *M. Hoffmann*[1], B. Zimmermann[1], G.P. Müller[1,2], N.S. Kiselev[1], C. Melcher[3] and S. Blügel[1] *1. PGI-1/IAS-1, Forschungszentrum Jülich, Jülich, Germany; 2. Science Institute of the University of Iceland, Reykjavik, Iceland; 3. Department of Mathematics I & JARA, RWTH Aachen University, Aachen, Germany*

9:30

P1-04. **Nanosecond Skyrmion Dynamics driven by Spin-orbit Torques observed by Time-resolved X-ray Transmission Microscopy.** *K. Song*[1,2], S. Woo[1], H. Han[3], M. Jung[4], M. Im[5], K. Lee[3], P. Fischer[6,7], J. Hong[4], J. Choi[1,8], B. Min[1,8], H. Koo[1,9] and J. Chang[1,8] *1. Center for Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 2. Department of Physics, Sookmyung Women's University, Seoul, The Republic of Korea; 3. School of Materials Science and Engineering, Ulsan National Institute of Science and Technology, Ulsan, The Republic of Korea; 4. Emerging Materials Science, DGIST, Daegu, The Republic of Korea; 5. CXRO, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 7. Department of Physics, University of California, Santa Cruz, CA, United States; 8. Department of Nanomaterials Science and Engineering, Korea University of Science and Technology, Daejeon, The Republic of Korea; 9. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul, The Republic of Korea*

9:45

P1-05. **Time-resolved imaging of the gyration dynamics of nπ states in weak PMA systems.** *S. Finizio*[1], S. Wintz[1,2], S. Gliga[3], M. Mruczkiewicz[4], E. Kirk[1,5], T. Wessels[6], K. Zeissler[7], M. Weigand[8] and J. Raabe[1] *1. Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany; 3. University of Glasgow, Glasgow, United Kingdom; 4. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 5. ETH Zurich, Zurich, Switzerland; 6. Forschungszentrum Julich, Julich, Germany; 7. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 8. Max Planck Institute for Intelligent Systems, Stuttgart, Germany*

Session P2
FUNCTIONAL MULTIFERROICS II

Julia Mundy, Chair
Harvard University, Cambridge, MA, United States

8:30

P2-01. **Control the magnetization reversal electrically in ferromagnetic devices at room temperature.** ***(Invited)*** *K. Wang*[1,2] *1. Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 2. Center for Excellence in Topological Quantum Computation and College of Materials Science & Opto-Electronic Technology, University of Chinese Academy of Science, Beijing, China*

9:00

P2-02. **Phase Coexistence in Multiferroic $BiFeO_3$.** *D. Ferenc Segedin*[1], J. Mundy[2] and R. Ramesh[3,1] *1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Harvard University, Cambridge, MA, United States; 3. Physics / MSE, UCBerkeley, Berkeley, CA, United States*

9:15

P2-03. **The Strain and Temperature dependent Phase Diagram of Multiferroic $SrMnO_3$ from First Principles.** A. Edström[1] and *C. Ederer*[1] *1. Materials Theory, ETH Zurich, Zurich, Switzerland*

9:30

P2-04. **Interplay Between Ferroelastic and Ferromagnetic Domain Structures in Magnetic Shape Memory Ni-Mn-Ga Compound.** *O. Heczko*[1,2], A. Perevertov[1], V. Kopecký[1], L. Straka[1] and R. Schaefer[3] *1. Department of Magnetic Measurements and Materials, Institute of Physics of CAS, Prague, Czechia; 2. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 3. IFW Dresden, Dresden, Germany*

9:45

P2-05. **Renormalization of the Spin-Excitations in Multiferroic $HoMnO_3$ from Magnon-Phonon Coupling.** *T. Kim*[1,2], J.C. Leiner[1,2], K. Park[1,2], J. Oh[1,2], H. Sim[1,2], K. Iida[3], K. Kamazawa[3] and J. Park[1,2] *1. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 2. Center for Correlated Electron Systems, Institute for Basic Science, Seoul, The Republic of Korea; 3. Neutron Science and Technology Centre, Comprehensive Research Organization for Science and Society (CROSS), Ibaraki, Japan*

Session P3
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING V

Arcady Zhukov, Chair
UPV/EHU, San Sebastián, Spain

8:30

P3-01. **Rhodium substituted ε-iron oxide (ε-$Rh_xFe_{2-x}O_3$) nanomagnets exhibiting high frequency millimeter wave absorption.** ***(Invited)*** *A. Namai*[1], M. Yoshikiyo[1] and S. Ohkoshi[1] *1. The University of Tokyo, Tokyo, Japan*

9:00

P3-02. **Study of Mossbauer spectroscopy for R-YIG (R=La, Nd, and Gd) derivedby a sol-gel method.** *Y. Uhm*[1] and C. Kim[2] *1. Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea; 2. Kookmin University, Seoul, The Republic of Korea*

9:15

P3-03. **Development of new amorphous and nanocrystalline magnetic materials for use in energy-efficient devices.** *E. Theisen*[1] *1. R&D, Metglas, Conway, SC, United States*

9:30

P3-04. **High Resolution Correlative Characterization of Nanocrystalline Soft Magnetic Materials.** *T. Clark*[1], N.R. Overman[3], S. Mathaudhu[1] and A. Devaraj[2] *1. Materials Science and Engineering, University of California, Riverside, Riverside, CA, United States; 2. Physical and Computational Science Directorate, Pacific Northwest National Laboratory, Richland, WA, United States; 3. Energy and Environmental Directorate, Pacific Northwest National Laboratory, Richland, WA, United States*

9:45

P3-05. **Creep induced anisotropy in nanocrystalline Fe-B alloys prepared by ultra-rapid annealing.** R.R. Parsons[1], K. Onodera[2], H. Kishimoto[2], T. Shoji[2], A. Kato[2] and *K. Suzuki*[1] *1. Department of Materials Science and Engineering, Monash University, Clayton, VIC, Australia; 2. Toyota Motor Corporation, Susono, Japan*

Session P4
SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE IV

Luqiao Liu, Chair
MIT, Cambridge, MA, United States

8:30

P4-01. **Spin Current in Quantum Materials.** ***(Invited)*** *W. Han*[1]
1. International Center for Quantum Materials, Peking University, Beijing, China
2016 IUPAP Young Scientist Prize in Magnetism

9:00

P4-02. **Inverse Edelstein Effect Induced by Magnon-Phonon Coupling.** M. Xu[1], J. Puebla[2], F. Auvray[1], B. Rana[2], K. Kondou[2] and *Y. Otani*[1,2] *1. ISSP, University of Tokyo, Kashiwa, Japan; 2. CEMS, RIKEN, Wakoshi,Saitama, Japan*

9:15

P4-03. **Topology for Magnetization Control by Spin-Orbit Torques.** *J. Hanke*[1,2], F. Freimuth[2], C. Niu[2], S. Blügel[2] and Y. Mokrousov[2] *1. Institut für Physik, Johannes Gutenberg University, Mainz, Germany; 2. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany*

9:30

P4-04. **Interface-generated spin currents.** *M.D. Stiles*[1] and V.P. Amin[2,1] *1. National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. Maryland NanoCenter, University of Maryland, College Park, MD, United States*

9:45

P4-05. **Spin pumping at the ferromagnetic/paramagnetic phase transition.** *E. Papaioannou*[1], S. Keller[1], A. Inglis[2], J.F. Gregg[2] and B. Hillebrands[1] *1. Physics, TU Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, University of Oxford, Oxford, United Kingdom*

Session P5
RARE EARTH TRANSITION METAL PERMANENT MAGNETS III

Jeotikanta Mohapatra, Chair
University of Texas at Arlington, Arlington, TX, United States

8:30

P5-01. **Recycling and Valorisation of Rare Earth-based magnets.** ***(Invited)*** J. Denis[1], F. Mandil[1] and *S. Rivoirard*[1] *1. Institut Néel CNRS, Grenoble, France*

9:00

P5-02. **Optimizing the recycling process of NdFeB magnets.** *O. Tosoni*[1], M. Bailleux[1], C. Rado[1], M. Dalmasso[1], S. Genevrier[1] and S. Luca[1] *1. Univ. Grenoble Alpes, CEA Grenoble, LITEN / DTNM, Grenoble, France*

9:15

P5-03. **Tailored Metal Injection Moulding Of Isotropic NdFeB Hard Magnets Based On Recycled Powders With And Without Nd-Additions.** *B. Podmiljsak*[1], C. Burkhardt[2], O. Weber[3], J. Gonzalez-Gutierrez[4], C. Kukla[4], M. Degri[5], I.R. Harris[5] and A. Walton[5] *1. Jozef Stefan Institute, Ljubljana, Slovenia; 2. Pforzheim University of Applied Sciences, Pforzheim, Germany; 3. Ohnmacht & Baumgaertner GmbH & Co. KG, Ispringen, Germany; 4. Montanuniversitaet Leoben, Leoben, Austria; 5. University of Birmingham, Birmingham, United Kingdom*

9:30

P5-04. **Three-dimensional magnetic domain structure and microstructure in nano-crystalline permanent magnet using machine learning and small-angle neutron scattering.** *M. Yano*[1], K. Ono[2], A. Asahara[3], H. Morita[3], C. Mitsumata[4], K. Saito[5], J. Kohlbrecher[5] and T. Shoji[1] *1. Toyota Motor Corporation, Toyota, Japan; 2. KEK, Tsukuba, Japan; 3. Hitachi, Ltd., Tokyo, Japan; 4. NIMS, Tsukuba, Japan; 5. Paul Scherrer Institut, Villigen, Swaziland*

9:45

P5-05. **Magnetic domain structures and magnetic properties of lightly Nd doped Sm-Co magnets with high squareness and high heat resistance.** *H. Machida*[1], T. Fujiwara[1], C. Fujimoto[1], Y. Kanamori[1], J. Tanaka[2] and M. Takezawa[2] *1. TOKIN Corporation, Sendai, Japan; 2. Faculty of Engineering, Kyusyu Institute of Technology, Kitakyushu, Japan*

Session P6
EXCHANGE BIAS AND EXCHANGE SPRINGS I

Kai Liu, Chair
University of California, Davis, Davis, CA, United States

8:30

P6-01. **Dipole-Induced Exchange Bias.** ***(Invited)*** *M. Kiwi*[1,2], F. Torres[1,2], I.K. Schuller[5] and R. Morales[3,4] *1. Physics, Universidad de Chile, Santiago, Chile; 2. CEDENNA, Santiago, Chile; 3. Department of Chemical-Physics, University of the Basque Country UPV/EHU, IKERBASQUE, Basque Foundation for Science, Bilbao, Spain; 4. BCMaterials, University of the Basque Country UPV/EHU, Bilbao, Spain; 5. Physics, UCSD, La Jolla, CA, United States*

9:00

P6-02. **Exchange bias setting driven by a spontaneous crystallization of the antiferromagnetic layer.** *A. Migliorini*[1], B. Kuerbanjiang[4], D. Kepaptsoglou[8], M. Muñoz[3], J. Fernández Cuñado[9], J. Camarero[9], C. Aroca[1], G. Vallejo-Fernandez[4], V. Lazarov[4] and J.L. Prieto[1] *1. ISOM - Universidad Politécnica de Madrid, Madrid, Spain; 3. IMN-Instituto de Micro y Nanotecnología, CNM-CSIC, Madrid, Spain; 4. University of York, York, United Kingdom; 8. SuperSTEM, STFC Daresbury Laboratories, Warrington, United Kingdom; 9. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain*

9:15

P6-03. **Exchange bias and domain evolution at 10nm scales.** *H.J. Hug*[1,2], X. Zhao[2], A. Mandru[2] and M.A. Marioni[2] *1. Department of Physics, University of Basel, Basel, Switzerland; 2. Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland*

9:30

P6-04. **Interfacial coupling induced chiral symmetry-breaking of spin-orbit interaction in exchange biased systems.** *P. Perna*[1], F. Ajejas[1], D. Maccariello[1], R. Guerrero[1], R. Miranda[1] and J. Camarero[2] *1. IMDEA Nanoscience, Madrid, Spain; 2. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain*

9:45

P6-05. **Investigation into the Origin of the Athermal Training Effect in Exchange Bias Multilayers.** *S. Jenkins*[1], R.F. Evans[1] and R. Chantrell[1] *1. Physics, University of York, York, United Kingdom*

Session P7
SURFACE AND INTERFACE EFFECTS I

Stephen Wilson, Chair
University of California, Santa Barbara, Santa Barbara, CA, United States

8:30

P7-01. **Electrolyte-Gate-Control of Ferromagnetism in Epitaxial $La_{1-x}Sr_xCoO_3$ Thin Films.** ***(Invited)*** J. Walter[1], B. Yu[2], G. Yu[2], A.J. Grutter[3], B.J. Kirby[3], J. Borchers[3], Z. Zhang[4], H. Zhou[4], J.W. Freeland[4], T. Charlton[5], H. Ambaye[5], M. Fitzsimmons[5], P. Orth[6], R. Fernandes[2], B. Shklovskii[2], H. Wang[1], B. Luo[7], C.D. Frisbie[1], M. Greven[2] and *C. Leighton*[1] *1. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 2. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 4. Argonne National Laboratory, Argonne, IL, United States; 5. Oak Ridge National Laboratory, Knoxville, TN, United States; 6. Iowa State University, Ames, IA, United States; 7. Characterization Facility, University of Minnesota, Minneapolis, MN, United States*

9:00

P7-02. **Towards pure spin currents for oxide spintronic devices.** ***(Invited)*** *C. Cox*[1], A. Caruana[2], B. Nicholson[3], A. Mora-Hernandez[3], A. Hindmarch[3], C. Kinane[4], T. Charlton[5] and K. Morrison[1] *1. Physics, Loughborough University, Loughborough, United Kingdom; 2. ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Didcot, United Kingdom; 3. Durham University, Durham, United Kingdom; 4. Rutherford Appleton Laboratory, STFC, Didcot, United Kingdom; 5. Large Scale Structures Group, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

9:30

P7-03. **Static and voltage-controlled orbital polarization in LaNiO3 films.** H.B. Vasili[2], D. Pesquera[1,3], A. Barla[4], J. Gazquez[1], G. Herranz[1], F. Sanchez[1], M. Valvidares[2], P. Gargiani[2], E. Pellegrin[5], F. Bondino[6], E. Magnano[6] and *J. Fontcuberta*[1] *1. Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Bellaterra, Spain; 2. CELLS-Divisió Experiments, ALBA Synchrotron Light Source, Cerdanyola del Vallès, Spain; 3. Department of Earth Sciences, University Cambridge, Cambridge, United Kingdom; 4. Sincrotrone Trieste, Istituto di Struttura della Materia (ISM) del Consiglio Nazionale delle Ricerche (CNR), Trieste Basovizza, Italy; 5. Experiments Division, CELLS-ALBA, Cerdanyola, Spain; 6. Istituto Officina dei Materiali (IOM) del Consiglio Nazionale delle Ricerche (CNR), Trieste Basovizza, Italy*

9:45

P7-04. **Extraordinary ferromagnetic coupling and magnetodielectric phenomena in NiO nanoparticles.** S. Roy[1], R. Katoch[1] and *A. Subramanian*[1] *1. Centre for Nano and Soft Matter Sciences, Bangalore, India*

THURSDAY MORNING 8:30 ROOM 306

Session P8
FRUSTRATION AND QUANTUM PHASE TRANSITIONS IN HEAVY FERMIONS AND BEYOND

Silke Paschen, Chair
Vienna University of Technology, Vienna, Austria

8:30

Introduction by Silke Paschen

8:45

P8-01. **Quantum criticallity in a magnetically ordered stacked triangular lattice.** J. Schmehr[1], C. O'Neill[4], L.P. Cairns[4], H. Keen[4], D. Wermeille[2], P. Manuel[3], M. Telling[3], A. Hermann[4] and *A. Huxley*[4] *1. Materials Department, University of California, Santa Barbera, Santa Barbera, CA, United States; 2. ESRF, Grenoble, France; 3. ISIS Pulsed Neutron Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; 4. Physics and Astronomy, University of Edinburgh, Edinburgh, United Kingdom*

9:00

P8-02. **Entanglement of Long-Range and Short-Range Magnetic Order in the Frustrated Compound $Yb_2Fe_{12}P_7$.** *H. von Löhneysen*[1,2], K. Grube[1], S. Zaum[1], P. Schweiss[1], F. Weber[1], D.A. Zocco[1,3], R.E. Baumbach[4], J.J. Hamlin[5], M.B. Maple[6] and J.W. Lynn[7] *1. Institute for Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany; 2. Physics Institute, Karlsruhe Institute of Technology, Karlsruhe, Germany; 3. Institute for Solid State Physics, University of Technology Vienna, Vienna, Austria; 4. National High Field Laboratory, Tallahassee, FL, United States; 5. Department of Physics, University of Florida, Gainesville, FL, United States; 6. Department of Physics, Unversity of California San Diego, La Jolla, CA, United States; 7. NIST Center for Neutron Research, Gaithersburg, MD, United States*

9:15

P8-03. **Frustration-induced quantum critical behavior in the quasi-Kagome Kondo lattice system CeIrSn.** *S. Tsuda*[1], C. Yang[1], K. Umeo[2], H. Fukuoka[3], Y. Yamane[1], T. Onimaru[1], T. Takabatake[5], N. Kikugawa[6], T. Terashima[6], H. Hirose[6] and S. Uji[6] *1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi Hiroshima, Japan; 2. N-BARD, Hiroshima University, Higashihiroshima, Japan; 3. Graduate School of Engineering, Hiroshima University, Higashihiroshima, Japan; 5. Hiroshima University, Higashi-Hiroshima, Japan; 6. National Institute for Materials Science, Tukuba, Japan*

9:30

P8-04. **Antiferromagnetic Ordering Competition in Nd-doped $CeIn_3$.** *J.R. Badger*[1,2], P. Klavins[1] and V. Taufour[1] *1. Physics, University of California, Davis, Davis, CA, United States; 2. Chemistry, University of California, Davis, Davis, CA, United States*

9:45

P8-05. **Continuous Evolution of Spin Fluctuations Through the Metal-Insulator Transition in $NaOsO_3$.** *J.G. Vale*[1], S. Calder[2], K. Yamaura[3], J. van den Brink[4], A. Christianson[2] and D.F. McMorrow[1] *1. London Centre for Nanotechnology, University College London (UCL), London, United Kingdom; 2. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 3. National Institute for Materials Science (NIMS), Tsukuba, Japan; 4. IFW Dresden, Dresden, Germany*

THURSDAY MORNING 8:30 ROOM 307/308

Session P9
TOPOLOGICAL INSULATORS IN STRONGLY CORRELATED MATTER

Ernst Bauer, Chair
Vienna University of Technology, Wien, Austria

8:30

P9-01. **Fermi surfaces in Kondo Insulators.** ***(Invited)*** *S. Sebastian*[1], M. Hartstein[1], H. Liu[1], A. Davies[1], M. Ciomaga Hatnean[3], M. Johannes[4], N. Shitsevalova[5], W. Toews[7], Y. Hsu[1], X. Chen[1], S. Yamashita[10], T. Sakakibara[11], Y. Takano[12], L. Balicas[13], N. Harrison[14], G. Lonzarich[1], G. Balakrishnan[3], R. Hill[7] and M. Sutherland[1] *1. University of Cambridge, Cambridge, United Kingdom; 3. University of Warwick, Coventry, United Kingdom; 4. Naval Research Laboratory, Washington D.C., DC, United States; 5. Institute for Problems of Materials Science, Kiev, Ukraine; 7. University of Waterloo, Waterloo, ON, Canada; 10. Osaka University, Osaka, Japan; 11. Institute for Solid State Physics, Tokyo, Japan; 12. University of Florida, Gainesville, FL, United States; 13. Condensed Matter Sciences, National High Magnetic Field lab, Tallahassee, FL, United States; 14. MPA-MAG, Los Alamos National Laboratory, Los Alamos, NM, United States*

9:00

P9-02. **Quantum Oscillations in Electrical Resistivity in Kondo Insulators.** ***(Invited)*** *L. Li[1] 1. University of Michigan, Ann Arbor, MI, United States*

9:30

P9-03. **Fermi surface of the topological Kondo insulator SmB_6 from various aspects.** Y. Ohtsubo[1], Y. Yamashita[1], R. Yukawa[2], K. Horiba[2], H. Kumigashira[2], K. Miyamoto[3], T. Okuda[3], W. Hirano[4], F. Iga[4] and *S. Kimura[1] 1. Osaka University, Suita, Japan; 2. IMSS, KEK, Tsukuba, Japan; 3. HiSOR, Hiroshima University, Higashi-Hiroshima, Japan; 4. Department of Physics, Ibaraki University, Mito, Japan*

9:45

P9-04. **Thermal Hall Effect Measurements on the Materials Lu2V2O7 and SrCu2(BO3)2.** *L. Pritchard Cairns[1]*, J. Reid[5], R. Perry[2], D. Prabhakaran[3] and A. Huxley[4] *1. University of Edinburgh, Edinburgh, United Kingdom; 2. University College London, London, United Kingdom; 3. University of Oxford, Oxford, United Kingdom; 4. Physics, University of Edinburgh, Edinburgh, United Kingdom; 5. University of St.Andrews, St. Andrews, United Kingdom*

THURSDAY MORNING 8:30 — ROOM 313/314

Session P10
FRUSTRATED MAGNETISM

Philippe Mendels, Co-Chair
Université Paris-Sud, ORSAY, France
Benjamin Canals, Co-Chair
Institut NEEL, CNRS, Universite Grenoble Alpes, Grenoble, France

8:30

P10-01. **Experimental Insights into Ground-State Selection of Quantum XY Pyrochlores.** ***(Invited)*** *A. Hallas[1,2] 1. Physics & Astronomy Department, Rice University, Houston, TX, United States; 2. Rice Center for Quantum Materials (RCQM), Rice University, Houston, TX, United States*

9:00

P10-02. **Beyond conventional magnetic order in the Shastry-Sutherland frustrated magnet TmB_4.** *D. Lançon[1,2]*, V. Scagnoli[1,2], E. Canévet[1], R. Sibille[1], M. Ciomaga Hatnean[3], G. Balakrishnan[3], O. Petrenko[3], U. Staub[1], C. Rüegg[1], L. Heyderman[1,2] and T. Fennell[1] *1. Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. Mesoscopic Systems, ETH Zurich, Zurich, Switzerland; 3. Departement of Physics, University of Warwick, Coventry, United Kingdom*

9:15

P10-03. **Breakdown of the helical order in the Dzyaloshinskii-Moriya Antiferromagnet $Ba_2CuGe_2O_7$.** *S. Muehlbauer[1]*, G. Brandl[2,3], M. Månsson[4] and M. Garst[5] *1. Heinz Maier Leibnitz Zentrum (MLZ), Technical University of Munich, Garching, Germany; 2. Forschungszentrum Jülich GmbH, Jülich Centre for Neutron Science (JCNS) at Heinz Maier-Leibnitz Zentrum (MLZ), Garching, Germany; 3. Physik Department E21, Technische Universität München, Garching, Germany; 4. Materials Physics, KTH Royal Institute of Technology, Kopenhagen, Sweden; 5. TU Dresden, Köln, Germany*

9:30

P10-04. **Light Enhanced Anomalous Hall Effect on Magnetic Topological Insulator Cr-$(Bi,Sb)_2Te_3$.** *C. Chen[1]*, A.R. Llanos[1], M. Teague[1], N. Yeh[1,2], L. Pan[3], K. Murata[3] and K.L. Wang[3] *1. Physics, Caltech, Pasadena, CA, United States; 2. Kavli Nanoscience Institute, Caltech, Pasadena, CA, United States; 3. Electrical Engineering, UCLA, Los Angeles, CA, United States*

9:45

P10-05. **Phase Transitions in Skyrmion host Cu_2OSeO_3.** H.C. Chauhan[1], J. Tiwari[1] and *S. Ghosh[1] 1. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India*

THURSDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session Q1
DOMAIN WALL DYNAMICS III
(Poster Session)

Kab-Jin Kim, Chair
Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea

Q1-01. **Velocity enhancement by synchronization of magnetic domain walls.** *A. Hrabec[1]*, V. Krizakova[2], S. Pizzini[2], J. Sampaio[1], A. Thiaville[1], S. Rohart[1] and J. Vogel[2] *1. Lab. Physique des Solides, Universite Paris-Sud, Orsay, France; 2. Institut Néel, CNRS, Grenoble, France*

Q1-02. **Tuning domain wall velocity with Dzyaloshinskii-Moriya interaction in epitaxial asymmetric trilayers.** *F. Ajejas[4]*, A. Gudin[4], R. Guerrero[4], D. de Souza Chaves[1], J. Vogel[1], J. Camarero[2], S. Pizzini[1] and P. Perna[4] *1. Institut Néel, CNRS, Grenoble, France; 2. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain; 4. IMDEA NANOSCIENCE, Madrid, Spain*

Q1-03. **Withdrawn**

Q1-04. **2D magnetic domain wall ratchet: the limit of submicrometric holes.** J. Herrero-Albillos[1,2], C. Castán-Guerrero[1], F. Valdes-Bango[7], J. Bartolomé[3], F. Bartolome[4], F. Kronast[8], A. Hierro-Rodriguez[5], L. Alvarez-Prado[7], J. Martin[6], M. Velez[7], J. Alameda[7], J. Seré[9] and *L. Garcia*[1] *1. Instituto de Ciencia de Materiales de Aragon, Universidad de Zaragoza, Zaragoza, Spain; 2. Centro Universitario de la Defensa, Zaragoza, Spain; 3. Instituto de Ciencia de Materiales de Aragon, Consejo Superior de Investigaciones Científicas, Zaragoza, Spain; 4. ICMA, CSIC, Zaragoza, Spain; 5. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 6. Fisica, Universidad de Oviedo, Oviedo, Spain; 7. Universidad de Oviedo, Oviedo, Spain; 8. Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany; 9. Universidad de Zaragoza, Zaragoza, Spain*

Q1-05. **Current-induced domain-wall motion in pinned magnetic wires.** *M. Samiepour*[1], H. Corte-León[2], J. Kim[3], K. O'Grady[1], O. Kazakova[4] and A. Hirohata[1] *1. University of York, York, United Kingdom; 2. TQEM, National Physical Laboratory, Teddington, United Kingdom; 3. Physics, University of York, York, United Kingdom; 4. National Physical Laboratory, Teddington, United Kingdom*

Q1-06. **Fast current-induced domain wall motion in symmetric ferrimagnetic Tb-Co alloy wires.** *T.V. Pham*[1,2], B. Do[2], S. Sumi[1] and H. Awano[1] *1. Toyota Technological Institute, Nagoya, Japan; 2. Institute of Materials Science, Vietnam Academy of Science and Technology, Ha Noi, Vietnam*

Q1-07. **Nanoscale magnetic texture modification in Co/Pd multilayer for effective domain wall pinning.** *T. Jin*[1], W. Gan[1], D. Kumar[1], F. Tan[1], M. Ranjbar[1], W. Lew[1] and S. Piramanayagam[1] *1. Nanyang Technological University, Singapore, Singapore*

Q1-08. **Domain propagation controlled by homogeneous external magnetic fields in an ultrathin magnetic layer with the Dzyaloshinskii-Moriya interaction.** *P. Kuswik*[1], M. Matczak[1], M. Kowacz[2], K. Szuba-Jablonski[3], B. Anastaziak[1] and F. Stobiecki[1] *1. Institute of Molecular Physics Polish Academy of Sciences, Poznan, Poland; 2. Faculty of Technical Physics, Poznan University of Technology, Poznan, Poland; 3. Department of Physics, College of Science, Swansea University, Swansea, United Kingdom*

Q1-09. **Elliptical expansion of magnetic domain walls in samples with tilted anisotropy.** *A. K G*[1], V. Parakkat[2] and A. P S[1] *1. Department of Physics, Indian Institute of Science, Bangalore, India; 2. Department of Physics, University of Washington, Seattle, WA, United States*

Q1-10. **The study on magnetization reversal of zebra-stripe domain structure in Ni wires fabricated on a $LiNbO_3$ substrate.** *A. Yamaguchi*[1], K. Yamada[3], A. Nakao[4], T. Saiki[2], Y. Utsumi[1] and T. Ogasawara[5] *1. Laboratory of Advanced Science and Technology for Industry, University of Hyogo, Ako-gun, Japan; 2. Manufacturing Technology Department, Hyogo Prefectural Institute of Technology, Kobe, Japan; 3. Faculty of Engineering, Gifu University, Gifu, Japan; 4. RIKEN, Wako, Japan; 5. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

Q1-11. **Tailoring magnetization reversal modes by curvature in thin magnetic slabs.** *R.M. Corona*[1,4], S. Castillo-Sepulveda[2,4], P. Landeros[3,4] and D. Altbir[1,4] *1. Departamento de Física, Universidad de Santiago de Chile, Region Metropolitana, Chile; 2. Universidad Autónoma de Chile, Santiago, Chile; 3. Fisica, Universidad Tecnica Federico Santa Maria, Valparaiso, Chile; 4. Center for the Development of Nanoscience and Nanotechnology, Santiago, Chile*

Q1-12. **Racetrack Memory with Continuous Loop Built from Ferromagnets of Metal and Insulator.** *S. Honda*[1,2], T. Yae[1] and T. Ohsawa[3] *1. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 3. Department of Electrical and Electronics Engineering, Numazu National College of Technology, Numazu, Japan*

THURSDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session Q2
FERROMAGNETIC RESONANCE AND MAGNON HYBRIDIZATION (Poster Session)

Christoph Adelmann, Chair
Imec, Leuven, Belgium

Q2-01. **Ferromagnetic resonance equation expressed by anisotropy fields and its application to an axis in hexagonal-crystal *c*-plane.** *O. Kohmoto*[1] and Y. Matsushima[2] *1. Resona Laboratory, Ina, Japan; 2. Physics, Okayama University, Okayama, Japan*

Q2-02. **Controlled splitting of ferromagnetic resonance in 1-D modulated magnonic crystals.** *P.N. Sherpa*[1], S. Khanal[1] and L. Spinu[1] *1. AMRI/Physics, University of New Orleans, New Orleans, LA, United States*

Q2-03. **Thickness dependent static and dynamic properties of Co_2MnGa Heusler films.** *P. Swekis*[1,2], A. Markou[1], Y. Chen[1], S. Klingler[3,4], M. Weiler[3,4], S.T. Gönnenwein[2] and C. Felser[1] *1. Solid State Chemistry, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. TU Dresden, Dresden, Germany; 3. Technical University of Munich, Munich, Germany; 4. Walther Meißner Institute, Munich, Germany*

Q2-04. **Temperature dependent Relaxation of dipole-exchange Magnons in Yttrium Iron Garnet Films.** *L. Mihalceanu*[1], V.I. Vasyuchka[1], D.A. Bozhko[2], T. Langner[3], A.Y. Nechiporuk[4], V.F. Romanyuk[4], B. Hillebrands[2] and A.A. Serga[5] *1. Physics, TU Kaiserslautern, Kaiserslautern, Germany; 2. Physics, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 3. Fachbereich Physik and Landesforschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Germany, Kaiserslautern, Germany; 4. Faculty of Radiophysics, Taras Shevchenko Nat. University of Kyiv, Kyiv, Ukraine; 5. Technische Universitet Kaiserslautern, Kaiserslautern, Germany*

Q2-05. **Thermal control of the magnon-photon coupling in a notch filter coupled to a yttrium iron garnet/platinum system.** *V.M. Castel*[1,2], J. Ben Youssef[3,2], N. Vukadinovic[4], A. Manchec[6], F. Kidane Dejene[7] and G. Bauer[5,8] *1. IMT Atlantique, Brest, France; 2. Lab-STICC (UMR 6285), CNRS, Brest, France; 3. Université de Bretagne Occidentale, Brest, France; 4. Dassault Aviation, St-Cloud, France; 5. Institute for Materials Research, WPI-AIMR, and Center for Spintronics Research Network, Sendai, Japan; 6. Elliptika (GTID), Brest, France; 7. Max Planck Institute of Microstructure Physics, Halle, Germany; 8. Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands*

Q2-06. **Ferromagnetic Resonance Study on Two-dimensional van der Waals Crystals.** *X. Shen*[1] and Y. Wu[1] *1. Department of Physics and State Key Laboratory of Surface Physics, Fudan University, Shanghai, China*

Q2-07. **Hybridizing Ferromagnetic Magnons to Microwave Photons in planar hybrid inverted split-ring resonator/YIG film system.** B. Bhoi[1], B. Kim[1], J. Kim[1], Y. Cho[1] and *S. Kim*[1] *1. Department of Materials Science and Engineering, Seoul National University, Seoul, The Republic of Korea*

Q2-08. **Level Attraction and Synchronization in Hybridized Magnon-Photon Systems.** *M. Harder*[1*], Y. Yang[2,1], B. Yao[2], C. Yu[1,3], Y. Gui[1] and C. Hu[1] *1. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada; 2. State Key Laboratory of Infrared Physics, Chinese Academy of Sciences, Shanghai, China; 3. Nantong University, Nantong, China*

Q2-09. **Pulsed Versus Forced Excitation Of Magnetization Dynamics by Laser Pulses or Surface Acoustic Waves.** P. Kuszewski[1,2], *L. Thevenard*[1,2], S. Shihab[1,2], M. Kraimia[1,3], L. Becerra[1,2], A. Lemaître[4], J. Duquesne[1,2] and C. Gourdon[1,2] *1. Institut des NanoSciences de Paris, Sorbonne Université, Paris, France; 2. CNRS, Paris, France; 3. Laboratoire de Physique des Matériaux: Structure et Propriétés, Faculté des Sciences de Bizerte, Bizerte, Tunisia; 4. Centre de Nanoscience et Nanotechnologie, CNRS, Université Paris-Saclay, Marcoussis, France*

Q2-10. **Stroboscopic imaging of spin waves induced by SAW.** *B. Casals*[1], N. Statuto[2], J. Hernandez Ferras[2], R. Cichelero[1], A. Hernández-Mínguez[3], L. Aballe[4], M. Foerster[4] and F. Macià[1] *1. Magnetic Materials and Functional Oxides, ICMAB-CSIC, Bellaterra, Spain; 2. Condensed Matter Physics Department, University of Barcelona, Barcelona, Spain; 3. Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany; 4. ALBA Synchrotron Light Facility, Cerdanyola del Vallès, Spain*

Q2-11. **Microwave resonance of micrometer sized uniaxial chiral helimagnetic crystals.** *F. Goncalves*[1,2], Y. Shimamoto[1], T. Sogo[1], Y. Kousaka[4,2], K. Inoue[3,2] and Y. Togawa[1,2] *1. Department of Physics and Electronics, Osaka Prefecture University, Osaka, Japan; 2. Chirality Research Centre, Hiroshima University, Hiroshima, Japan; 3. Chemistry, Hiroshima University, Higashihiroshima, Japan; 4. School of Science, Okayama University, Okayama, Japan*

Session Q3
ITINERANT MAGNETISM I (Poster Session)

Daniel Braithwaite, Chair
Inac, CEA, Universite Grenoble Alpes, Grenoble, France

Q3-01. **Weak ferromagnetism of $(Fe_{1-x}Ni_x)Si$ with B20 Structure.** *T. Tsutaoka*[1], K. Ueda[1] and K. Kaneshige[1] *1. Graduate School of Education, Hiroshima University, Higashi-Hiroshima, Japan*

Q3-02. **Transport Properties of Heusler Compounds $Fe_{3-x}Mn_xSi$ (x=1.6, 1.7, and 1.8) under the Magnetic fields.** *R. Kato*[1], T. Nonoyama[1], R. Ooka[1], I. Shigeta[1] and M. Hiroi[1] *1. Department of Physics and Astronomy, Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan*

Q3-03. **Fe doping effects on the anomalous specific heat and XAFS oscillation in antiferromagnetic metal of Mn_3Si.** *H. Hiraka*[1], K. Ohoyama[2], M. Kosaka[3] and D. Matsumura[4] *1. Radiation Science, Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea; 2. Ibaraki University, Hitachi, Japan; 3. Saitama University, Saitama, Japan; 4. Japan Atomic Energy Agency, Hyogo, Japan*

Q3-04. **Magnetic properties of perovskite $Ca_{1-x}Sr_xFeO_3$.** *H. Kawanaka*[1], E. Kawawa[2], F. Iga[4], A. Kondo[3], K. Kindo[3] and Y. Matsuda[3] *1. Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Graduate School Science and Engineering, Ibaraki University, Mito, Japan; 3. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 4. Faculty of Science, Ibaraki University, Mito, Japan*

Q3-05. **Magnetic Fluctuations and the Origin of Antiferromagnetism in $RENiO_3$ Perovskites.** *L. Korosec*[1], D. Gawryluk[2], M. Pikulski[1], K. Conder[2], T. Shiroka[1,2], M. Medarde[2], J. Alonso[3], H.R. Ott[1,2] and J. Mesot[1,2] *1. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain*

Q3-06. **The substitution effect on itinerant ferromagnetism in CrAlGe with an orthorhombic $TiSi_2$-type structure.** *H. Masumitsu*[1], S. Yoshinaga[1], Y. Mitsui[1], R.Y. Umetsu[2], M. Hiroi[1], Y. Uwatoko[3] and K. Koyama[1] *1. Kagoshima University, Kagoshima, Japan; 2. Tohoku Universty, Sendai, Japan; 3. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

Q3-07. **Change of magnetism in $Mn_{1-x}M_xAlGe$ (M = V, Fe, Cu).** *K. Noguchi*[1], H. Masumitsu[1], Y. Mitsui[1], R.Y. Umetsu[2], M. Hiroi[3], Y. Uwatoko[4] and K. Koyama[1] *1. Kagoshima University, Kagoshima, Japan; 2. Tohoku Universty, Sendai, Japan; 3. Department of Physics and Astronomy, Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan; 4. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

Q3-08. **Local Spin Moments and Local Environment of Fe in the $Fe_{7-x}Me_xCh_8$ (Me=Ti,V,Co; Ch=S,Se) Compounds: Hard X-ray Emission and Absorption Spectroscopy Study.** *A. Svyazhin*[1,2], N. Selezneva[3], N. Baranov[2,3], E. Kurmaev[2], S. Lafuerza[1] and P. Glatzel[1] *1. European Synchrotron Radiation Facility, Grenoble, France; 2. M.N. Mikheev Institute of Metal Physics, Yekaterinburg, Russian Federation; 3. Ural Federal University, Yekaterinburg, Russian Federation*

Q3-09. **A model phase diagram for itinerant electron metamagnetic systems.** *B. Bernhard*[1] *1. Departamento de Física, Universidade do Estado de Santa Catarina, Joinville, Brazil*

THURSDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session Q4
MAGNETOELASTIC AND MAGNETOMECHANICAL I (Poster Session)

Victorino Franco, Chair
Sevilla University, Sevilla, Spain

Q4-01. **Withdrawn**

Q4-02. **A Study on the Reduction of Cogging Torque for the Skew of a Magnetic Geared Synchronous Motor.** I. Jo[1], G. Jeong[2], W. Ji[1], H. Lee[1] and *C. Park*[1] *1. Korea National University of Transportation, Uiwang-si, The Republic of Korea; 2. Electrical Engineering, Hanyang University, Seoul, The Republic of Korea*

Q4-03. **Comparative Study on the Characteristics of Magnetic-geared PMSM for Electric Vehicles according to Gear Ratio Variation.** *C. Park*[1] and H. Lee[1] *1. Korea National University of Transportation, Uiwang-si, The Republic of Korea*

Q4-04. **Influence of DC-Biased Magnetic Induction on Magnetic Property of Silicon Steel.** *J. Chen*[1], D. Wang[1], Y. Jiang[1], X. Teng[1] and S. Cheng[1] *1. National Key Laboratory of Science and Technology on Vessel Integrated Power System, Naval University of Engineering, Wuhan, China*

Q4-05. **Analysis of Magnetization and Demagnetization Characteristics for Spoke-type Permanent Magnet Machine with Rotor Overhang and Non-rare Earth Magnet.** *J. Seo*[1] and A. Ro[1] *1. Keti, Yakdae Wonmigu Bucheon, The Republic of Korea*

Q4-06. **Vibration and Acoustic Noise Analysis of Iron-core Reactor under Sinusoidal and PWM Excitations.** H. Gao[1], S. Wang[2], Y. Li[1] and *J. Li*[2] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 2. State Key Laboratory of Control and Simulation of Power System and Generation Equipments, Tsinghua University, Beijing, China*

Q4-07. **Performance enhancement of Q Factor and inductance of Integrated RF Inductors.** *X. Wang*[1], H. Chen[1] and N.X. Sun[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States*

Q4-08. **Comparative Study of Novel Dual Stator Machines Having Different Biased PM Configurations.** H. Yang[1], Z. Zhu[2], H. Lin[1] and *S. Lyu*[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. Department of Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom*

Q4-09. **Optimized Design of High Speed, High Power Motor for Four-Legged Robot Actuator Using the Weighted Sum Method and Response Surface Method.** *T. Lee*[1], J. Mo[1], D. Hong[1,2] and B. Woo[2] *1. Energy and Power Conversion Engineering, University of Science and Technology, Changwon-si, The Republic of Korea; 2. Korea Electrotechnology Research Institute, Changwon-si, The Republic of Korea*

Q4-10. **Fe/C-Decorated Fe_2B/C Nanocapsule Hybrid with Improved Gigahertz Electromagnetic Absorption Properties.** *S. Or*[1] and X. Liu[1] *1. Electrical Engineering, Hong Kong Polytechnic University, Hong Kong, Hong Kong*

THURSDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session Q5
MULTIFERROICS I (Poster Session)

Davide Bossini, Chair
TU Dortmund, Dortmund, Germany

Q5-01. **Magnetic and Structural Characterization in the Multiferroic $Bi_{4.2}(La\ Nd\ Pr)_{0.8}Fe_{0.5}Co_{0.5}Ti_3O_{15}$ Compounds of the Aurivillius Family Towards their use as Ferroelectric Capacitors.** *C.E. Moreno Crespo*[1], D. Ramírez Rosales[1], S. Arellano Ahumada[1] and A. Peláiz Barranco[2] *1. Departamento de Física y Matemáticas, Instituto Politécnico Nacional, Mexico City, Mexico; 2. Facultad de Física, Universidad de La Habana, La Habana, Cuba*

Q5-02. **Strong magnetoelectric effect in pulse laser deposited $[Ba(Zr_{0.2}Ti_{0.8})O_3$-$0.5(Ba_{0.7}Ca_{0.3})TiO_3]/CoFe_2O_4$ bilayer thin film.** *J. Rani*[1], V. Kushwaha[2] and C. Tomy[2] *1. Physics, Vardhaman College, Bijnor, Bijnor, India; 2. Physics, IIT Bombay, Mumbai, India*

Q5-03. **Flexible multiferroic laminate composites with giant zero-biased magnetoelectric characteristics for wearable magnetic sensor.** *J. Qiu*[1], X. He[1], Y. Long[1], Q. Chang[1] and H. Liu[1] *1. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

Q5-04. **Withdrawn**

Q5-05. **Magnetic-field-sensitive dielectric anomaly of the electron-doped manganite $CaMn_{1-x}Sb_xO_3$.** *H. Taniguchi*[1], H. Takahashi[1], A. Terui[1], S. Kobayashi[1], M. Matsukawa[1] and R. Suryanarayanan[2] *1. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Université Paris-Sud, Orsay, France*

Q5-06. **Magnetic excitations of multiferroic $Ca_2CoSi_2O_7$ studied by high-field ESR.** *M. Akaki*[1] and M. Hagiwara[1] *1. Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Toyonaka, Japan*

Q5-07. **Nonreciprocal spin-wave damping in multiferroic $GaFeO_3$.** *T. Omi*[1], M. Akaki[2], N. Abe[3], Y. Tokunaga[1], S. Kimura[4], M. Hagiwara[2] and T. Arima[1] *1. Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Toyonaka, Japan; 3. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 4. Tohoku University, Sendai, Japan*

Q5-08. **Codopant driven ferromagnetism in $K_{0.5}Na_{0.5}NbO_3$ ferroelectric solid solution.** *K. Shalini*[1] and N. Giridharan[1] *1. Physics, National Institute of Technology, Tiruchirappalli, India*

Q5-09. **Low temperature structural properties of multiferroic compounds: $YBa_{1-x}Sr_xCuFeO_5$ (x = 0, 0.5).** *S. LAL*[1], K. Mukherjee[1] and C. Yadav[1] *1. School of Basic Sciences, Indian Institute of Technology Mandi, Mandi, India*

Q5-10. **Withdrawn**

Q5-11. **Withdrawn**

Session Q6
NEW DEVELOPMENTS IN SCES: MATERIALS (Poster Session)

Eric D Bauer, Chair
Los Alamos National Laboratory, Los Alamos, NM, United States

Q6-01. **5f Ferromagnetism Approaching Ambient Temperatures: High Pressure Study of UCu_2P_2.** *L. Havela*[1], J. Prchal[1], J. Valenta[1], M. Divis[1], I. Turek[1], M. Henriques[2], F. Honda[3] and D. Kaczorowski[4] *1. Department of Condensed Matter Physics, Charles University, Prague, Czechia; 2. Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czechia; 3. Institute for Materials Research, Tohoku University, Oarai, Ibaraki, Japan; 4. Polish Academy of Sciences, Institute of Low Temperature and Structure Research, Wroclaw, Poland*

Q6-02. **Persistent Charge Density Wave Order in Single-Layer $TaSe_2$.** *S. Mo*[1], H. Ryu[1], J. Jiang[1], Z. Hussain[1], S. Tang[2], Z. Shen[2], C. Hwang[3], H. Kim[4], J. Shim[4], K. Kim[4], B. Min[4], Y. Chen[5], H. Tsai[5], F. Liou[5], S. Kahn[5], C. Jiang[5], A. Omrani[5] and M. Crommie[5] *1. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. Stanford University, Stanford, CA, United States; 3. Pusan National University, Busan, The Republic of Korea; 4. POSTECH, Pohang, The Republic of Korea; 5. University of California, Berkeley, Berkeley, CA, United States*

Q6-03. **Metal-insulator transition in Mott-insulator $FePS_3$.** *M. Tsurubayashi*[1], K. Kodama[1], M. Kano[3], K. Ishigaki[2], Y. Uwatoko[2], T. Watanabe[1], K. Takase[1] and Y. Takano[1] *1. Department of Physics, Nihon University, Tokyo, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Human Science and Common Education, Nippon Institute of Technology, Saitama, Japan*

Q6-04. **Withdrawn**

Q6-05. **Combined Resonant and Non-resonant X-ray Magnetic Scattering Investigation of the Dzyaloshinskii-Moriya Interaction (DMI) in the Isostructural Weak Ferromagnets (Co,Ni,Mn)CO_3 and $FeBO_3$.** *D. Pincini*[1,2], G. Beutier[3], F. Fabrizi[2], H.M. Elnaggar[4], V. Dmitrienko[5], Y. Kvashnin[10], M. Katsnelson[6], A. Lichtenstein[7], V. Mazurenko[8], G. Nisbet[2], E. Ovchinnikova[9], O. Dimitrova[9] and S. Collins[2] *1. Department of Physics and Astronomy, University College London, London, United Kingdom; 2. Diamond Light Source, Didcot, United Kingdom; 3. Université Grenoble Alpes, Grenoble, France; 4. Utrecht University, Utrecht, Netherlands; 5. FSRC "Crystallography and Photonics" RAS, A.V. Shubnikov Institute of Crystallography RAS, Moscow, Russian Federation; 6. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 7. I. Institut für Theoretische Physik, Universität Hamburg, Hamburg, Germany; 8. Department of Theoretical Physics and Applied Mathematics, Ural Federal University, Ekaterinburg, Russian Federation; 9. Faculty of Physics, M.V. Lomonosov Moscow State University, Moscow, Russian Federation; 10. Department of Physics and Astronomy, Division of Materials Theory, Uppsala University, Uppsala, Sweden*

Q6-06. **Magnetic-field driven Pr-valence change in $(Pr_{1-y}Sm_y)_{1-x}Ca_xCoO_3$.** *T. Naito*[1] and H. Fujishiro[1] *1. Iwate University, Morioka, Japan*

Q6-07. **Co-site substitution effects on the simultaneous metal-insulator and spin-state transition in $(Pr_{1-y}Gd_y)_{1-x}Ca_xCoO_3$.** *T. Naito*[1] and H. Fujishiro[1] *1. Iwate University, Morioka, Japan*

Q6-08. **Resistive switching kinetics probed from crosshatch surface of $La_{0.7}Sr_{0.3}MnO_3$ films.** Z. Liang[1,2], *Z. Wang*[1] and P. Wu[2] *1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Department of Physics, University of Science and Technology Beijing, Beijing, China*

THURSDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session Q7
NEW MAGNETIC MATERIALS III (Poster Session)

Masato Kotsugi, Chair
Tokyo University of Science, Tokyo, Japan

Q7-01. **Effect of CoFeB thickness for sensing properties in magnetic tunnel junctions with perpendicular synthetic antiferromagnetic Co/Pt pinned layer for magnetic sensor devices with wide-dynamic-range.** *T. Ogasawara*[1], M. Oogane[1], M. Tsunoda[2] and Y. Ando[1] *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. Department of Electronics Engineering, Tohoku University, Sendai, Japan*

Q7-02. **Flexible Hall-Effect Devices Fabricated via Recursive Transfer Print of Graphene onto Polymeric Lamination Film.** U.Y. Inkaya[1], K. Çelik[2] and *A. Oral*[3] *1. Physics, Middle East Technical University, Ankara, Turkey; 2. Firat University, Elazig, Turkey; 3. Orta Dogu Teknik Universitesi, Ankara, Turkey*

Q7-03. **Electric Field Control of Interfacial Magnetism through Ionic Liquid Gating.** Z. Hu[1], Z. Zhou[1] and *M. Liu*[1] *1. Electronic Materials Research Laboratory, Key Laboratory of the Ministry of Education & International Center for Dielectric Research, Xi'an Jiaotong University, Xi'an, China*

Q7-04. **External Loading Effects on Guided Wave Magnetostrictive Sensor Using a Surface-bonded Nickel Patch.** *B. Yoo*[1] and D.J. Pines[1] *1. Aerospace Engineering, University of Maryland, College Park, MD, United States*

Q7-05. **Reversibly switching the phases of $SrCoO_x$ film at room temperature using a flexible solid-state electrolyte gate.** *Y. Chen*[1], D. Wang[1], L. Wei[2] and S. Yan[1] *1. School of Physics, Shandong University, Jinan, China; 2. School of Microelectronics, Shandong University, Jinan, China*

Q7-06. ***ByAxon*: Towards an active bypass for neural reconnection.** T. González[1], B. Rodilla[1], V. Muñoz[1], R. Guerrero[1], P. Perna[1], L. Perez[2,1], *J. Camarero*[3,1] and R. Miranda[3,1] *1. IMDEA Nanociencia, Madrid, Spain; 2. Universidad Complutense de Madrid, Madrid, Spain; 3. Universidad Autónoma de Madrid, Madrid, Spain*

Q7-07. **Dual Beam Modulated Magneto-Optical Measurement setup.** *S.C. Acharya*[1], W.J. Geerts[1], B.D. Collier[1] and M. Talukder[1] *1. Physics, Texas State University, San Marcos, TX, United States*

Q7-08. **Mössbauer Studies of Ferrite Based MRI Temperature Contrast Agents.** *N.A. Alghamdi*[3], M. Przybylski[1,4], J. Zukrowski[1], J.H. Hankiewicz[2], R.E. Camley[3] and Z. Celinski[3] *1. Academic Centre for Materials and Nanotechnology, AGH University of Science and Technology., Krakow, Poland; 2. BioFrontiers, University Colorado Colorado Springs, Colorado Springs, CO, United States; 3. Physics, University of Colorado, Colorado Springs, Colorado Springs, CO, United States; 4. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland*

Q7-09. **Antiferromagnetic spintronics based on Mn_2Au: switching and read-out.** *S. Bodnar*[1], L. Šmejkal[1], T. Jungwirth[2,3], O. Gomonay[1], A. Sapozhnik[1], H. Elmers[1], M. Kläui[1] and M. Jourdan[1] *1. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 2. School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; 3. Department of Physics, Academy of Sciences of the Czech Republic, Praha, Czechia*

Q7-10. **Liquid Acoustic Wave (LAW) Sensor for Biomagnetic Field Detection.** *M. Schweichel*[1], S. Kaps[1], Y.K. Mishra[1], R. Adelung[1] and J. Carstensen[1] *1. Materials Science and Engineering, Kiel University, Kiel, Germany*

Q7-11. **Barkhausen noise analysis for monitoring stress and damage accumulation in Fe-Co magnetostrictive alloy wire.** *T. Yamazaki*[1], Y. Furuya[2] and W. Nakao[1] *1. Materials Science and Engineering, Yokohama National University, Yokohama, Japan; 2. Tohoku University, Sendai, Japan*

Q7-12. **Nanoscale engineering of Large Anisotropic Magnetoresistance in $La_{0.7}Sr_{0.3}MnO_3$ Films at Room Temperature.** P. Perna[1], F. Ajejas[1,2], J. Diez[2,1], V. Muñoz[1], R. Guerrero[1], J. Santamaria[4], S. Flament[3], L. Méchin[3], L. Perez[4,1], T. González[1], R. Miranda[2,1] and *J. Camarero*[2,1] *1. IMDEA Nanociencia, Madrid, Spain; 2. Universidad Autónoma de Madrid, Madrid, Spain; 3. Normandie Univ, UNICAEN, ENSICAEN, CNRS, GREYC, Caen, France; 4. U. Complutense Madrid, Madrid, Spain*

Q7-13. **Asymmetric MI effect in exchange-biased multilayered FeNi.** U. Kilic[1,2], *C.A. Gonzalez-Fuentes*[3], C. Ross[4] and C. Garcia[3] *1. Physics, North Campus KB 331-O, Bogazici University, Istambul, Turkey; 2. Electrical Engineering Department, Nebraska University at Lincoln, Lincoln, NE, United States; 3. Physics, UTFSM, Valparaiso, Chile; 4. Dept. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States*

Q7-14. **Pressure effects on martensitic transformation and magnetic properties in magnetic shape memory alloy $Pd_2Mn_{1+x}Sn_{1-x}$.** *H. Okada*[1], Y. Yamazaki[1] and T. Kanomata[1] *1. Tohoku Gakuin University, Tagajo, Japan*

THURSDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session Q8
NOVEL APPLICATIONS OF MAGNETIC THIN FILMS AND MULTILAYERS I
(Poster Session)

Katharina Zeissler, Chair
University of Leeds, Leeds, United Kingdom

Q8-01. **Magnetic Tracking of Cardiac Catheters Using Flexible Magnetic Tunnel Junction Sensors.** M. Hawsawi[1], S. Amara[1], *A. Almansouri*[1], H. Mohammed[1], G. Torres Sevilla[1], G. Jakob[2], S. Jaiswal[2,4], M. Kläui[2], A. Haneef[3], A. Saoudi[3], M. Hussain[1] and J. Kosel[1] *1. Computer, Electrical and Mathematical Science and Engineering Division, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia; 2. Physics, Johannes Gutenberg - University Mainz, Mainz, Germany; 3. King Abdullah International Medical Research Center, Riyadh, Saudi Arabia; 4. Singulus Technologies AG, Kahl am Main, Germany*

Q8-02. **Improved Magnetic Field Sensitivity for FeCuNbSiB and Micro Planar Coil Laminate with Different Layer Structures.** *Y. Wang*[1], Y. Wen[1] and P. Li[1] *1. School of Electronic Information and Electrical Engineering, Shanghai Jiaotong University, Shanghai, China*

Q8-03. **The Effect of Stray Fields and Interlayer Exchange Coupling in Patterned $Fe_{88}Cu_{12}$/MgO Superlattices.** *T. Warnatz*[1], B. Skovdal[1], F. Magnus[2], H. Stopfel[1], I. Chioar[1] and B. Hjörvarsson[1] *1. Physics and Astronomy, Uppsala University, Uppsala, Sweden; 2. Science Institute, University of Iceland, Reykjavik, Iceland*

Q8-04. **X-Ray Magnetic Circular Dichroism of Boron Substituted Ni-Mn-In Thin Films.** *S. Pandey*[1], A.T. N'Diaye[2], I. Dubenko[1], A. Aryal[1], D. Mazumdar[1], S. Roy[2], S. Stadler[3] and N. Ali[1] *1. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Louisiana State University, Baton Rouge, LA, United States*

Q8-05. **Electrical detection of artificial skyrmion in synthetic antiferromagnetic nanostructures at room temperature.** *F. Ma*[1,2], Q. Feng[3], S. Li[1], P. Pan[2], Y. Li[2], X. Jin[2], Q. Lu[3] and W. Lew[1] *1. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; 2. School of Physics and Technology, Nanjing Normal University, Nanjing, China; 3. High Magnetic Field Laboratory, Chinese Academy of Sciences, University of Science and Technology of China, Hefei, China*

Q8-06. **Withdrawn**

Q8-07. **Withdrawn**

Q8-08. **Magnetic Properties of Nickel Films on Surface Acoustic Wave Devices.** *S.A. Mathews*[1], N.S. Bingham[2], R. Suess[1], K. Charipar[1], R. Auyeung[1] and N. Charipar[1] *1. Materials Science and Technology Division, Naval Research Laboratory, Washington, DC, United States; 2. National Research Council Fellow, Naval Research Laboratory, Washington, DC, United States*

THURSDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session Q9
PERMANENT MAGNETS IN THE $ThMn_{12}$ STRUCTURE
(Poster Session)

Hiroki Tsuchiura, Chair
Tohoku University, Sendai, Japan

Q9-01. **Magnetic properties of $SmFe_{12}$-based magnets produced by spark plasma sintering method.** T. Saito[1] and *F. Watanabe*[1] *1. Chiba Institute of Technology, Chiba, Japan*

Q9-02. **Elastic and Magnetoelastic Properties of Fe-rich Tetragonal Y-Fe Compounds: Phenomenology and Electron Theory.** *J. Inoue*[2,1], T. Yoshioka[2] and H. Tsuchiura[2] *1. Department of Applied Physics, Univsersity of Tsukuba, Tsukuba, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Japan*

Q9-03. **Surface magnetic anisotropy in $SmFe_{12}$ and $NdFe_{12}$ systems.** *T. Yoshioka*[1,2], D. Suzuki[1] and H. Tsuchiura[1,2] *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. ESICMM, National Institute for Materials Science, Tsukuba, Japan*

Q9-04. **Magnetic Properties of 1:12 Alloys: An Ab Initio Study.** *O. Vekilova*[1], O. Eriksson[1] and H.C. Herper[1] *1. Physics and Astronomy, Uppsala University, Uppsala, Sweden*

Q9-05. **The effect of interstitial dopings on magnetic properties of the rare-earth intermetallic $TmFe_{11}Ti$ compound.** *N. Kostyuchenko*[1,2], I. Tereshina[3], E. Tereshina-Chitrova[4], Y. Skourski[5], M. Doerr[6], I. Pelevin[7], A. Zvezdin[1,8], M. Paukov[9,10], L. Havela[9] and H. Drulis[11] *1. Moscow Institute of Physics and Technology (State University), Moscow, Russian Federation; 2. Institut für Festkörperphysik, Technische Universität Wien, Vienna, Austria; 3. Faculty of Physics, Lomonosov Moscow State University, Moscow, Russian Federation; 4. Institute of Physics CAS, Prague, Czechia; 5. Hochfeld-Magnetlabor Dresden (HLD-EMFL), Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 6. Institut für Festkörper- und Materialphysik, Technische Universität Dresden, Dresden, Germany; 7. Baikov Institute of Metallurgy and Materials Science RAS, Moscow, Russian Federation; 8. A. M. Prokhorov General Physics Institute RAS, Moscow, Russian Federation; 9. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 10. Laboratory of Novel Magnetic Material, Immanuel Kant Baltic Federal University, Science and Technology Park "Fabrica", Kaliningrad, Russian Federation; 11. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland*

Q9-06. **Meso-scale crystalline RFe_{12}-type bulk magnets using solid-state reaction.** *K. Chung*[1], K.P. Shinde[1], M. Ranot[2], J. Park[1], J. Kim[3] and C. Choi[1] *1. Functional Nano-Materials Research, Korea Institute of Materials Science, Changwon, The Republic of Korea; 2. Materials Deformation Department, Korea Institute of Materials Science (KIMS), Changwon, The Republic of Korea; 3. Functional Ceramics Department, Korea Institute of Materials Science, Changwon, The Republic of Korea*

Q9-07. **Is There a Magnetic Moment of Ti in $Sm(Fe_{1-x}Co_x)_{11}Ti$ ($x = 0$ and 0.2)?** *H. Suzuki*[1], A. Nambu[2] and M. Okamoto[2] *1. Magnetic Materials Company, Hitachi Metals, Ltd., Kumagaya, Japan; 2. Research & Development Group, Hitachi, Ltd., Hatoyama, Japan*

Q9-08. **Improving the properties of $NdFe_{11}Ti$ for permanent magnet applications by Y substitution and nitrogenation.** *A. Martín-Cid*[1], O. Tosun[3], A. Gabay[3], D. Salazar[1], J.M. Barandiarán[1,2] and G. Hadjipanayis[3] *1. BCMaterials, Leioa, Spain; 2. University of the Basque Country (UPV/EHU), Bilbao, Spain; 3. Physics and Astronomy, University of Delaware, Newark, DE, United States*

Session Q10
QUANTUM CRITICAL SCES II: OTHER SYSTEMS (Poster Session)

Steffen Wirth, Chair
Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

Q10-01. **First Principles Description of Correlation Driven Lattice Energetics in $RNiO_3$ Compounds by DFT+DMFT.** *A. Hampel*[1] and C. Ederer[1] *1. Materials Theory, ETH Zurich, Zurich, Switzerland*

Q10-02. **Site-selective Probe of Magnetic Excitations in Rare-earth Nickelates using Resonant Inelastic X-ray Scattering.** *D. Betto*[1], Y. Lu[2], K. Fursich[2], H. Suzuki[2], H. Kim[2], G. Cristiani[2], G. Logvenov[2], N.B. Brookes[1], E. Benckiser[2], M. Haverkort[4], G. Khaliullin[2], M. Le Tacon[3], M. Minola[2] and B. Keimer[2] *1. ESRF, Grenoble, France; 2. Max Planck Institute for the Structure and Dynamics of Matter, Stuttgart, Germany; 3. Karlsruhe Institute of Technology, Karlsruhe, Germany; 4. Institute for Theoretical Physics, Heidelberg University, Heidelberg, Germany*

Q10-03. **Relation between magnetic ordering and crystal structure during Mott transition in NiI_2 and $NiBr_2$.** *V. Potapkin*[1], G. Konstantin[2], V. Cerantola[3], A. Kurnosov[4] and A. Pakhomova[2] *1. Institute for Mineralogy, Westfälische Wilhelms-Universität Münster, Münster, Germany; 2. Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 3. European Synchrotron Radiation Facility, Grenoble, France; 4. Bayerisches Geoinstitut, Universität Bayreuth, Bayreuth, Germany*

Q10-04. **Doping-Induced States near the Mott Transition in the Presence of Antiferromagnetic Order.** *M. Kohno*[1] *1. National Institute for Materials Science (NIMS), Tsukuba, Japan*

Q10-05. **Muon spin spectroscopy study of the magnetic field and pressure-induced quantum phase transition in $CsFeCl_3$.** *A.M. Nikitin*[1], Z. Shermadini[1], R. Scheuermann[1], G. Simutis[1], R. Khasanov[1], N. Kurita[2], H. Tanaka[2], C. Rüegg[3,4], A. Amato[1] and H. Luetkens[1] *1. Laboratory for Muon-Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Tokyo Institute of Technology, Meguro-ku, Japan; 3. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland*

Q10-06. **Pressure-induced quantum critical phenomena and magnetic order in the chiral compound $YbNi_3Ga_9$: AC-calorimetric measurements up to 12 GPa.** *T. Otaki*[1], K. Umeo[2], Y. Arai[3], T. Takabatake[1] and S. Ohara[4] *1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi, Japan; 2. N-BARD, Hiroshima University, Higashi, Japan; 3. Science, Hiroshima University, Higashi, Japan; 4. Department of Physical Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan*

Q10-07. **Identify the High-Temperature High-Magnetic Field Phase Boundary of the Valence Transition in $CeOs_4Sb_{12}$.** *P. Ho*[1], J. Singleton[2], M. Jaime[2], M.B. Maple[3], K. Sasmal[3] and T. Yanagisawa[4] *1. Physics, California State University, Fresno, Fresno, CA, United States; 2. National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Physics, University of California, San Diego, La Jolla, CA, United States; 4. Department of Physics, Hokkaido University, Sapporo, Japan*

Q10-08. **Withdrawn**

Q10-09. **Anomaly in electric transport behavior across Verwey transition in nanocrystalline Fe_3O_4 thin films.** *M. Bohra*[1] *1. Physics, Mahindra Ecole Centrale, Hyderabad, India*

Q10-10. **Withdrawn**

Q10-11. **Withdrawn**

Q10-12. **Withdrawn**

THURSDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session Q11
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING VI (Poster Session)

Yan Zhang, Chair
ALS Research, Tohoku University, Sendai, Japan

Q11-01. **Research of Harmonic Effects on Core Loss of Soft Magnetic Composite Materials.** Y. Li[1], *X. Yu*[1], Q. Yang[2,1] and C. Zhang[1] *1. Hebei University of Technology, Tianjin, China; 2. Electrical Engineering, Tianjin Polytechnic University, Tianjin, China*

Q11-02. **Loss Characteristics and Model Verification of Soft Magnetic Composites under Non-Sinusoidal Excitation.** Y. Li[1], *X. Yu*[1], Q. Yang[1], S. Yue[1] and C. Zhang[1] *1. Hebei University of Technology, Tianjin, China*

Q11-03. **Complementary design of nano-carbon/magnetic microwire hybrid fibers for tunable composite absorber.** *F. Qin*[1] and D. Estevez[1] *1. Materials Science and Engineering, Zhejiang University, Hangzhou, China*

Q11-04. **Electromagnetic properties of $Fe_{50}Co_{50}$/Cu granular composite materials containing flaky particles.** *T. Kasagi*[1], K. Kono[2], T. Tsutaoka[3] and S. Yamamoto[4] *1. National Institute of Technology, Tokuyama College, Shunan, Japan; 2. Graduate School of Education, Hiroshima University, Higashi, Japan; 3. Graduate School of Education, Hiroshima University, HIgashi-Hiroshima, Japan; 4. Graduate School of Engineering, University of Hyogo, Himeji, Japan*

Q11-05. **Microwave Absorption Properties of $Nd_2Co_{17-x}Si_x$ / Paraffin Composite.** G. Qiao[1], W. Yang[1], C. Wang[1], S. Liu[1] and *J. Yang*[1] *1. School of Physics, Peking University, Beijing, China*

Q11-06. **Electromagnetic properties of Au/$Fe_{53}Ni_{47}$ Hybrid Granular Composite Materials.** *K. Kono*[1], T. Tsutaoka[1], T. Kasagi[2] and S. Yamamoto[3] *1. Graduate School of Education, Hiroshima University, Higashi, Japan; 2. National Institute of Technology, Tokuyama College, Shunan, Japan; 3. Graduate School of Engineering, University of Hyogo, Himeji, Japan*

Q11-07. **Proportions of reversible and irreversible magnetization processes along hysteresis loops of selected soft magnetic composites.** Z. Bircakova[1], *P. Kollar*[1], M. Jakubcin[1], J. Fuzer[1], R. Bures[2] and M. Faberova[2] *1. Institute of Physics, Faculty of Science, P.J. Šafárik University, Kosice, Slovakia; 2. Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia*

Q11-08. **Soft Magnetic Metal-Polymer Hybird Composites Mixed with Nano-Sized Iron Powder for Power Inductors.** S. Lee[1], *H. Kim*[1], J. Yeo[1,2], J. Kim[2], S. An[2] and B. Lee[1] *1. Department of Physics and Oxide Research Center, Hankuk University of Foreign Studies, Yongin-si, The Republic of Korea; 2. Samsung Electronics, Suwon-si, The Republic of Korea*

Q11-09. **Magnetic Properties of Metal-Free Nitrogen-Doped Graphene Quantum Dots.** *M. Sultan*[1], V. Makarov[1], F. Mendoza[1], W. Jadwisienczak[4], D.G. Barrionuevo Diestra[1], M. Sajjad[2], B. Weiner[3] and G. Morell[1] *1. Department of Physics, University of Puerto Rico, San Juan, PR, United States; 2. Department of Physics and Astronomy, Western Kentucky University, Bowling Green, KY, United States; 3. Department of Chemistry, University of Puerto Rico, San Juan, PR, United States; 4. School of Electrical Engineering and Computer Science, Ohio University, Athens, OH, United States*

Q11-10. **Engineering Nanocomposites Graphene Quantum Dots and Magnetic Nanoparticles; Synthesis, Optical and Magnetic Properties.** *M. Sajjad*[1], V. Makarov[2], M. Sultan[2], W. Jadwisienczak[3], B. Weiner[4] and G. Morell[2] *1. Department of Physics and Astronomy, Western Kentucky University, Bowling Green, KY, United States; 2. Department of Physics, University of Puerto Rico, San Juan, PR, United States; 3. School of Electrical Engineering and Computer Science, Ohio University, Athens, OH, United States; 4. Department of Chemistry, University of Puerto Rico, San Juan, PR, United States*

Session Q12
SPIN STRUCTURES AND TRANSPORT PROPERTIES III (Poster Session)

Yang Ma, Chair
Peking University, Beijing, China

Q12-01. **Experimental Observation of J_{eff}=1/2 state in Cuprate System $CuAl_2O_4$.** *H. Cho*[1,2], S. Kim[1,2], C. Kim[1,2] and J. Park[1,2] *1. Department of Physics, Seoul National University, Seoul, The Republic of Korea; 2. Department of Physics, IBS-CCES, Seoul, The Republic of Korea*

Q12-02. **Magnetic properties and structure as a function of hole doping and disorder in $Pr_{2-x}Sr_xNiO_{4+\delta}$.** *M. Frontzek*[1], J. Schefer[2], L. Keller[2], S. Mishra[3], W. Paulus[4] and M. Ceretti[4] *1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Laboratory for Neutron Scattering, Paul Scherrer Institut, Villigen, Switzerland; 3. EMPA, Duebendorf, Switzerland; 4. Institut Charles Gerhardt, Université de Montpellier, Montpellier, France*

Q12-03. **Magnetic frustration in the intermetallic $Dy_2Co_3Al_9$.** *M. Henriques*[1], D. Gorbunov[2], B. Ouladdiaf[5], N. Qureshi[3], C. Salazar-Mejia[2], J. Gronemann[2], A.V. Andreev[1], M. Uhlarz[2], Y. Skourski[2], V. Petricek[1] and J. Wosnitza[2,4] *1. Institute of Physics, Czech Academy of Sciences, Prague, Czechia; 2. Hochfeld-Magnetolabor (HLD-EMFL), Dresden, Germany; 3. Institut Laue Langevin, Grenoble, France; 4. Institut für Festkörper- und Materialphysik, TU Dresden, Dresden, Germany*

Q12-04. **Magnetic correlations and hopping conduction in mixed valent single layered $La_{1.2}Sr_{0.8}CoO_4$.** *A. Ahad*[1], K. Gautam[2], K. Dey[2], S. Majid[1], F. Rahman[1], R. Choudhary[2] and D. Shukla[2] *1. Physics, Aligarh Muslim University, Aligarh, Aligarh, India; 2. Material Science, UGC-DAE,CSR, Indore, India*

Q12-05. **Insulator-metal and structural transitions through applied pressure in 2D hexagonal antiferromagnet $FePS_3$.** C.R. Haines[3,4], *M.J. Coak*[1,2], G.I. Lampronti[4], C. Liu[3,5], H. Hamidov[3,6], A.R. Wildes[7], D. Daisenberger[8], P. Nahai-Williamson[3] and S.S. Saxena[3,9] *1. IBS Centre for Correlated Electron Systems, Seoul National University, Seoul, The Republic of Korea; 2. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 3. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 4. Department of Earth Sciences, University of Cambridge, Cambridge, United Kingdom; 5. CamCool Research Ltd, Cambridge, United Kingdom; 6. Navoiy Branch, Academy of Sciences of Uzbekistan, Navoiy, Uzbekistan; 7. Institut Laue-Langevin, Grenoble, France; 8. Diamond Light Source, Didcot, United Kingdom; 9. MISiS, National University of Science and Technology, Moscow, Russian Federation*

Q12-06. **J_{eff}=1/2 Exciton Fano Resonances in Pyrochlore Iridates with All-in/All-out Magnetic Order.** *A. Boris*[1], A. Yaresko[1], T. Larkin[1], K. Rabinovich[1], A. Krajewska[1,2], T. Takayama[1,2], H. Takagi[1,2] and B. Keimer[1] *1. Max Planck Institute for Solid State Research, Stuttgart, Germany; 2. Institute for Functional Materials and Quantum Technology, University of Stuttgart, Stuttgart, Germany*

Q12-07. **Electronic structures and magnetic properties of metal-doped WS_2 monolayer in *ab initio* calculations.** J. Hyun[1] and *M. Kim*[2] *1. Institute of Advanced Materials and Systems, Sookmyung Women's University, Seoul, The Republic of Korea; 2. Department of Applied Physics, Sookmyung Women's University, Seoul, The Republic of Korea*

Q12-08. **Fundamental mechanisms of spin depolarization in half-metallic ferromagnet CrO_2 revealed by high-resolution spin-resolved photoemission spectroscopy.** *H. Fujiwara*[1], K. Terashima[2], M. Sunagawa[1], Y. Yano[1], T. Nagayama[1], T. Fukura[1], F. Yoshii[1], Y. Matsuura[1], M. Ogata[1], T. Wakita[2], K. Yaji[3], A. Harasawa[3], K. Kuroda[3], S. Shin[3], Y. Muraoka[1,2] and T. Yokoya[1,2] *1. Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan; 2. Research Institute for Interdisciplinary Science, Okayama University, Okayama, Japan; 3. Institute for Solid State Physics, The University of Tokyo, Tokyo, Japan*

Q12-09. **Withdrawn**

Q12-10. **Neutron Investigations of the Multiferroic Skyrmion GaV_4S_8.** *W.D. Ratcliff*[1], J.W. Lynn[1], M. Bleuel[1], L. Zhang[2,3] and S. Cheong[4] *1. NCNR, NIST, Gaithersburg, MD, United States; 2. Materials, Max Plank POSTECH, Pohang, The Republic of Korea; 3. POSTECH, Pohong, The Republic of Korea; 4. Physics and Astronomy, Rutgers University, Piscataway, NJ, United States*

Q12-11. **The Swedish QuEST for BIFROST and Novel Quantum Materials.** *J. Hellsvik*[1,2], Y. Sassa[3], E. Nocerino[4], R. Toft-Petersen[5,7], M. Geilhufe[1], S. Borysov[1,5], A. Balatsky[1], O. Eriksson[3], C. Rüegg[6] and M. Månsson[4] *1. Nordita, Stockholm, Sweden; 2. KTH Royal Institute of Technology, Stockholm, Sweden; 3. Uppsala University, Uppsala, Sweden; 4. Applied Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 5. DTU Technical University of Denmark, Copenhagen, Denmark; 6. Neutrons and Muons, Paul Scherrer Institute, Villigen PSI, Switzerland; 7. European Spallation Source (ESS), Lund, Sweden*

Q12-12. **Coupled spin dimers driven by charge and *p*-orbital ordering in an open-shell *p*-electron Rb_4O_6 compound.** *D. Arcon*[1,2] *1. Institute "Jozef Stefan", Ljubljana, Slovenia; 2. Faculty of Mathematics and Physics, University of Ljubljana, Ljubljana, Slovenia*

Session Q13
SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE V
(Poster Session)

Xuepeng Qiu, Chair
Tongji University, Shanghai, China

Q13-01. **Spin-orbit torques in silicene zigzag nanoribbons.** *S. Chen*[1] *1. Department of Applied Physics and Chemistry, University of Taipei, Taipei, Taiwan*

Q13-02. **Detection of spin-orbit torques generated from interfacial spin-orbit scattering at Pt/Co interface.** *Y. Hibino*[1], T. Koyama[1] and D. Chiba[1] *1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*

Q13-03. **Spin orbit torque switching in Co/Pt/Co multilayer with mixed magnetic anisotropies.** *W. Skowronski*[1], S. Lazarski[1], S. Zietek[1], J. Kanak[1], T. Stobiecki[1,3], M. Schmidt[2], J. Aleksiejew[2] and F. Stobiecki[2] *1. Department of Electronics, AGH University of Science and Technology, Kraków, Poland; 2. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland; 3. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland*

Q13-04. **Role of dimensional crossover on spin-orbit torque efficiency in magnetic insulator thin films.** *Q. Shao*[1], C. Tang[2], G. Yu[1], A. Navabi[1], C. He[1], J. Li[2], P. Upadhyaya[3], Y. Liu[2], S. Kim[3], S. Razavi[1], Q. He[1], Y. Tserkovnyak[3], J. Shi[2] and K.L. Wang[1,3] *1. Electrical and Computer Engineering, UCLA, Los Angeles, CA, United States; 2. Physics and Astronomy, UCR, Riverside, CA, United States; 3. Physics and Astronomy, UCLA, Los Angeles, CA, United States*

Q13-05. **Spin-orbit torque in [Co/W/Pt] superlattices.** *W. Ham*[1], S. Kim[1,2], Y. Shiota[1], T. Moriyama[3] and T. Ono[1,4] *1. Institute for Chemical Research, Kyoto University, Uji, Japan; 2. Department of Physics, University of Ulsan, Ulsan, The Republic of Korea; 3. Kyoto University, Uji, Japan; 4. Center for Spintronics Research Network(CSRN), Osaka University, Osaka, Japan*

Q13-06. **Withdrawn**

Q13-07. **Spin-Orbit Torque Ferromagnetic Resonance in Transferred-Topological Insulator/Normal Metal/ Ferromagnetic Metal Heterostructure.** *Y. Liu*[1], C. Chen[1], S. Yang[1], L. Chang[3], S. Lee[2], M. Hong[4] and J. Kwo[1] *1. Physics, National Tsing Hua University, Hsinchu, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Graduate Institute of Applied Physics and Department of Physics, National Taiwan University, Taipei, Taiwan*

Q13-08. **Anomalous Spin-Orbit-Torque Switching In Co/Pt Multilayer-based Synthetic Antiferromagnets.** L. Zhu[1], X. Xu[1], K. Meng[1], Y. Wu[1], J. Miao[1] and *Y. Jiang*[1] *1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China*

Q13-09. **Dynamical Role of the Orbital Degree of Freedom in the Intrinsic Spin and Orbital Hall Effects.** *D. Go*[1], C. Kim[2] and H. Lee[1] *1. Department of Physics, Pohang University of Science and Technology, Pohang, The Republic of Korea; 2. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea*

Q13-10. **Interfacial Oxygen induced enhancement of Spin-Orbit Torques.** *J. Nath*[1,2], A. Trifu[1,2], S. Auffret[1,2], G. Gaudin[1,2] and I. Miron[1,2] *1. SPINTEC (CEA/CNRS), Grenoble, France; 2. Université Grenoble Alpes, Grenoble, France*

Q13-11. **Current-induced magnetization switching using an electrically insulating spin-torque generator.** *H. An*[1] and K. Ando[1] *1. Keio University, Yokohama, Japan*

Q13-12. **Non-local spin transport in ferromagnetic nanowires subject to spin-orbit torques.** *E. Iacocca*[2,1], T. Silva[1] and M. Hoefer[2] *1. NIST, Boulder, CO, United States; 2. Applied Mathematics, University of Colorado, Boulder, Boulder, CO, United States*

Q13-13. **Thermally Driven Anomalous Hall Effect Transitions in FeRh for Spin Current Detection.** *A. Popescu*[1], P. Rodriguez-Lopez[2,3], P.M. Haney[4] and L. Woods[1] *1. Department of Physics, University of South Florida, Tampa, FL, United States; 2. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 3. GISC-Grupo Interdisciplinar de Sistemas Complejos, Madrid, Spain; 4. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD, United States*

Session Q14
SURFACE AND INTERFACE EFFECTS II
(Poster Session)

Gong Chen, Chair
University of California, Davis, Davis, CA, United States

Q14-01. **Interface proximity effects near a domain wall in antiferromagnet/superconductor heterostructures.** G. Forestier[1], O. Gladii[1], R.L. Seeger[1], S. Auffret[1], I. Joumard[1], C. Gomez[2], A. Buzdin[3,4] and *V. Baltz*[1] *1. SPINTEC, Univ. Grenoble Alpes / CNRS / INAC-CEA / GINP, Grenoble, France; 2. G-INP / CIME Nanotech, Grenoble, France; 3. Univ Bordeaux, CNRS, UMR 5798, LOMA, Bordeaux, France; 4. Univ Cambridge, Dept Mat Sci & Met, Cambridge, France*

Q14-02. **Effect Of Buffer Layers On The Magnetic Behaviour And Thermal Stability Of CoFeB Film.** *J. Dwivedi*[1], M. Gupta[2], V.R. Reddy[2], A. Mishra[1], V. Srihari[3], K.K. Pandey[3] and A. Gupta[4] *1. School of Physics, Devi Ahilya University, INDORE, India; 2. UGC-DAE CSR, Indore, India; 3. High Pressure & Synchroton Radiation Physics Division, Bhabha Atomic Research Centre, Mumbai, India; 4. Amity Center for Spintronic Materials, Amity University, Noida, India*

Q14-03. **Giant magnetic anisotropy in two dimensional honeycomb hafnene monolayer.** A. Hashmi[2] and *J. Hong*[1] *1. Physics, Pukyong National Univ, Busan, The Republic of Korea; 2. University of Tsukuba, Tsukuba, Japan*

Q14-04. **Effects of Imprinting on Topological Structures in Thin Multilayers with DMI.** *N. Kent*[1,2], R. Streubel[3], C.A. Lambert[4], S. Dhuey[5], M. Im[2] and P. Fischer[1,2] *1. Physics, University of California, Santa Cruz, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 4. Department of Electrical Engineering and Computer Science, University of California, Berkeley, CA, United States; 5. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

Q14-05. **Interfacial Dzyaloshinskii-Moriya interactions in W/CoFeB/MgO film systems with varying the thickness of W layer.** *G. Kim*[1], A.S. Samardak[2], Y. Kim[1], I. Cha[1], A. Ognev[2], A. Sadovnikov[3], S. Nikitov[4] and Y. Kim[1] *1. Department of Materials Science & Engineering, Korea University, Seoul, The Republic of Korea; 2. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 3. Nonlinear Physics, Saratov State University, Saratov, Russian Federation; 4. IRE RAS, Moscow, Russian Federation*

Q14-06. **Long-range Magnetic Proximity Effects in Amorphous Exchange-spring Magnets.** *F. Magnus*[1,3], K.A. Thorarinsdottir[1], T.P. Hase[2], G. Andersson[3] and B. Hjörvarsson[3] *1. Science Institute, University of Iceland, Reykjavik, Iceland; 2. Physics, University of Warwick, Coventry, United Kingdom; 3. Dept of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

Q14-07. **Withdrawn**

Q14-08. **Withdrawn**

Q14-09. **Withdrawn**

Q14-10. **The Dzyaloshinskii-Moriya interaction in the epitaxial Fe/Pt(110) system: Theory and Experiment.** *H. Nembach*[1,2], G. Chen[3], B. Zimmermann[4], A.K. Schmid[5], K. Liu[3], J. Shaw[1] and S. Blügel[4] *1. NIST, Boulder, CO, United States; 2. JILA, University of Colorado at Boulder, Boulder, CO, United States; 3. Physics Department, University of California, Davis, CA, United States; 4. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany; 5. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

Session Q15
THEORY AND MODELLING OF NANOSTRUCTURES III (Poster Session)

Marijan Beg, Chair
European XFEL GmbH, Schenefeld, Germany

Q15-01. **Mapping of the Magnetic Anisotropy in Nanostructured Permanent Magnet: a Micromagnetic Study.** *H.T. Nong*[1], T.K. Mai[2], F. Schoenstein[1], N. Jouini[1] and S. Mercone[1] *1. Laboratoire des Sciences des Procédés et Matériaux (LSPM) - UPR 3407 du C.N.R.S. Institut Galilée - Université Paris13, VILLETANEUSE, France; 2. Hoya Glass Disk company, Hanoi, Vietnam*

Q15-02. **First Principles Model of Magnetic Nanoparticle Behavior in Various Fluid Environments.** *P. Malik*[1] and B. Shapiro[1] *1. Bioengineering, University of Maryland, Olney, MD, United States*

Q15-03. **Enhancement of the Energy Product in Soft- and Hard-magnetic Mixtures.** *N. Kim*[1], H. Han[1], D. Jung[1] and K. Lee[1] *1. School of Materials Science and Engineering, Ulsan National Institute of Science and Technology, Ulsan, The Republic of Korea*

Q15-04. **Field dependence of the blocking temperature at increasing size: An empirical approach for cobalt ferrite nanoparticles.** *C.R. Stein*[1,2], M.S. Almeida[1], M.E. Gusmão[1], M.N. Borges[1] and P.C. Morais[2,3] *1. Physics, Federal Institute of Rondônia, Porto Velho, Brazil; 2. Physics, University of Brasília, Brasília, Brazil; 3. School of Chemistry and Chemical Engineering, Anhui University, Hefei, China*

Q15-05. **NARMAX Model-based Hysteresis Modeling of Magnetical Shape Memory Alloy Actuator.** Y. Yu[1], P. Yang[1] and *M. Zhou*[1] *1. Jilin University, Changchun, China*

Q15-06. **Quantum Torque of a Torsional Oscillator Coupled to Molecular Magnets.** *G. Kim*[1] *1. Physics and Astronomy, Sejong University, Seoul, The Republic of Korea*

Q15-07. **Micromagnetic Modelling of Switching and Spin Relaxation in Rectangular Magnetic Nanostructures under 1 GHz AC Microwave Magnetic Field.** F. Sahbaz[1] and *M.C. Onbasli*[1] *1. Electrical and Electronics Engineering, Koc University, Istanbul, Turkey*

Q15-08. **Atomistic Modelling of Granular Exchange Bias Systems.** *S. Jenkins*[1], R. Chantrell[1] and R.F. Evans[1] *1. Physics, University of York, York, United Kingdom*

Q15-09. **Withdrawn**

Q15-10. **Field dependence of the blocking temperature at increasing size: An empirical approach for cobalt ferrite nanoparticles.** *C.R. Stein*[1], M.S. Silva de Almeida[1], M.N. Borges[1] and P.C. Morais[2,3] *1. Physical, Federal Institute of Rondônia, Porto Velho, Brazil; 2. Anhui University, Hefei, China; 3. Universidade de Brasília, Brasília, Brazil*

THURSDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session Q16
TOPOLOGICAL SCES V: TOPOLOGICAL KONDO SYSTEMS (Poster Session)

Lu Li, Chair
University of Michigan, Ann Arbor, MI, United States

Q16-01. **Topological mirror Kondo semi-metals and half-metals in two-dimensional magnetic systems.** *K. Kimura*[1], T. Yoshida[1] and N. Kawakami[1] *1. Department of Physics, Kyoto University, Kyoto, Japan*

Q16-02. **Weyl-Kondo Semimetal and Proximate Phases in Heavy Fermion Systems.** *S.E. Grefe*[1], H. Lai[1], S. Paschen[2] and Q. Si[3] *1. Physics and Astronomy, Rice University, Houston, TX, United States; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 3. Rice University, Houston, TX, United States*

Q16-03. **ARPES study of the Möbius Kondo Insulator candidate CeRhSb.** S. Seong[1], E. Lee[1], J. Denlinger[2], K. Kim[3], T. Nam[3], B. Min[3], T. Takabatake[4] and *J. Kang*[1] *1. Physics, The Catholic University of Korea, Bucheon, The Republic of Korea; 2. Lawrence Berkeley Laboratory, Advanced Light Source, Berkeley, CA, United States; 3. Physics, Pohang University of Science and Technology, Pohang, The Republic of Korea; 4. Hiroshima University, Higashi-Hiroshima, Japan*

Q16-04. **Non-magnetic element substitution effect in Kondo insulator YbB_{12} and exotic surface effect in this alloy system.** *F. Iga*[1,2], W. Matsuhra[2], H. Nakayama[1], W. Hirano[2], K. Yokomichi[2], A. Kondo[5], K. Kindo[5] and H. Yoshizawa[5] *1. College of Science, Ibaraki University, Mito, Japan; 2. Institute of Quantum Beam Science, Ibaraki University, Mito, Japan; 5. ISSP, The University of Tokyo, Mito, Japan*

Q16-05. **Photoemission spectroscopy in 2-dimensional Topological Kondo Insulators.** *E. Ramos Rodriguez*[1] *1. Departamento de Física, Universidad Nacional de Colombia, Bogotá D. C., Colombia*

Q16-06. **Electron Spin Resonance in Gd^{3+} doped Kondo insulator SmB_6.** *J.C. Souza*[1], P. Rosa[2], R.R. Urbano[1], C. Rettori[1,3], Z. Fisk[4] and P. Pagliuso[1] *1. DEQ, Instituto de Física Gleb Wataghin - Unicamp, Campinas, Brazil; 2. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Natural and Humans Science Center, UFABC, Santo André, Brazil; 4. Department of Physics and Astronomy, University of California, Irvine, Irvine, CA, United States*

Q16-07. **The role of Sm vacancies in partially transforming SmB$_6$ into a nodal semimetal.** *N. Harrison*[1] *1. MPA-MAG, Los Alamos National Laboratory, Los Alamos, NM, United States*

Q16-08. **Edge Magnetic Quantum Phase Transition in a Kane-Mele-Anderson Lattice Model for Topological Kondo Insulators.** *J. Zhu*[1] and J. Julien[2] *1. Theoretical Division and Center for Integrated Nanotechnologies, Los Alamos National Laboratory, Los Alamos, NM, United States; 2. Institut Neel CNRS & Universite de Grenoble Alpes, Grenoble, France*

Q16-09. **Withdrawn**

THURSDAY MORNING 11:30

ESPLANADE BALLROOM

Session R1
PLENARY III: TOPOLOGICAL WEYL MAGNETS: FROM MULTIPOLE TO ROOM TEMPERATURE FUNCTIONS

Leon Balents, Chair
University of California, Santa Barbara, Santa Barbara, CA, United States

11:30

R1-01. **Topological Weyl Magnets: from multipole to room temperature functions.** ***(Invited)*** *S. Nakatsuji*[1,2] *1. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. CREST, Japan Science and Technology Agency, Kawaguchi, Japan*

THURSDAY
AFTERNOON
1:30

ESPLANADE 157

Session S1
NEW ROUTES AND MATERIALS TOWARD QUANTUM CRITICALITY

Stephen Julian, Chair
University of Toronto, Toronto, ON, Canada

1:30

S1-01. **A Local Quantum Phase Transition in YFe_2Al_{10}. *(Invited)*** *M.C. Aronson*[1] *1. Department of Physics and Astronomy, Texas A&M University, College Station, TX, United States*

2:00

S1-02. **New Methods and New Materials to Study Nematic Quantum Phase Transitions. *(Invited)*** *I.R. Fisher*[1] *1. Applied Physics, Stanford University, Stanford, CA, United States*

2:30

S1-03. **Multidimensional entropy landscape of quantum criticality. *(Invited)*** *K. Grube*[1], S. Kuntz[1], D.A. Zocco[2], O. Stockert[3], Q. Si[4] and H. von Löhneysen[1] *1. Institute for Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany; 2. Institute of Solid State Physics, Vienna University of Technology, Wien, Austria; 3. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 4. Rice University, Houston, TX, United States*

THURSDAY
AFTERNOON
1:30

ESPLANADE 158

Session S2
MULTIFERROIC AND FUNCTIONAL MATERIALS I

Yoshinori Onose, Chair
Tohoku University, Sendai, Japan

1:30

S2-01. **The Final Chapter in the Saga of YIG. *(Invited)*** *A. Princep*[1,2], R. Ewings[3], A. Boothroyd[2], S. Toth[4], S. Ward[4] and C. Dubs[5] *1. ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Oxford, United Kingdom; 2. University of Oxford, Oxford, United Kingdom; 3. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom; 4. Paul Scherrer Institut, Villigen, Switzerland; 5. INNOVENT e.V., Technologieentwicklung, Jena, Germany*

2:00

S2-02. **The effect of hydrostatic pressure on magnetostructural transition in ferromagnetic cobaltites: $Pr_{1-x}Sr_xCoO_3$ (x = 0.4 - 0.6).** A. Chanda[1], M. Kumari[1] and *R. Mahendiran*[1] *1. Physics Dept, National University of Singapore, West Singapore, Singapore*

2:15

S2-03. **Nonreciprocal magnons and magnetic properties of the noncentrosymmetric antiferromagnet α-$Cu_2V_2O_7$.** *K. Matan*[1] *1. Physics, Mahidol University, Bangkok, Thailand*

2:30

S2-04. **Neutron Diffraction Study of Co doping effect in the Magnetic Interactions in Ni-Mn-In Metamagnetic Shape Memory Alloys.** *J. López-García*[1,2], V. Recarte[3], I. Unzueta Solozabal[4], J. Rodríguez-Velamazán[5], I. Pérez-Landazábal[6], V. Sánchez-Alarcos[7] and F. Plazaola[8] *1. Institut Laue-Langevin, Fontaine, France; 2. Universidad Publica de Navarra, Pamplona, Spain; 3. Universidad Publica de Navarra, Pamplona, Spain; 4. Electricity & Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 5. Institut Laue-Langevin, Grenoble, France; 6. Universidad Publica de Navarra, Pamplona, Spain; 7. Universidad Publica de Navarra, Pamplona, Spain; 8. Universidad del Pais Vasco, Bilbao, Spain*

2:45

S2-05. **Evidence for Dicke Cooperativity in Magnetic Interactions.** *X. Li*[1], M. Bamba[2], N. Yuan[3], Q. Zhang[4], Y. Zhao[5], M. Xiang[3], K. Xu[3], Z. Jin[3], W. Ren[3], G. Ma[3], S. Cao[3], D. Turchinovich[6] and J. Kono[1] *1. Rice University, Houston, TX, United States; 2. Osaka University, Osaka, Japan; 3. Shanghai University, Shanghai, China; 4. Argonne National Laboratory, Lemont, IL, United States; 5. Peking University, Beijing, China; 6. University of Duisburg-Essen, Duisburg, Germany*

THURSDAY
AFTERNOON
1:30

ESPLANADE 159

Session S3
NEW MAGNETIC MATERIALS IV

Ziyao Zhou, Co-Chair
Xi'an Jiaotong University, Xi'an, China
Yunpeng Chen, Co-Chair
University of Delaware, Newark, DE, United States

1:30

S3-01. **Magnetostrictive multilayers for magnetoelectric magnetic field sensors. *(Invited)*** D. Meyners[1], J. McCord[1] and *E. Quandt*[1] *1. Institute for Materials Science, University of Kiel, Kiel, Germany*

2:00

S3-02. **TMR sensors: challenges and applications.** ***(Invited)*** *P. Freitas*[1,2], S. Cardoso[2] and R. Ferreira[1] *1. International Iberian Nanotechnology Laboratory, Braga, Portugal; 2. INESC MN, Lisbon, Portugal*

2:30

S3-03. **Magnetic field sensors based on Surface Acoustic Wave resonators.** *K. Dumesnil*[1], V. Polewczyk[1], M. Moutaouekkil[1], H. Mishra[1], S. Petit-Watelot[1], S. Hage-Ali[1], H. Mjahed[1], O. Elmazria[1], F. Montaigne[1], D. Lacour[1], M. Hehn[1], N. Tiercelin[2], Y. Dusch[2], A. Talbi[2] and O. Bou Matar[2] *1. Institut Jean Lamour, CNRS - Université de Lorraine, Nancy, France; 2. IEMN, Université de Lille, Lille, France*

2:45

S3-04. **The Control of Non-Collinear Antiferromagnetic Mn_3X (X = Ga, Sn) Thin Film Growth Using a Twinned Ruthenium Buffer Layer.** *S. Kurdi*[1], J. Koo[2], P. Zilske[2], M. Vickers[1], L.A. Greer[1], Z.H. Barber[1] and G. Reiss[2] *1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. Center for Spinelectronic Materials and Devices, Bielefeld University, Bielefeld, Germany*

THURSDAY AFTERNOON 1:30 — ESPLANADE 160

Session S4
ANISOTROPY ENGINEERING OF MAGNETIC THIN FILMS AND MULTILAYERS II

Oscar Iglesias, Chair
University of Barcelona, Barcelona, Spain

1:30

S4-01. **Control emergent magnetic properties in Iridate-based superlattices.** ***(Invited)*** *D. Yi*[1,2] *1. The Geballe Laboratory for Advanced Materials, Stanford University, Stanford, CA, United States; 2. Applied Physics, Stanford University, Stanford, CA, United States*

2:00

S4-02. **Enabling the Rational Design of Magnetic Anisotropy in Epitaxial Oxides with Strain Doping.** A. Herklotz[1], Z. Gai[1], S.F. Rus[2], J. Shen[3], P.D. Rack[4] and *T.Z. Ward*[1] *1. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania; 3. Physics, Fudan University, Shanghai, China; 4. Materials Science and Engineering, University of Tennessee, Knoxville, TN, United States*

2:15

S4-03. **Switching of Co magnetization driven by antiferromagnetic-ferromagnetic phase transition of FeRh alloy in Co/FeRh bilayers.** *T. Slezak*[1], P. Drozdz[1], M. Slezak[1], K. Matlak[1], B. Matlak[1], K. Freindl[2], D. Wilgocka-Slezak[2], N. Spiridis[2] and J. Korecki[1,2] *1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Cracow, Poland; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Cracow, Poland*

2:30

S4-04. **Anisotropic Field Control of Antiferromagnetic Spin Axis through Interface Magnetism in (111)-oriented $La_{0.7}Sr_{0.3}MnO_3$/$LaFeO_3$ Heterostructures.** *I. Hallsteinsen*[1,2], K. Kjærnes[1], A.J. Grutter[3], D. Gilbert[3], B.J. Kirby[3], E. Arenholz[2] and T. Tybell[1] *1. Dept. of Electronic Systems, Norwegian University of Science and Technology, Berkeley, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States*

2:45

S4-05. **Graphene-Ferromagnet Thin-Film Structures with Field-Cool Controllable Perpendicular Magnetization and Coercive Field Asymmetries.** *M. Valvidares*[1], P. Gargiani[1], L. Melo Costa[1,2], P. Perna[2], R. Miranda[2] and J. Camarero[2] *1. ALBA Synchrotron Light Source, Cerdanyola del Valles, Spain; 2. IMDEA Nanociencia, Madrid, Spain*

THURSDAY AFTERNOON 1:30 — ESPLANADE 152

Session S5
MAGNETOELASTIC AND MAGNETOMECHANICAL II

Jayasimha Atulasimha, Chair
Virginia Commonwealth University, Richmond, VA, United States

1:30

S5-01. **Experimental measurements of the impact of interlocking on the magnetic properties of electrical steel sheets.** *A. Daem*[1], M.N. Ibrahim[1,2], P. Sergeant[1,3] and L. Dupré[1,3] *1. Department of Electrical Energy, Metals, Mechanical Constructions and Systems, Ghent University, Ghent, Belgium; 2. Electrical Engineering Department, Kafrelshiekh University, Kafrelshiekh, Egypt; 3. EEDT, Flanders Make, Ghent, Belgium*

1:45

S5-02. **Effect of Heat Treatment under High Magnetic Field on Crystallographic Orientation and Magnetic Properties of Non-Oriented Electrical Steel Sheets.** *T. Kinoshita*[1,2], T. Sato[2], H. Shimoji[3], S. Aihara[4] and T. Todaka[2] *1. Technology Research Center, Sumitomo Heavy Industries, Ltd., Yokosuka, Japan; 2. Oita University, Oita, Japan; 3. Dept. of Oita Industrial Research Institute., Oita, Japan; 4. BRIGHTEC co.,LTD, Oita, Japan*

2:00

S5-03. **Investigation of Electromagnetic Torque Capability Reduction of Electric Machine due to Magnetic Property Deterioration of Laminations.** *A. Mollaeian*[1], M. Mehdi[2], E. Ghosh[1], A. Edrisy[2], S. Kim[1], J. Tjong[1] and N.C. Kar[1] *1. Electrical and Computer Engineering, University of Windsor, Windsor, ON, Canada; 2. Material Engineering, University of Windsor, Windsor, ON, Canada*

2:15

S5-04. **Tailoring the Microstructure of Soft Magnetic Composites for Electric Motor Applications.** *D. Schuller*[1], D. Hohs[1], S.L. Schweizer[1], D. Goll[1] and G. Schneider[1] *1. Materials Research Institute, Aalen University, Aalen, Germany*

2:30

S5-05. **A Novel Iron Core Structure Design for Power Transformers Considering Joints and Magnetostriction.** *J. Li*[1], S. Wang[1], H. Gao[2], J. Hong[1] and M. Liu[2] *1. State Key Laboratory of Control and Simulation of Power System and Generation Equipments, Tsinghua University, Beijing, China; 2. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

2:45

S5-06. **A Novel Wound Field Switched Flux Machine with Zero-Sequence Field Current Excitation.** *S. Lyu*[1], H. Yang[1], H. Lin[1] and Z. Zhu[2] *1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom*

THURSDAY
AFTERNOON
1:30

ROOM 105

Session S6
DOMAIN WALL DYNAMICS IV

Mi-Young Im, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

1:30

S6-01. **The correlations among the interfacial Dzyaloshinskii-Moriya interaction and other related interface effects probed by an inelastic light scattering.** ***(Invited)*** *J. Kim*[1,2] and C. You[3] *1. DGIST-LBNL Research Center for Emerging Materials, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Daegu, The Republic of Korea; 2. Intelligent Devices and Systems Research Group, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Daegu, The Republic of Korea; 3. Department of Emerging Materials, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Deagu, The Republic of Korea*

2:00

S6-02. **Depinning, propagation and braking of a single domain wall in an amorphous microwire.** E. Calle[1], M. Vázquez[1] and *R. Perez del Real*[1] *1. Instituto de Ciencia de Materiales de Madrid (CSIC), Madrid, Spain*

2:15

S6-03. **Electrical domain wall motion in cylindrical magnetic nanowires.** *S.Y. Martin*[1,2], M. Schöbitz[1,2], L. Cagnon[2], L. Ranno[2], C. Thirion[2] and O. Fruchart[1] *1. Univ. Grenoble Alpes, CNRS, CEA, INAC-Spintec, Grenoble, France; 2. Univ. Grenoble Alpes, CNRS, Institut Néel, Grenoble, France*

2:30

S6-04. **Topological defects and strong emergent electric fields in ferromagnetic nanoparticles.** *M. Charilaou*[1], H. Braun[2] and J. Löffler[1] *1. Department of Materials, ETH Zurich, Zurich, Switzerland; 2. University College Dublin, Dublin, Ireland*

2:45

S6-05. **Skyrmion formation in $SrRuO_3$-$SrIrO_3$ epitaxial bilayer.** *M. Bacani*[1], A. Mandru[1], X. Zhao[1], M. Penedo[1], A. Ahmed[2], K. Meng[2], M.A. Marioni[1], F. Yang[2] and H.J. Hug[1,3] *1. Empa, Swiss Federal Laboratories for Materials Science and Technology, Duebendorf, Switzerland; 2. Department of Physics, The Ohio State University, Columbus, OH, United States; 3. Department of Physics, University of Basel, Basel, Switzerland*

THURSDAY
AFTERNOON
1:30

ROOM 104

Session S7
ULTRAFAST MAGNETISM AND THZ SPINTRONICS III

Yuriy Mokrousov, Chair
Forschungszentrum Julich, Julich, Germany

1:30

S7-01. **Femtomagnetics: Critical Behavior within 20 fs Drives Laser-induced Non-equilibrium Spin Dynamics in Ni.** ***(Invited)*** *Z. Tao*[1], P. Tengdin[1], W. You[1], C. Chen[1], X. Shi[1], D. Zusin[1], Y. Zhang[1], C. Gentry[1], A. Blonsky[1], M. Keller[2], P.M. Oppeneer[3], H. Kapteyn[1] and M. Murnane[1] *1. JILA, University of Colorado Boulder, Boulder, CO, United States; 2. National Institute of Standards and Technology (NIST), Boulder, CO, United States; 3. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

2:00

S7-02. **Ultrafast demagnetization dynamics observed at $M_{2,3}$ edges of hcp Co - first-principles calculations.** *D. Legut*[1], K. Carva[2] and P.M. Oppeneer[3] *1. IT4Innovations, VSB-Technical University of Ostrava, Ostrava, Czechia; 2. Department of Condensed Matter Physics, Charles University, Prague, Czechia; 3. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

2:15

S7-03. **Understanding magnetostriction at femtosecond timescales via FePt nanoparticles.** *A. Reid*[1], X. Shen[1], P. Maldonado[2], T. Chase[1], K. Carva[3], Y. Takahashi[4], O. Hellwig[5], P.M. Oppeneer[2], X. Wang[1] and H. Dürr[1,2] *1. SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 2. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 3. Dept. Condensed Matter Physics, Charles University, Prague, Czechia; 4. NIMS, Tsukuba, Japan; 5. Physics, Chemnitz University of Technology, Chemnitz, Germany*

2:30

S7-04. **Quantum many-body dynamics of the Einstein-de Haas effect.** *J. Mentink*[1], M. Katsnelson[1] and M. Lemeshko[2] *1. Radboud University, Nijmegen, Netherlands; 2. Institute for Science and Technology Austria, Klosterneuburg, Austria*

2:45

S7-05. **Multi-level single shot all-optical magnetization switching mediated by spin-polarized hot electron transport.** S. Iihama[1,2], Y. Xu[1], M. Deb[1], G. Malinowski[1], M. Hehn[1], J. Gorchon[1], E.E. Fullerton[1,3] and *S. Mangin*[1] *1. Institut Jean Lamour, Université de Lorraine, Vandoeuvre-lès-Nancy, France; 2. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki, Japan; 3. Center for Memory and Recording Research, University of California San Diego, La Jolla, CA, United States*

THURSDAY AFTERNOON 1:30 — ROOM 306

Session S8
NON-CENTRO-SYMMETRIC SUPERCONDUCTORS

Hiroshi Amitsuka, Chair
Hokkaido University, Sapporo, Japan

1:30

S8-01. **Superconductivity in pressurized $CeRhGe_3$ and related non-centrosymmetric compounds.** ***(Invited)*** *L. Sun*[1], H. Wang[1], J. Guo[1], E. Bauer[2], V. Sidorov[3], P. Sun[1], Y. Yang[1], Q. Wu[1], T. Xiang[1] and J.D. Thompson[2] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Institute for High Pressure Physics,Russian Academy of Sciences, Moscow, Russian Federation*

2:00

S8-02. **Superconductivity Without Inversion and Time-Reversal Symmetries.** ***(Invited)*** *M.H. Fischer*[1], M. Sigrist[1] and D.F. Agterberg[2] *1. Institute for Theoretical Physics, ETH Zürich, Zürich, Switzerland; 2. Department of Physics, University of Wisconsin-Milwaukee, Milwaukee, WI, United States*

2:30

S8-03. **Magnetic Multipole Fluctuation and Superconductivity in Locally Noncentrosymmetric crystalline.** *J. Ishizuka*[1] and Y. Yanase[1] *1. Department of Physics, Kyoto University, Kyoto, Japan*

2:45

S8-04. **Single crystal growth and unusual magnetic properties of non-centrosymmetric compound $UIrSi_3$.** *F. Honda*[1], J. Valenta[2], J. Pospisil[2], M. Vališka[2], P. Opletal[2], J. Kastil[3], M. Míšek[3], M. Divis[2], L. Sandratski[4], J. Prchal[2] and V. Sechovský[2] *1. Institute for Materials Research, Tohoku University, Oarai, Japan; 2. Faculty of Mathematics and Physics, Charles University, Prague 2, Czechia; 3. Institute of Physics, AS CR, Praha, Czechia; 4. Max-Planck-Institute of Microstructure Physics, Halle, Germany*

THURSDAY AFTERNOON 1:30 — ROOM 307/308

Session S9
TOPOLOGICAL STATES IN TRANSITION METAL AND ORGANIC SYSTEMS

Fuchun Zhang, Chair
University of Chinese Academy of Sciences, Beijing, China

1:30

S9-01. **α-$RuCl_3$ beyond magnetic order.** ***(Invited)*** *R. Valenti*[1] *1. Theoretical Physics, University of Frankfurt, Frankfurt, Germany*

2:00

S9-02. **Anomalous spin correlations and excitonic instability of interacting massless Dirac electrons in an organic conductor.** ***(Invited)*** M. Hirata[1,2], K. Ishikawa[1], G. Matsuno[3], A. Kobayashi[3], K. Miyagawa[1], M. Tamura[4], C. Berthier[5] and *K. Kanoda*[1] *1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Department of Physics, Nagoya University, Nagoya, Japan; 4. Department of Physics, Tokyo University of Science, Noda, Japan; 5. Laboratoire National des Champs Magnétique Intenses, LNCMI-CNRS (UPR3228), Grenoble, France*

2:30

S9-03. **Pressure and strain dependent control of structure and band topology in the superconducting type-II Weyl semimetal candidate $MoTe_2$.** *C. Heikes*[1], I. Liu[3], W.D. Ratcliff[2], N. Butch[1,3], J. Paglione[3], T. Yildirim[1], T. Metz[3], C. Eckberg[3], H. Cao[4] and Y. Wu[4] *1. NIST Center for Neutron Research, Gaithersburg, MD, United States; 2. NCNR, NIST, Gaithersburg, MD, United States; 3. University of Maryland, College Park, MD, United States; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

2:45

S9-04. **Type-I superconductivity with an unusual surface state in the Dirac semimetal $PdTe_2$.** H. Leng[1], C. Paulsen[2,3], Y. Huang[1] and *A. de Visser*[1] *1. Institute of Physics, University of Amsterdam, Amsterdam, Netherlands; 2. Institut Néel CNRS, Grenoble, France; 3. Université Grenoble Alpes, Grenoble, France*

THURSDAY AFTERNOON 1:30 — ROOM 313/314

Session S10
THEORY AND SIMULATION OF MAGNETIC SYSTEMS III

Tsuyoshi Okubo, Chair
The University of Tokyo, Tokyo, Japan

1:30

S10-01. **Symmetry enhanced first-order phase transition in a two-dimensional quantum antiferromagnet.** ***(Invited)*** *A.W. Sandvik*[1,2] *1. Physics, Boston University, Boston, MA, United States; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

2:00

S10-02. **Investigation of Magnetic Dipole-dipole Interaction using Magnetic Density on Solid Oxygen Based on First-principles Approach.** *M. Obata*[1], M. Christivana[2] and T. Oda[1] *1. Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan; 2. Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa, Japan*

2:15

S10-03. **Spin-orbit coupling and magnetic long-range dipolar interaction for coupled spin-lattice dynamics.** *J. Tranchida*[1], A. Thompson[1], S. Plimpton[1], P. Thibaudeau[2], S. Moore[1] and M. Wood[1] *1. Sandia National Laboratories, Albuquerque, NM, United States; 2. DAM, Commissariat à l'Energie Atomique, Monts, France*

2:30

S10-04. **Parallel Computational Techniques for the Dipole-Dipole Interaction.** *R.A. Pepper*[1], M. Beg[2], D. Cortes-Ortuño[1], O. Hovorka[1] and H. Fangohr[2] *1. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom; 2. European XFEL GmbH, Schenefeld, Germany*

2:45

S10-05. **Phase diagram of dipolar-coupled XY moments on disordered square lattices.** *D. Schildknecht*[1,2], L. Heyderman[1,2] and P. Derlet[1] *1. Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. D-MATL, ETH Zurich, Zurich, Switzerland*

THURSDAY AFTERNOON 3:30 — ESPLANADE 157

Session T1
MAGNON WAVEGUIDES AND DEVICES III

Hans Nembach, Chair
NIST, Boulder, CO, United States

3:30

T1-01. **How to Generate Whispering Gallery Magnons.** ***(Invited)*** *K. Schultheiss*[2], R.V. Verba[1], K. Wagner[2,3], F. Wehrmann[2], L. Körber[2,3], A. Kákay[2], T. Hache[2,4], J. Fassbender[2,3], V. Tyberkevych[5], A.N. Slavin[5] and H. Schultheiss[2,3] *1. Institute of Magnetism, National Academy of Sciences of Ukraine, Kyiv 03142, Ukraine; 2. Helmholtz-Zentrum Dresden - Rossendorf, Institute of Ion Beam Physics and Materials Research, D-01328 Dresden, Germany; 3. Technische Universität Dresden, D-01062 Dresden, Germany; 4. Institut für Physik, Technische Universität Chemnitz, D-09107 Chemnitz, Germany; 5. Department of Physics, Oakland University, Rochester, MI, United States*

4:00

T1-02. **Magnonic band structure in a thin Permalloy film induced by dynamical coupling with a two dimensional array of Permalloy ellipses.** *G. Gubbiotti*[1], W. Yang[2], P. Graczyk[3], S. Dhuey[4], M. Krawczyk[3] and H. Schmidt[2] *1. IOM-CNR, Perugia, Italy; 2. University of California, Santa Cruz, Santa Cruz, CA, United States; 3. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland; 4. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

4:15

T1-03. **Direct observation of sub-100 nm spin wave propagation in magnonic wave-guides.** N. Träger[1], P. Gruszecki[2], F. Lisiecki[3], J. Förster[1], F. Groß[1], M. Weigand[1], P. Kuswik[3,4], J. Dubowik[3], G.A. Schütz[1], M. Krawczyk[2] and *J. Gräfe*[1] *1. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Faculty of Physics, Adam Mickiewicz Univeristy in Poznan, Poznan, Poland; 3. Institute of Molecular Phyiscs, Polish Academy of Sciences, Poznan, Poland; 4. Centre of Advanced Technology, Adam Mickiewicz University, Poznan, Poland*

4:30

T1-04. **Computing with spin waves: from magnetoelectric transducers to majority gates.** ***(Invited)*** F. Ciubotaru[1], D. Tierno[1,2], G. Talmelli[1,2], H. Ahmad[1,2], J.D. Costa[1,2], I.P. Radu[1], T. Devolder[3] and *C. Adelmann[1] 1. Imec, Leuven, Belgium; 2. KU Leuven, Leuven, Belgium; 3. C2N, CNRS, Université Paris-Sud, Orsay, France*

THURSDAY AFTERNOON 3:30

ESPLANADE 158

Session T2
ANOMALOUS HALL EFFECT AND ITINERANT MAGNETS

Valerio Scagnoli, Chair
ETH Zurich/ Paul Scherrer Institute, Zurich, Switzerland

3:30

T2-01. **Multiple-*q* Helimagnetism in an Itinerant Hexagonal Magnet.** ***(Invited)*** *R. Takagi*[1], J. White[2], S. Hayami[3], D. Honecker[4], H.M. Ronnow[5], Y. Tokura[1,6] and S. Seki[1] *1. RIKEN Center for Emergent Matter Science, Wako, Japan; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Hokkaido University, Sapporo, Japan; 4. Large Scale Structures, Institut Laue-Langevin, Grenoble, France; 5. Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 6. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*

4:00

T2-02. **Anomalous Hall effect in disordered Co_2FeSi Heusler-alloy thin films.** *B.K. Hazra*[1], M. Raja[2], R. Rawat[3], A. Lakhani[3], S. Kaul[1] and S. Srinath[1] *1. School of Physics, University of Hyderabad, Hyderabad, India; 2. Defence Metallurgical Research Laboratory, Hyderabad, India; 3. UGC-DAE Consortium for Scientific Research, Indore, India*

4:15

T2-03. **Manipulating Anomalous Hall Antiferromagnets with Magnetic Fields.** *H. Chen*[1], T. Wang[2], D. Xiao[3], G. Guo[2], Q. Niu[4] and A.H. MacDonald[4] *1. Physics, Colorado State University, Fort Collins, CO, United States; 2. National Taiwan University, Taipei, Taiwan; 3. Carnegie Mellon University, Pittsburgh, PA, United States; 4. Physics, The University of Texas at Austin, Austin, TX, United States*

4:30

T2-04. **Anomalous Hall effect in magnetic topological semimetals.** *Y. Sun*[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

4:45

T2-05. **Proximity effect induced magnetism in graphene.** *E.J. Seifert*[1,2], D.P. Gopalan[2], B. Hunt[2], M. Skowronski[1], A. Haglund[3] and D. Mandrus[3] *1. Materials Science, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, United States; 3. Materials Science, University of Tennessee, Knoxville, TN, United States*

THURSDAY AFTERNOON 3:30

ESPLANADE 159

Session T3
NEW INSTRUMENTS AND NEW TECHNIQUES

Christoph Klewe, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

3:30

T3-01. **Small-Angle Electron Diffraction and its application to Magnetic Materials.** *S. Mori*[1] *1. Materials Science, Osaka Prefecture University, Osaka, Japan*

3:45

T3-02. **Taiwan's new cold neutron triple-axis spectrometer SIKA.** *S. Yano*[1], J. Peng[1], G. Deng[2] and C. Wu[1] *1. Neutron Group, NSRRC, Hsinchu, Taiwan; 2. ACNS, ANSTO, Sydney, NSW, Australia*

4:00

T3-03. **Probing anisotropy with vectorial FORC-based measurement.** L. Stoleriu[1] and *A. Stancu[1] 1. Department of Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania*

4:15

T3-04. **Multifunctional Oblique Incidence Deposition Devices for Science and Industry.** *K. Schlage*[1], A. Siemens[1], S. Willing[1,3], L. Bocklage[1,2], C. Adolff[2], T. Gurieva[1] and R. Roehlsberger[1,2] *1. Photon Science, DESY, Hamburg, Germany; 2. The Hamburg Centre for Ultrafast Imaging, Hamburg, Germany; 3. PIER Helmholtz Graduate School, Hamburg, Germany*

4:30

T3-05. **Analysis of Magneto-Elastic Hybridized Effects due to the CEF.** *P. Cermak*[1,2], B. Liu[2], A. Schneidewind[2], C. Franz[3], P. Javorsky[1] and C. Pfleiderer[3] *1. Department of Condensed Matter Physics, Charles University in Prague, Prague, Czechia; 2. JCNS, Forschungszentrum Julich, Garching, Germany; 3. Technical University of Munich, Garching, Germany*

4:45

T3-06. **Efficiency Improvement of X-Ray Spectroscopy using Machine Learning.** *T. Ueno*[1], H. Hino[2] and K. Ono[3] *1. Quantum Beam Science Research Directorate, National Institutes for Quantum and Radiological Science and Technology, Sayo, Japan; 2. Department of Computer Science, University of Tsukuba, Tsukuba, Japan; 3. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan*

THURSDAY AFTERNOON 3:30

ESPLANADE 160

Session T4
TOPOLOGICAL INSULATORS AND SPIN-MAGNETORESISTANCE

Andrew Kent, Chair
New York University, New York, NY, United States

3:30

T4-01. **Manipulating Spin using Topological Insulator Heterostructures.** ***(Invited)*** *N. Samarth*[1] *1. Department of Physics & Materials Research Institute, Penn State University, University Park, PA, United States*

4:00

T4-02. **Origin of threshold current density for asymmetric magnetoresistance in Py/Pt bilayer.** *T. Li*[1], S. Kim[2], S. Lee[3], S. Lee[4], T. Koyama[5], D. Chiba[5], T. Moriyama[2,7], K. Kim[2,6] and T. Ono[2,7] *1. Kyoto University, Kyoto, Japan; 2. Institute for Chemical Research, Kyoto University, Uji, Japan; 3. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul, The Republic of Korea; 4. Korea University, Gyung-gi, The Republic of Korea; 5. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 6. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 7. CSRN, Osaka University, Osaka, Japan*

4:15

T4-03. **Unidirectional Magnetoresistance in CoGd/Pt Bilayers.** *S. Lee*[1], J. Lee[2], J. Kim[2], S. Kim[3], N. Lee[4], S. Park[4], B. Park[2] and K. Kim[1] *1. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Materials Science and Engineering, KAIST, Daejeon, The Republic of Korea; 3. Department of Physics, University of Ulsan, Ulsan, The Republic of Korea; 4. Spin Engineering Physics Team, Division of Scientific Instrumentation, Korea Basic Science Institute, Daejeon, The Republic of Korea*

4:30

T4-04. **Spin-polarized electrical transport of NiMnSb at nonzero temperature.** *D. Wagenknecht*[1,2], Z. Kašpar[1,3], L. Šmejkal[4,3], K. Carva[1] and I. Turek[1,2] *1. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 2. Institute of Physics of Materials, Czech Academy of Sciences, Prague, Czechia; 3. Institute of Physic, Czech Academy of Sciences, Prague, Czechia; 4. INSPIRE Group, Johannes-Gutenberg Universität at Mainz, Mainz, Germany*

4:45

T4-05. **Effects of Heavy Metal Microstructure on Spin Transport Phenomena in the Ultrathin Limit.** *S.J. Brennan*[1], G. Divitini[1], A. Wittmann[1], T. Vemulkar[1], J. Liao[1], L. O'Brien[2] and R. Cowburn[1] *1. Physics, University of Cambridge, Cambridge, United Kingdom; 2. Physics, University of Liverpool, Liverpool, United Kingdom*

THURSDAY AFTERNOON 3:30

ESPLANADE 152

Session T5
NEW MAGNETIC MATERIALS V

Ko-Wei Lin, Chair
National Chung Hsing University, Taichung, Taiwan

3:30

T5-01. **Low Temperature Magnetic Properties of MnFe2O4 Nanofibers.** I.P. Rodriguez[3], R. Farias[3], C.O. Gutierrez[4], J.T. Elizalde Galindo[2] and *D.M. Carrillo Flores*[1] *1. Physics and Mathematics, Universidad Autonoma de Ciudad Juarez, Juarez, Mexico; 2. Physics and Matemathics, Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Mexico; 3. Physics and Mathemetics, Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Mexico; 4. National Nanotechnology Laboratory, Centro de Investigación en Materiales Avanzados, Chihuahua, Mexico*

3:45

T5-02. **Crystal Structure and Magnetism of Colossal Dielectric Oxides $Dy_xSr_{2-x}TiMnO_6$ (x=0, 0.5).** R. Mondal[1], K. Biswas[1], T. Ghosh[1], F. K[1], R. Rao MS[1], A. Morozkin[2], S. Quezado[3], S.K. Malik[4], *A.K. Nigam*[5] and R. Nirmala[1] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Moscow Lomonosov State University, Moscow, Russian Federation; 3. Universidade Federal do Rio Grande do Norte, Natal, Brazil; 4. DTFE, Universidade Federal do Rio Grande do Norte, Natal, Brazil; 5. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, Mumbai, India*

4:00

T5-03. **Impact of Epitaxial Strain on Electronic Structure of $La_{2/3}Sr_{1/3}MnO_3$ Ultrathin Films.** *M. Zahradnik*[1,2], T. Maroutian[2], G. Kurij[2], G. Agnus[2], P. Lecoeur[2], L. Beran[1] and M. Veis[1] *1. Charles University in Prague, Prague, Czechia; 2. Centre de Nanosciences et de Nanotechnologies, Université Paris-Sud, Orsay Cedex, France*

4:15

T5-04. **Temperature dependence of optical and magneto-optical properties of $Tb_3Fe_5O_{12}$ thin films.** *L. Beran*[1,2], E.R. Rosenberg[3], J. Setina[1], L. Nowak[1], A. Quindeau[3], C. Ross[4] and M. Veis[1] *1. Institute of Physics, Charles University, Prague, Czechia; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 3. Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Dept. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States*

4:30

T5-05. **Amorphous Magnetic Photonic Crystals Based on Fe_3O_4@ SiO_2 Nanospheres with Non-iridescent Structural Colors.** *A. Zheng*[1], L. Zhuang[1], W. Wang[1], J. Zhong[1], T. Wang[1] and L. Ye[1] *1. Sun Yat-sen University, Guangzhou, China*

4:45

T5-06. **Evolution of Griffiths phase and critical exponents by site dilution of Ga^{3+} in $SrRuO_3$.** *R. Gupta*[1] *1. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India*

THURSDAY
AFTERNOON
3:30

ROOM 105

Session T6
NOVEL APPLICATIONS OF MAGNETIC THIN FILMS AND MULTILAYERS II

Jose Maria Porro Azpiazu, Chair
BCMaterials, Leioa, Spain

3:30

T6-01. **Noise in Mesoscale Magnetic Dots from Random telegraph Noise to 1/f Noise.** ***(Invited)*** B. Costanzi[2], D.E. Endean[3] and *D. Dahlberg*[1] *1. Physics, University of Minnesota, Minneapolis, MN, United States; 2. Physics, Carleton College, Minneapolis, MN, United States; 3. Aerospace, Honeywell International, Plymouth, MN, United States*

4:00

T6-02. **Recent Progress of Magnetic Skyrmions in Multilayers.** ***(Invited)*** *W. Jiang*[1], X. Zhang[2], P. Upadhyaya[4], X. Wang[6], S. Zhang[3], C. Phatak[3], G. Yu[4], Q. Wang[3], W. Zhang[5], M. Jungfleisch[3], J.E. Pearson[3], A. Petford-Long[3], X. Cheng[6], O. Heinonen[3], Y. Tserkovnyak[7], K.L. Wang[4], Y. Zhou[2], S. te Velthuis[3] and A. Hoffmann[3] *1. Department of Physics, Tsinghua University, Beijing, China; 2. The Chinese University of Hong Kong at Shenzhen, Shenzhen, China; 3. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 4. Electrical Engineering, UCLA, Los Angeles, CA, United States; 5. Oakland University, Rochester, MI, United States; 6. Department of Physics, Bryn Mawr College, Bryn Mawr, PA, United States; 7. Physics and Astronomy, UCLA, Los Angeles, CA, United States*

4:30

T6-03. **Generation of ultrashort shear acoustic pulses by femtosecond laser driven demagnetization of highly magnetostrictive $TbFe_2$ thin films.** *T. Parpiiev*[1], A. Hillion[2], V.S. Vlasov[1], V. Polewczyk[2], V.V. Temnov[1], K. Dumesnil[2], S. Andrieu[2], A. Anane[3], V. Gusev[4] and T. Pezeril[1] *1. Institut des Molécules et des Matériaux du Mans UMR CNRS 6283, Le Mans, France; 2. Institut Jean Lamour UMR CNRS 7198, Nancy, France; 3. Unité Mixte de Physique CNRS/Thales UMR CNRS 137, Palaiseau, France; 4. Laboratoire d'Acoustique de l'Université du Mans UMR CNRS 6613, Le Mans, France*

4:45

T6-04. **Spherical Janus particles with Exchange-Bias caps.** *A.I. Tomita*[1], R. Huhnstock[1], M. Reginka[1], D. Holzinger[1] and A. Ehresmann[1] *1. Experimental Physics IV, Universität Kassel, Kassel, Germany*

THURSDAY
AFTERNOON
3:30

ROOM 104

Session T7
SURFACE AND INTERFACE EFFECTS III

Josep Fontcuberta, Chair
Institut de Ciència de Materials de Barcelona, Bellaterra, Spain

3:30

T7-01. **Interface and confinement driven spin correlations in titanate quantum well heterostructures.** ***(Invited)*** *S.D. Wilson*[1], R. Need[2], S. Stemmer[1], M. Graf[3], P. Marshall[1], B. Isaac[1], B.J. Kirby[2] and J. Borchers[2] *1. Materials, University of California, Santa Barbara, Santa Barbara, CA, United States; 2. NIST Center for Neutron Research, Gaithersburg, MD, United States; 3. Boston College, Chestnut Hill, MA, United States*

4:00

T7-02. **Structural distortions and Oxygen vacancies enhance interfacial magnetism in $La_{0.7}Sr_{0.3}MnO_3/SrTiO_3$ heterostructures.** J. Beltrán[1], J. Grandal[1], J. Tornos[1], C. León[1], J. Santamaria[1], M. Varela[1] and *C. Muñoz*[2] *1. GFMC, Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. Instituto de Ciencia de Materiales de Madrid (ICMM), Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain*

4:15

T7-03. ***Magnetic Coupling in $SrRuO_3/La_{0.7}Ba_{0.3}MnO3/SrRuO_3$ Trilayers Probed With X-Ray Magnetic Circular Dichroism.*** *C. Piamonteze*[1], F. Bern[2], S. Avula[1], M. Studniarek[1] and I. Lindfors-Vrejoiu[3] *1. Swiss Light Source, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Fakultät für Physik und Geowissenschaften, Abteilung Supraleitung und Magnetismus, Universität Leipzig, Leipzig, Germany; 3. II. Physikalisches Institut, Universität zu Köln, Köln, Germany*

4:30

T7-04. **Dependence of the Dzyaloshinskii-Moriya Interaction in Pt/Co/Oxide Trilayers on the Degree of Ferromagnet Oxidation.** D. de Souza Chaves[1], V. Krizakova[1,2], *J. Vogel*[1] and S. Pizzini[1] *1. Institut Néel, CNRS, Grenoble, France; 2. Brno University of Technology, Brno, Czechia*

4:45

T7-05. **Itinerant ferromagnetism at the surface of rare-earth based antiferromagnets.** *C. Laubschat*[1], A. Chikina[2], M. Guettler[1], A. Generalov[3], S. Danzenbaecher[1], C. Geibel[4], E. Chulkov[5] and D. Vyalikh[5] *1. Institute of Solid-State and Materials Physics, Technische Universität Dresden, D-01062 Dresden, Germany; 2. Swiss Light Source, Paul Scherrer Institute, CH-5232 Villigen PSI, Switzerland; 3. MAX IV Laboratory, Lund University, S-22100 Lund, Sweden; 4. Max Planck Institute for Chemical Physics of Solids, D-01187 Dresden, Germany; 5. Donostia International Physics Center (DIPC), Departamento de Fisica de Materiales and CFM-MPC UPV/EHU, E-20080 San Sebastian, Spain*

THURSDAY AFTERNOON 3:30

ROOM 306

Session T8
IRON SUPERCONDUCTORS: NEMATICITY AND SUPERCONDUCTIVITY

Ian Fisher, Chair
Stanford University, Stanford, CA, United States

3:30

Introduction by Ian Fisher

3:45

T8-01. **The electronic structure of nematic phase from detwinned ARPES measurements of FeSe and NaFeAs.** M. Watson[1,2], S. Aswartham[3], L. Rhodes[1,4], B. Parrett[1,5], H. Iwasawa[1], M. Hoesch[1], I. Morozov[3,6], B. Büchner[3] and *T. Kim*[1] *1. Diamond Light Source Ltd, Didcot, United Kingdom; 2. School of Physics and Astronomy, University of Saint Andrews, St. Andrews, United Kingdom; 3. IFW Dresden, Dresden, Germany; 4. Department of Physics, Royal Holloway, University of London, Egham, United Kingdom; 5. London Centre for Nanotechnology, London, United Kingdom; 6. Inorganic Chemistry Division, Lomonosov Moscow State University, Moscow, Russian Federation*

4:00

T8-02. **Superconducting Gap Anisotropy Sensitive to Nematic Domains in FeSe.** *T. Hashimoto*[1], Y. Ota[1], H.Q. Yamamoto[1], Y. Suzuki[2], T. Shimojima[2], S. Kasahara[3], Y. Matsuda[3], T. Shibauchi[4], K. Okazaki[1] and S. Shin[1] *1. Institute for Solid State Physics (ISSP), University of Tokyo, Kashiwa, Japan; 2. Quantum-Phase Electronics Center (QPEC) and Department of Applied Physics, University of Tokyo, Bunkyo, Japan; 3. Department of Physics, Kyoto University, Kyoto, Japan; 4. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan*

4:15

T8-03. **FeSe under uniaxial strain: influence on structural and superconducting transitions.** *A. Steppke*[1], J. Bartlett[1], S. Hosoi[2], T. Shibauchi[2], A. Mackenzie[1] and C. Hicks[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Department of Advanced Materials Science, The University of Tokyo, Tokyo, Japan*

4:30

T8-04. **High-resolution bandstructure and momentum dependent nematic splitting of $BaFe_2As_2$ observed by angle-resolved photoemission spectroscopy.** *H. Pfau*[1,2], C.R. Rotundu[1], J. Palmstrom[4,1], M. Hashimoto[3], D. Lu[3], I.R. Fisher[4,1] and Z. Shen[1,2] *1. SIMES, SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 2. Physics, Stanford University, Stanford, CA, United States; 3. SSRL, SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 4. Applied Physics, Stanford University, Stanford, CA, United States*

4:45

T8-05. **Tuning the interplay between nematicity and spin fluctuations in $Na_{1-x}Li_xFeAs$ superconductors.** *S. Baek*[1], D. Bhoi[2], W. Nam[2], B. Lee[2], D. Efremov[1], B. Büchner[1] and K. Kim[2] *1. IFW Dresden, Dresden, Germany; 2. Seoul National University, Seoul, The Republic of Korea*

Session T9
HEAVY FERMIONS V: EXPERIMENT AND THEORY

Hilbert von Löhneysen, Chair
Karlsruhe Institute of Technology, Karlsruhe, Germany

3:30

T9-01. **Fermi surface instabilites in Kondo lattices: Ce,Yb, and U.** ***(Invited)*** *G. Knebel*[1], A. Pourret[1], D. Aoki[2] and J. Flouquet[1] *1. CEA / INAC / Pheliqs, Univ. Grenoble Alpes, Grenoble, France; 2. IMR, Tohoku University, Oarai, Japan*

4:00

T9-02. **Effective Mass Enhancement in $CeRhIn_5$ at High Magnetic Fields.** L. Jiao[1,2], *M. Smidman*[1], Y. Kohama[3], D. Graf[4], E. Bauer[5], H. Lee[1], S. Kirchner[1], J. Singleton[5], J. Wosnitza[6], F. Steglich[1,7], J. Thompson[5] and H. Yuan[1] *1. Zhejiang University, Hangzhou, China; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. The University of Tokyo, Chiba, Japan; 4. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 5. Los Alamos National Laboratory, Los Alamos, NM, United States; 6. Hochfeld-Magnetlabor Dresden, Dresden, Germany; 7. MPI Chemical Physics of Solids, Dresden, Germany*

4:15

T9-03. **Kondo-lattice ferromagnets and their order along the magnetically hard axis.** *D. Hafner*[1], B.K. Rai[2], J. Banda[3], K. Kliemt[4], C. Krellner[4], J. Sichelschmidt[1], C. Geibel[1], E. Morosan[2] and M. Brando[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Physics and Astronomy, Rice University, Houston, TX, United States; 3. Physics of Quantum Materials, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 4. Physics, Goethe-University Frankfurt, Frankfurt, Germany*

4:30

T9-04. **$CeCu_5Mg$: a novel ternary member of the $CeCu_6$ family.** M. Giovannini[2], H. Michor[1], H. Ueda[3], N. Ackerl[1], K. Yoshimura[3] and *E. Bauer*[1] *1. Insitute of Solid State Physics, Technische Universität Wien, Wien, Austria; 2. Department of Physics, University of Genova, Genova, Italy; 3. Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto, Japan*

4:45

T9-05. **Skyrmion Defects and Competing Singlet Orders in a Half-filled Antiferromagnetic Kondo-Heisenberg Model on the Honeycomb Lattice.** *C. Liu*[1], P. Goswami[2] and Q. Si[3] *1. Physics, Rice University, Houston, TX, United States; 2. Department of Physics and Astronomy, Northwestern University, Evanston, IL, United States; 3. Rice University, Houston, TX, United States*

Session T10
MAGNETISM OF 4d/5d AND SPIN-ORBITAL SYSTEMS

Natalia Perkins, Chair
University of Minnesota, Minneapolis, MN, United States

3:30

T10-01. **Hidden order in hyper-honeycomb β-Li_2IrO_3.** ***(Invited)*** *J. Analytis*[1] *1. University of California, Berkeley, Berkeley, CA, United States*

4:00

T10-02. **Novel quantum-entangled fully coherent phase in a 5d-electron insulating compound.** *Z. Islam*[1], K. Willa[1], U. Welp[1], J. Ruff[1], Z. Diao[4], R. Das[1], A. Rydh[3], W. Kwok[1], H. Lee[2] and I.R. Fisher[2] *1. Argonne National Laboratory, Lemont, IL, United States; 2. Stanford University, Palo Alto, CA, United States; 3. Stockholm University, Stockholm, Sweden; 4. Halmstad University, Halmstad, Sweden*

4:15

T10-03. **Pressure tuning of bond-directional exchange interactions in hyperhoneycomb iridate β-Li_2IrO_3.** *L.S. Veiga*[1,2], M. Etter[3], K. Glazyrin[3], F. Sun[5,4], C. Escanhoela Jr[6], G.F. Fabbris[7], J. Mardegan[3], P. Malavi[8], Y. Deng[8], P. Stavropoulos[9], H. Kee[10], W. YANG[4,11], M. van Veenendaal[1,12], J. Schilling[8], T. Takayama[13,14], H. Takagi[13,14] and D. Haskel[1] *1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States; 2. London Centre for Nanotechnology, University College London, London, United Kingdom; 3. Petra III, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 4. Center for High Pressure Science & Technology Advanced Research (HPSTAR), Shanghai, China; 5. Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, Chinese Academy of Sciences, Beijing, China; 6. Brazilian Synchrotron Light Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, Brazil; 7. Argonne National Laboratory, Argonne, IL, United States; 8. Department of Physics, Washington University, St Louis, MO, United States; 9. Department of Physics and Center for Quantum Materials, University of Toronto, Toronto, ON, Canada; 10. Physics, University of Toronto, Toronto, ON, Canada; 11. High Pressure Synergetic Consortium (HPSynC), Carnegie Institution of Washington, Argonne, IL, United States; 12. Department of Physics, Northern Illinois University, De Kalb, IL, United States; 13. Max Planck Institute for Solid State Research, Stuttgart, Germany; 14. Department of Physics and Department of Advanced Materials, The University of Tokyo, Tokyo, Japan*

4:30

T10-04. **Direct observation of electron density reconstruction at the metal-insulator transition in $NaOsO_3$.** *N. Gurung*[2,1], N. Leo[1,2], S. Collins[3], G. Nisbet[3], G. Smolentsev[2], M. Garcia-Fernandez[4], K. Yamaura[5], L. Heyderman[6,1], U. Staub[7], Y. Joly[8], D. Khalyavin[9], S. Lovesey[3,9] and V. Scagnoli[6,10] *1. Mesoscopic Systems, ETH Zurich, Zurich, Switzerland; 2. Paul Scherrer Institute, Villigen PSI, Switzerland; 3. Diamond Light Source Ltd, Oxfordshire, United Kingdom; 4. Physical Science, Diamond Light Source Ltd, Didcot, United Kingdom; 5. National Institute for Materials Science (NIMS), Ibaraki, Japan; 6. Paul Scherrer Institut, Villigen PSI, Switzerland; 7. Swiss Light Source, Paul Scherrer Institut, Villigen PSI, Switzerland; 8. Institut Néel CNRS, Grenoble, France; 9. ISIS Facility, Oxfordshire, United Kingdom; 10. ETH Zurich, Zurich, Switzerland*

4:45

T10-05. **Resonant magnetic torsion in the high-field correlated state of $RuCl_3$.** *K.A. Modic*[1], R.D. Mcdonald[2], B. Ramshaw[3,4], P.J. Moll[5] and A. Shekhter[6] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Physics, Cornell University, Ithaca, NY, United States; 4. Cornell University, Ithaca, NY, United States; 5. Microstructured Quantum Matter, MPI for Chemical Physics of Solids, Dresden, Germany; 6. National High Magnetic Field Laboratory, University of Florida, Tallahassee, FL, United States*

THURSDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session U1
DOMAIN WALL DYNAMICS V (Poster Session)

Romain Lebrun, Co-Chair
University of Mainz, Mainz, Germany
Soong-Geun Je, Co-Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

U1-01. **Magnetic domain structure within kagome-compound $Co_3Sn_2S_2$.** *A. Sugawara*[1], T. Akashi[1], M. Kassem[2], Y. Tabata[2], T. Waki[2] and H. Nakamura[2] *1. Center for Exploratory Research, Research and Development of Group, Hitachi Ltd., Hatoyama, Saitama, Japan; 2. Department of Materials Science and Engineering, Kyoto University, Kyoto, Japan*

U1-02. **Effect of Seedlayer Composition on Interfacial DMI in Co/Ni Multilayers.** *D.K. Lau*[1], J.P. Pellegren[1] and V.M. Sokalski[1] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*

U1-03. **Manipulating magnetic textures using dynamical strain.** *A. Rushforth*[1], R.P. Beardsley[1], R.M. Rowan-Robinson[1], S. Bowe[1], D. Parkes[1], R. Campion[1], K. Edmonds[1], C. Reardon[2], J. Zemen[1,3], S.A. Cavill[2] and B. Gallagher[1] *1. School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom; 3. Faculty of Electrical Engineering, Czech Technical University, Prague, Czechia*

U1-04. **Symmetry Breaking in a Three-Dimensional (3D) Flux-Closure Domain Structure.** *S. Lee*[1], H. Han[1], N. Kim[1], M. Im[2], J. Hong[3] and K. Lee[1] *1. School of Materials Science and Engineering, Ulsan National Institute of Science and Technology, ULSAN, The Republic of Korea; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology, Daegu, The Republic of Korea*

U1-05. **Inverse generalized Preisach model of hysteresis.** *P. Andrei*[1,2] and M. Dimian[3] *1. Electrical and Computer Engineering, Florida State University, Tallahassee, FL, United States; 2. Electrical and Computer Engineering, Florida A&M University, Tallahassee, FL, United States; 3. Department of Electrical Engineering and Computer Science, Stefan cel Mare University, Suceava, Romania*

U1-06. **Waiting time and relaxation effects on FORC-type measurement of magnetic wires.** D. Cimpoesu[1], I. Dumitru[1], A. Domocos[1] and *A. Stancu*[1] *1. Department of Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania*

U1-07. **Theory of Linear Spin Wave Emission from a Bloch Domain Wall.** *N.J. Whitehead*[1], S.A. Horsley[1], T.G. Philbin[1], A.N. Kuchko[2] and V. Kruglyak[1] *1. Physics and Astronomy, University of Exeter, Exeter, United Kingdom; 2. Institute of Magnetism, Kiev, Ukraine*

U1-08. **Channeled spin-wave Transport and Higher Harmonic Generation in (interconnected) Néel Walls.** *K. Wagner*[1,2], O. Gladii[3], D. Halley[3], Y. Henry[3], M. Bailleul[3], A. Kákay[1], T. Hula[1,4] and H. Schultheiss[1,2] *1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden - Rossendorf, Dresden, Germany; 2. TU Dresden, Dresden, Germany; 3. Institut de physique et chimie des matériaux de Strasbourg, Strasbourg, France; 4. Leupold Institute for Applied Natural Sciences, Westsächsische Hochschule Zwickau, Zwickau, Germany*

U1-09. **Correlation between compensation temperatures of magnetization and angular momentum in GdFeCo ferrimagnets.** *Y. Hirata*[1], D. Kim[1], T. Okuno[1], T. Nishimura[1], D. Kim[2], Y. Futakawa[3], H. Yoshikawa[3], A. Tsukamoto[3], K. Kim[4], S. Choe[5] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Uji-City, Japan; 2. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 3. Nihon University, Funabashi, Japan; 4. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 5. Seoul National University, Seoul, The Republic of Korea*

U1-10. **Magnetization Observation Using Near-field Scanning Optical Microscopy.** *H. Yang*[1], J. Nath[1], I. Joumard[1], S. Auffret[1], G. Gaudin[1] and I. Miron[1] *1. SPINTEC (CEA/CNRS), Grenoble, France*

U1-11. **Simulations of All-Optical Switching and Domain Wall Displacement in a Ferromagnetic material.** *M. Menarini*[1], P. Scheid[2], R. Medapalli[3], Y. Quessab[2], S. Mangin[2] and V. Lomakin[1,3] *1. Electrical and Computer Engineering, University of California, San Diego, La Jolla, CA, United States; 2. Institut Jean Lamour, Université de Lorraine, Vandoeuvre-lès-Nancy, France; 3. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA, United States*

U1-12. **Temperature dependent domain wall width in ferrimagnets.** *R. Moreno Ortega*[1], S. Khmelevskyi[4], R.F. Evans[1] and O. Chubykalo-Fesenko[3] *1. Physics, University of York, York, United Kingdom; 3. Insituto de Ciencia de Materiales de Madrid, Madrid, Spain; 4. 2 Center for Computational Materials Science, Vienna University of Technology, Vienna, Austria*

U1-13. **Power Frequency Domain Imaging on Goss-Textured Electrical Steel.** *R. Schaefer*[1] and I. Soldatov[1] *1. IFW Dresden, Dresden, Germany*

THURSDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session U2
ELECTRIC FIELD EFFECTS AND MAGNETIC SWITCHING II (Poster Session)

Des McMorrow, Chair
London Centre for Nanotechnology, London, United Kingdom

U2-01. **Spin Wave Field Effect Transistor.** *Y. Chen*[1], H. Lee[1], A.A. Jara[1], A. Khan[1], E. Yang[2], P.M. Braganca[2] and I. Krivorotov[1] *1. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States; 2. HGST, a Western Digital Company, San Jose, CA, United States*

U2-02. **Strain Mediated Current-induced Magnetization Switching in PMN-PT/Ta/Pt/Co/Pt Heterostructures.** M. Wang[1], *X. Xu*[1], Y. Wu[1], K. Meng[1], J. Miao[1] and Y. Jiang[1] *1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China*

U2-03. **Temperature dependence of I-V characteristics of Fe_3O_4/Nb:SrTiO$_3$ heterostructures.** *S. Ghimire*[1], Y. Lee[1] and J. Dho[1] *1. Physics, Kyungpook National University, Deagu, The Republic of Korea*

U2-04. **Theoretical analysis of write error rate in bias-magnetic-field-free voltage-torque MRAM.** *R. Matsumoto*[1], T. Nozaki[1], S. Yuasa[1] and H. Imamura[1] *1. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

U2-05. **Theory of ferromagnetic resonance driven by the combined action of spin-transfer torque and voltage controlled magnetic anisotropy.** *C.A. Gonzalez-Fuentes*[1] *1. Physics, UTFSM, Valparaiso, Chile*

U2-06. **Withdrawn**

U2-07. **Voltage control of RKKY exchange coupling in magnetoelectric heterostructures.** *X. Wang*[1], H. Chen[1], C. Dong[1], H. Lin[1], X. Liang[1] and N. Sun[1] *1. ECE, Northeastern University, Boston, MA, United States*

U2-08. **Zero-field magnetization switching by an acoustic wave.** I. Camara[1], L. Becerra[1], A. Lemaître[2], J. Duquesne[1], C. Gourdon[1] and *L. Thevenard*[1] *1. CNRS,UPMC, Institut des Nanosciences de Paris, Paris, France; 2. Centre de Nanosciences et de Nanotechnologies, Marcoussis, France*

U2-09. **Spin-current-less spin Hall effect in magnetic insulators.** *H. Chen*[1,2], Q. Niu[3] and A.H. MacDonald[3] *1. Physics, Colorado State University, Fort Collins, CO, United States; 2. School of Advanced Materials Discovery, Colorado State University, Fort Collins, CO, United States; 3. Physics, The University of Texas at Austin, Austin, TX, United States*

U2-10. **Withdrawn**

THURSDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session U3
EXCHANGE BIAS AND EXCHANGE SPRINGS II (Poster Session)

Dustin Gilbert, Chair
National Institute of Standards and Technology, Gaithersburg, MD, United States

U3-01. **Critical magnetization curves in NiFe/FeMn(*t*) bilayers with noncollinear anisotropies.** *D.J. Adams*[1], P.R. Kern[2], M. Carara[2] and L. Spinu[1] *1. AMRI/Physics, University of New Orleans, New Orleans, LA, United States; 2. Física, Universidade Federal de Santa Maria, Santa Maria, Brazil*

U3-02. **Electrical modulation of unidirectional anisotropy in the exchange biased AFM/FM bilayers mediated by piezoelectric strains.** *H. Kim*[1] and J. Hong[1,2] *1. Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Daegu, The Republic of Korea; 2. Global Center for Bio Convergence Spin Systems, DGIST, Daegu, The Republic of Korea*

U3-03. **Exchange Bias Effect in the Multiphase FM and AFM Mixture.** *M. Jung*[1,3], M. Im[2,4] and J. Hong[1,3] *1. Emerging Materials Science, DGIST, Daegu, The Republic of Korea; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Global Center for Bio Convergence Spin Systems, Daegu, The Republic of Korea; 4. Research Center for Emerging Materials, Daegu, The Republic of Korea*

U3-04. **Exchange bias in antiferromagnetic $NaNiF_3$ thin films.** *S.A. Morley*[1], H. Marquez[1], A. KC[1] and D. Lederman[1] *1. Department of Physics, University of California, Santa Cruz, Santa Cruz, CA, United States*

U3-05. **The Azimuthal Dependence of Exchange Bias Effect and Its Analyses by Spin Glass Model in $Ni_{0.8}Fe_{0.2}/Co_xNi_{1-x}O$ Bilayers.** W. Yoo[1], K. Lee[2], C. You[3], J. Hong[3] and *M. Jung*[1] *1. Department of Physics, Sogang University, Seoul, The Republic of Korea; 2. Johannes Gutenberg University Mainz, Mainz, Germany; 3. Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology, Daegu, The Republic of Korea*

U3-06. **Exchange Bias in CoO/Fe(110) Bilayers: a Ferromagnet Drives an Antiferromagnet.** *M. Slezak*[1], T. Slezak[1], P. Drozdz[1], K. Matlak[1], B. Matlak[1] and J. Korecki[1,2] *1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Cracow, Poland; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Krakow, Poland*

U3-07. **Exchange-Spring Behavior of Flake-like $BaFe_{12}O_{19}@Fe_3O_4$ Core-Shell Nanocomposite.** F. Mohseni[1,2], R. Pullar[3], J. Vieira[2,3] and *J.S. Amaral*[1,2] *1. Department of Physics, Universidade de Aveiro, Aveiro, Portugal; 2. CICECO – Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal; 3. Department of Materials and Ceramic Engineering, University of Aveiro, Aveiro, Portugal*

U3-08. **Unexpected new insights to the nature of exchange bias in Co/FeMn using detailed XMCD.** *E.J. Goering*[1], P. Audehm[1], M. Schmidt[1] and G.A. Schütz[1] *1. Modern Magnetic Systems, Max-Planck-Institute for Intelligent Systems, Stuttgart, Germany*

U3-09. **Withdrawn**

U3-10. **Training effect of exchange bias in Co/CoO core-shell nanowire films.** *J. Mohapatra*[1], M. Xing[1] and P. Liu[2] *1. Physics, University of Texas at Arlington, Arlington, TX, United States; 2. University of Texas-Arlington, Arlington, TX, United States*

Session U4
SURFACE AND INTERFACE EFFECTS IV (Poster Session)

Jan Vogel, Chair
CNRS, Institut Néel, Grenoble, France

U4-01. **Mallinson-Halbach effect in chiral thin-film magnetic structures.** *M.A. Marioni*[1], M. Penedo[1], M. Bacani[1] and H.J. Hug[1,2] *1. Empa - Swiss Federal Labs for Materials Science and Technology, Duebendorf, Switzerland; 2. Physics, University of Basel, Basel, Switzerland*

U4-02. **Chiral domain walls induced by interface modification.** *A. Mascaraque*[1], S. Ruiz-Gomez[1], M. Gonzalez Barrio[1], L. Perez[1], S. Gallego[4], G. Chen[2], A.K. Schmid[3] and E.G. Michel[5] *1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. University of California, Davis, Davis, CA, United States; 3. Molecular Foundry, Lawrence Berkeley National Lab, Berkeley, CA, United States; 4. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 5. Fisica de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Spain*

U4-03. **Shape magnetic anisotropy from spin density in nanoscale slab systems.** *T. Oda*[1,2], I. Pardede[3], T. Kanagawa[3], N. Ikhsan[3] and M. Obata[1,3] *1. Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan; 2. Center for Spintronics Research Network (CSRN), Osaka University, Toyonaka, Japan; 3. Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa, Japan*

U4-04. **Spatially resolved modification of ultrathin magnetic films for nucleation and stabilization of the skyrmion-like bubbles.** *A. Ognev*[1], A. Samardak[1], A.G. Kolesnikov[1], M.E. Stebliy[1], A.S. Samardak[1], A. Gerasimenko[2], A. Sadovnikov[3], S. Nikitov[4] and L. Chebotkevich[1] *1. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Institute of Chemistry, Far East Branch Russian Academy of Sciences, Vladivostok, Russian Federation; 3. Nonlinear Physics, Saratov State University, Saratov, Russian Federation; 4. IRE RAS, Moscow, Russian Federation*

U4-05. **Effect of MgO capping layer on perpendicular magnetic anisotropy and Dzyaloshinskii–Moriya interaction in Pt/CoFeSiB/MgO films.** *A.S. Samardak*[1], T. Kim[3], A. Stashkevich[2], Y. Roussigné[2], M. Belmeguenai[2], S.M. Chérif[2], A. Ognev[1] and Y. Kim[3] *1. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 2. LSPM, University Paris 13, Villetaneuse, France; 3. Department of Materials Science & Engineering, Korea University, Seoul, The Republic of Korea*

U4-06. **Interfacial control of chiral magnetism in iridate-manganite superlattices.** *E. Skoropata*[1], J. Nichols[2], R. Ankur[1], C. Sohn[1], R.D. Desautels[3] and H. Lee[1] *1. Materials Sciences and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Department of Physics and Astronomy, University of Arkansas at Little Rock, Little Rock, AR, United States; 3. Quantum Condensed Matter Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

U4-07. **Evolution of Subband Structure with Gate-Tuning at $LaAlO_3/SrTiO_3$ Interfaces.** *L. Tang*[1], S. Smink[2], J. Geessinck[2], L. van Heeringen[3], J. Maan[2], A. Brinkman[2], U. Zeitler[1], A. Fasolino[3], H. Hilgenkamp[2] and A. McCollam[1] *1. High Field Magnet Laboratory, Radboud University, Nijmegen, Netherlands; 2. MESA+ Institute for Technology, University of Twente, Enschede, Netherlands; 3. Theory of Condensed Matter, Radboud University, Nijmegen, Netherlands*

U4-08. **Electronic structures and magnetic properties of Fe/MgO interfaces studied by hard x-ray photoelectron spectroscopy.** *S. Ueda*[1,2], M. Mizuguchi[3,4], M. Tsujikawa[4,5] and M. Shirai[4,5] *1. RCAMC, National Institute for Materials Science, Tsukuba, Japan; 2. Synchrotron X-ray Station at SPring-8, National Institute for Materials Science, Hyogo, Japan; 3. IMR, Tohoku University, Sendai, Japan; 4. CSRN, Tohoku University, Sendai, Japan; 5. RIEC, Tohoku University, Sendai, Japan*

U4-09. **Study of Boron diffusion in CoFeB/MgO using Polarized Neutron Reflectivity and Soft X-ray Reflectivity.** *P. Vishwakarma*[1], G. Sharma[1], M. Gupta[2], M. Modi[3], A. Gupta[1] and J. Stahn[4] *1. Amity Centre for Spintronic Materials, Amity University, Noida, India; 2. UGC-DAE Consortium for Scientific Research, Indore, India; 3. Raja Ramanna Centre for Advanced Technology, Indore, India; 4. Paul Scherrer Institute, Villigen, Switzerland*

U4-10. **Wire width dependence of ferromagnetic resonance in Ni wires on ferroelectric $LiNbO_3$ substrate for studying heterojenction-induced magnetic characteristics.** *A. Yamaguchi*[1], A. Nakao[2], T. Saiki[3], Y. Utsumi[1], T. Ogasawara[4] and K. Yamada[5] *1. Laboratory of Advanced Science and Technology for Industry, University of Hyogo, Ako-gun, Japan; 2. RIKEN, Wako, Japan; 3. Hyogo Prefectural Institute of Technology, Kobe, Japan; 4. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 5. Gifu University, Gifu, Japan*

Session U5
MAGNETIC TUNNEL JUNCTIONS II (Poster Session)

Matthias Gottwald, Chair
IBM T.J. Watson Research Center, Yorktown Heights, NY, United States

U5-01. **Observation of changes in static domain structures of thin-film magnetoimpedance element with dc bias current.** *H. Kikuchi*[1] and C. Sumida[1] *1. Iwate University, Morioka, Japan*

U5-02. **Superparamagnetic Tunnel Junctions for Probabilistic Computing.** *B. Parks*[1], M. Bapna[1] and S. Majetich[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, United States*

U5-03. **Recording resolution of granular exchange-coupled composite media for microwave-assisted magnetic recording.** *T. Tanaka*[1], Y. Kanai[2] and K. Matsuyama[3] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan; 2. IEE, Niigata Institute of Technology, Kashiwazaki, Japan; 3. Dept. of Electronics, Kyushu Univ., Fukuoka, Japan*

U5-04. **Reconfigurable logic using a single magnetic tunnel junction.** *G. Bae*[1], Y. Hwang[1] and W. Park[3] *1. Electronic Engineering, Hanyang University, Seoul, The Republic of Korea; 3. Electronics Engineering, Hanyang University, Seoul, The Republic of Korea*

U5-05. **Spintronic memristor in chained MTJs.** *E. Raymenants*[1,2], A. Vaysset[2], D. Wan[2], S. Couet[2], J. Swerts[2], M. Manfrini[2], O. Zografos[1,2], D. Mocuta[2], I.P. Radu[2], M. Heyns[1,2] and T. Devolder[3] *1. KU Leuven, Leuven, Belgium; 2. Imec, Leuven, Belgium; 3. IEF, Orsay, France*

U5-06. **Demonstration of Pavlov associative memory using magnetic tunnel junctions.** *Y. Hwang*[1] *1. Department of Electronic Engineering, Hanyang University, Seoul, The Republic of Korea*

U5-07. **Optimization of Spin-Torque Majority Gate shape via domain-wall pinning.** A. Vaysset[1], O. Zografos[1,2], M. Manfrini[1], *E. Raymenants*[1,2] and I.P. Radu[1] *1. Imec, Leuven, Belgium; 2. KU Leuven, Leuven, Belgium*

U5-08. **Modulation of Voltage-Controlled Magnetic Anisotropy through Interface Engineering Alloying in FeCo/MgO Heterostructures.** *M.A. Jackson*[1], N. Kioussis[1] and F. Mahfouzi[1] *1. Physics & Astronomy, California State University, Northridge, Los Angeles, CA, United States*

U5-09. **Non-Volatile Spin Logic-Memory Device.** *X. Zhang*[1] and Z. Luo[1] *1. School of Materials Science and Engineering, Tsinghua University, Beijing, China*

U5-10. **Impact of intergrain spin transfer torques due to huge thermal gradients on the performance of heat assisted magnetic recording.** *B. Diény*[1], M. Chshiev[1], B. Charles[1], N. Strelkov[1,2], A. Truong[1], O. Fruchart[1], A. Hallal[1], J. Wang[4], Y. Takahashi[4], T. Mizuno[3] and K. Hono[4] *1. SPINTEC, Univ. Grenoble Alpes / CEA - INAC / CNRS, Grenoble, France; 2. Department of Physics, Moscow State University, Moscow, Russian Federation; 3. TDK/Headway Technologies, Milpitas, CA, United States; 4. Magnetic Materials Unit, NIMS, Tsukuba, Japan*

THURSDAY EVENING 5:00 SAN FRANCISCO BALLROOM

Session U6
MAGNETOELASTIC AND MAGNETOMECHANICAL III (Poster Session)

Radhika Barua, Chair
Northeastern University, Quincy, MA, United States

U6-01. **Mutual Inductance Calculation Method of Multiple Coils at an Arbitrary Spatial Posture.** *J. Zhao*[1,2] *1. Nanyang Institute of Technology, Nanyang, China; 2. Xuji Power Co. Ltd., Xuchang, China*

U6-02. **Research on Transient Electric Field of Converter Transformer Based On Insulation Material Properties.** *Q. Wang*[2], B. Bai[1,2], D. Chen[2] and X. He[2] *1. Shenyang University of Technology, Shenyang, China; 2. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China*

U6-03. **Simulation and Validation by Experiment of 3kW, 100,000rpm High-speed Motor for Electric Turbo Charger Considering Response Time.** *D. Hong*[1,2], T. Lee[2] and Y. Jeong[1] *1. Korea Electrotechnology Research Institute, Changwon, The Republic of Korea; 2. Department of Energy Conversion, University of Science and Technology, Changwon, The Republic of Korea*

U6-04. **Withdrawn**

U6-05. **Withdrawn**

U6-06. **First experimental evidence of magnetic structure variations in FeCr alloys damaged by self-ions under an external magnetic field.** *I. Garcia-Cortes*[1], A. Moroño[1], F.J. Sanchez[1], P. Muñoz[1] and J.F. Cuñado[2,3] *1. Laboratorio Nacional de Fusion. CIEMAT, Madrid, Spain; 2. IMDEA Nanociencia, Madrid, Spain; 3. Universidad Autónoma de Madrid, Madrid, Spain*

U6-07. **Magneto-viscosity of Ba-Sr ferrite based ferrofluids in different colloids.** *N. Gautam*[1] and R. Singh[1] *1. School of Physics, University of Hyderabad, Hyderabad, India*

U6-08. **Dual Resonant Mode Magnetic Composite Energy Harvester.** *M. Khan*[1] and J. Kosel[2] *1. CEMSE, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. CEMSE, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia*

U6-09. **Optimal Design of an IPMSM in Railway with Independently Rotating Wheel-Sets.** H. Liu[1], Y. Oh[1] and *H. Lee*[2] *1. Hanyang University, Seoul, The Republic of Korea; 2. Electric Automatisation, Busan Institute of Science & Technology, Seoul, The Republic of Korea*

U6-10. **Withdrawn**

THURSDAY EVENING 5:00 SAN FRANCISCO BALLROOM

Session U7
MULTIFERROIC AND FUNCTIONAL MATERIALS II (Poster Session)

Kaiyou Wang, Chair
Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China

U7-01. **Magnetic shape-memory effect in $SrRuO_3$.** *D. Brüning*[1], S. Kunkemöller[1], A. Stunault[3], A. Nugroho[2], M. Braden[1] and T. Lorenz[1] *1. II. Physikalisches Institut, University of Cologne, Cologne, Germany; 2. Faculty of Mathematics and Natural Science, Institut Teknologi Bandung, Bandung, Indonesia; 3. Institut Laue Langevin, Grenoble, France*

U7-02. **Exchange bias and spin-phonon coupling in complex glassy layered perovskite $SrLaMn_{0.5}Ni_{0.5}O_4$.** *R. Das*[1], P. Neenu Lekshmi[1] and P. Santhosh[1] *1. Department of Physics, Indian Institute of Technology Madras, Chennai, India*

U7-03. **Forbidden coherent transfer observed between two realizations of quasi-harmonic spin systems.** *S. Bertaina*[1] and I. Chiorescu[2,3] *1. Magnetism, IM2NP - CNRS, Marseille, France; 2. Physics, NHMFL, Tallahassee, FL, United States; 3. Physics, FSU, Tallahassee, FL, United States*

U7-04. **Ab Initio Investigation of Fe Substitution Effect on Magnetostructural Transition of CoMnGe.** *Y. Okubo*[1], S. Eto[1], Y. Mitsui[1], K. Koyama[1] and S. Fujii[1] *1. Kagoshima University, Kagoshima-shi, Japan*

U7-05. **Confinement Effects on the Metamagnetic Behavior of Mesoscale FeRh Structures.** *J. Arregi*[1], M. Horký[1], E.E. Fullerton[2] and V. Uhlir[1,3] *1. CEITEC BUT, Brno University of Technology, Brno, Czechia; 2. UC San Diego, La Jolla, CA, United States; 3. Institute of Physical Engineering, Brno University of Technology, Brno, Czechia*

U7-06. **Magnetic properties of Bis-Lanthanoates.** K. Esien[1], E. McCourt[2], P. Nockemann[2] and *S. Felton*[1] *1. School of Mathematics and Physics, Queen's University Belfast, Belfast, United Kingdom; 2. School of Chemistry and Chemical Engineering, Queen's University Belfast, Belfast, United Kingdom*

U7-07. **Eddy Current Loss Analysis of Underwater Wireless Power Transfer Systems with Misalignments.** *Z. Yan*[1], Y. Zhang[2], K. Zhang[1], H. Wen[1], Z. Mao[1] and B. Song[1] *1. School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China; 2. Department of Electrical and Computer Engineering, San Diego State University, San Diego, CA, United States*

U7-08. **Magnetoelectric Spin Glass Transition(s) in Pure and Disordered $BiFeO_3$.** *A. Kumar*[1] and D. Pandey[1] *1. School of Materials Science and Technology, Indian Institute of Technology (BHU), Varanasi, India*

U7-09. **Relaxation Mechanisms in the Néel Skyrmion Lattice Host GaV_4S_8 Probed by AC Magnetic Response.** *E. Clements*[1], R. Das[1], G. Pokharel[3], D. Mandrus[3,4], M. Osofsky[2], H. Srikanth[1] and M. Phan[1] *1. Department of Physics, University of South Florida, Tampa, FL, United States; 2. Naval Research Laboratory, Washington, DC, United States; 3. Department of Physics & Astronomy, University of Tennessee, Knoxville, TN, United States; 4. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

U7-10. **Magnetic properties of mixed sodium-lithium iron fluorophosphate $NaLiFePO_4$ F cathode material.** *J. Seo*[1], H. Choi[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, The Republic of Korea*

U7-11. **Investigation of spin-orientation in antiferromagnetic ordering for $LiFe_{1-x}Zn_xPO_4$ with Mössbauer spectroscopy.** *H. Choi*[1], M. Kim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, The Republic of Korea*

THURSDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session U8
MULTIFERROICS II
(Poster Session)

Evan Constable, Chair
Technical University Vienna, Vienna, Austria

U8-01. **Multiferroic behavior of Tb_2BaCoO_5, with an exceptionally large magneto-dielectric coupling.** S.K. Upadhyay[1] and *E. Sampathkumaran*[1] *1. Tata Institute of Fundamental Research, Mumbai, India*

U8-02. **Magnetic Field in Triangular Ising System $LuFe_2O_{4+\delta}$.** *L. Ding*[1], F. Orlandi[1], P. Manuel[1], D. Khalyavin[1], A. Boothroyd[2], D. Prabhakaran[2] and G. Balakrishnan[3] *1. ISIS Facility, Rutherford Appleton Laboratory, Science and Technology Facilities Council, Oxford, United Kingdom; 2. University of Oxford, Oxford, United Kingdom; 3. University of Warwick, Coventry, United Kingdom*

U8-03. **Fabrication of highly qualified $(Bi_{1-x}Ba_x)FeO_3$ multiferroic thin films by using a pulsed DC reactive sputtering method and demonstration of magnetization reversal by electric field.** *S. Yoshimura*[1,2] and M. Kuppan[3] *1. Research Center for Engineering Science, Akita University, Akita, Japan; 2. JST-PRESTO, Saitama, Japan; 3. Regional Innovation Center, Akita University, Akita, Japan*

U8-04. **Magnetization curves in magnetoelectric layered structures.** *M. Auslender*[1] *1. Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer Sheba, Israel*

U8-05. **Giant magnetic Kerr effect of $(Bi_{1-x}La_x)(Fe_{0.75}Co_{0.25})O_3$ multiferroic thin films with perpendicular magnetic anistropy fabricated by a pulsed DC reactive sputtering technique.** *M. Kuppan*[1] and S. Yoshimura[2,3] *1. Regional Innovation Center, Akita University, Akita, Japan; 2. Research Center for Engineering Science, Akita University, Akita, Japan; 3. JST-PRESTO, Saitama, Japan*

U8-06. **A New Type II Multiferroic $HoFeWO_6$.** *M. Adnani*[1], N. Poudel[1], M.J. Gooch[1], Z. Wu[1], L. Deng[1] and C. Chu[1,2] *1. Texas Center for Superconductivity and Department of Physics, University of Houston, Houston, TX, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

U8-07. **Magnetodielectric effect in Eu^{2+} doped $BaTiO_3$.** K. Rubi[1] and *R. Mahendiran*[1] *1. Physics Dept, National University of Singapore, West Singapore, Singapore*

U8-08. **Multiferroic Characterization of Single Crystal Samples of Quadruple Perovskite Manganite $LaMn_3Mn_4O_{12}$.** *V. Pascotto Gastaldo*[1,2], F. Milton[1], A. Gualdi[2,1], D. Garcia[1], A. Gauzzi[2] and A.J. de Oliveira[1] *1. Physics Department, Federal University of São Carlos, São Carlos, Brazil; 2. Institut de Minéralogie, de Physique des Matériaux et de Cosmochimie, Université Pierre et Marie Curie, Paris, France*

U8-09. **Magnetodielectric response and dielectric relaxation mechanism in $LiNiO_2$ cathode.** *S. Dash*[1], M. Pradhan[1] and L. Tangi[1] *1. Dept. of Physics and Astronomy, National Institute of Technology, Rourkela, Rourkela, India*

U8-10. **Withdrawn**

U8-11. **Withdrawn**

Session U9
NOVEL APPLICATIONS OF MAGNETIC THIN FILMS AND MULTILAYERS III (Poster Session)

Francisco Goncalves, Chair
Osaka Prefecture University, Osaka, Japan

U9-01. **Enhanced field sensitivity by the strong mutual coupling and magneto-induction in amorphous film/planar coil multilayers.** F. Song[1], *Y. Wen*[1], P. Li[1], Y. Wang[1], T. Han[1] and X. Ji[1] *1. School of Electronic Information and Electric Engineering, Shanghai Jiaotong University, Shanghai, China*

U9-02. **Electrical Transport Signature of Skyrmions in Pt/Co/Ir Multilayer Disc.** *K. Zeissler*[1], S. Finizio[2], K. Shahbazi[1], J. Massey[1], F. Al Ma'Mari[3], J. Raabe[2], M. Rosamond[4], E. Linfield[4], T.A. Moore[1], G. Burnell[1] and C.H. Marrows[1] *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland; 3. Department of Physics, Sultan Qaboos University, Muscat, Oman; 4. School of Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom*

U9-03. **Tailoring the magnetostriction of sustainable Fe-Al thin films by ternary alloying.** *W.K. Huettenes*[1], M. Cialone[2,3], M. Coisson[2], P. Tiberto[2], P. Rizzi[3], L.A. Greer[1] and Z.H. Barber[1] *1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. Nanoscience and materials, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 3. Chemistry Department and NIS, University of Torino, Torino, Italy*

U9-04. **Toward single pulse All Optical - Helicity dependent switching in Co/Pt multilayer systems.** *G. Kichin*[1], M. Hehn[1], G. Malinowski[1] and S. Mangin[1] *1. Institut Jean Lamour, Nancy, France*

U9-05. **An Integreated and Highly-Sensitive Magnetic Tunnel Junction Cytometer.** R. Bu[1,2], S. Amara[1], *M. Alawein*[1], N. Alsharif[3], M. Khan[1], Y. Wen[4], X. Zhang[4], J. Kosel[1] and H. Fariborzi[1] *1. Electrical Engineering, King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia; 2. School of Physics, Shandong University, Jinan, China; 3. King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia; 4. Physical Sciences and Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

U9-06. **Stabilizing skyrmion lattices in multilayered magnetic stacks.** W. Legrand[1], D. Maccariello[1], J. Chauleau[1,3], N. Reyren[1], S. Collin[1], K. Bouzehouane[1], N. Jaouen[2], *V. Cros*[1] and A. Fert[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Experimental division, Synchrotron SOLEIL, Gif sur Yvette, France; 3. SEXTANTS, Synchrotron SOLEIL, Gif sur Yvette, France*

U9-07. **Withdrawn**

U9-08. **Two fold characteristics of Swift Heavy Ion irradiation on magnetic nanocomposites.** *A. Mishra*[1] and T. Mohanty[1] *1. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India*

Session U10
NEW MAGNETIC MEASUREMENT METHODS (Poster Session)

Gonzalo Vallejo-Fernandez, Chair
The University of York, York, United Kingdom

U10-01. **Development of sensitive 3D vector VSM on a cryo-free low temperature and high field platform.** *J. Lu*[1], C. Guo[1], L. Meng[1] and B. Shen[1] *1. State Key Laboratory of Magnetism, Institute of Physics, CAS, Beijing, China*

U10-02. **doFORC tool for calculating first-order reversal curve diagrams of noisy scattered data.** *D. Cimpoesu*[1], I. Dumitru[1] and A. Stancu[1] *1. Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania*

U10-03. **Magneto-Optical Characterization of Super-Paramagnetic Nanoparticles in AC Magnetic Fields using Multi-Harmonic Analysis.** *M. Syed*[1] and C. Patterson[1,2] *1. Physics & Optical Eng, Rose-Hulman Institute of Technology, Terre Haute, IN, United States; 2. Applied Physics, University of Michigan, Ann Arbor, MI, United States*

U10-04. **Innovative technique for thin films magnetostriction measurements by scanning probe microscopy.** M. Coisson[1], *M. Cialone*[1,2], W.K. Huettenes[3], G. Barrera[1], F. Celegato[1], Z.H. Barber[3], P. Rizzi[2] and P. Tiberto[1] *1. Nanoscience and Materials, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Chemistry and NIS, Università degli studi di Torino, Torino, Italy; 3. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

U10-05. **DC Drift Error Mitigation Method for Three-Phase Current Reconstruction with Single Hall Current Sensor.** *H. Yan*[1], Y. Xu[2], H. Zhang[1], W. Zhao[1] and C. Gerada[1] *1. International Academy of the Marine Economy and Technology, University of Nottingham Ningbo China, Ningbo, China; 2. Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China*

U10-06. **Development of triple-axis-spectrometer devices in HANARO – Numerical simulation results on mirror-type collimators.** *J. Lee*[1], H. Hiraka[1] and S. Cho[1] *1. Neutron Science Center, Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea*

U10-07. **Study on Broadband Impedance Matching for Three-Dimensional Magnetic Properties Testing.** *B. Qu*[1,2], Q. Yang[3], Y. Li[1] and C. Zhang[1] *1. Hebei University of Technology, Zibo, China; 2. Shandong University of Technology, Zibo, China; 3. Tianjin Polytechnic University, Tianjin, China*

U10-08. **Research on the squeeze flow effect of the Foil-type Excitation windings in high frequency.** Y. Li[2,4], M. Yang[1,4], *C. Zhang*[4,2] and Q. Yang[3,4] *1. School of Electrical Engineering, Hebei University of Technology, Tianjin, China; 2. Hebei University of Technology, Tianjin, China; 3. Tianjin Key Laboratory of AEEET, Tianjin, China; 4. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

U10-09. **A Improved Method of Feedback Control Based on Perception Neural Network for Three Dimensional Magnetic Properties Testing.** *B. Qu*[1,2], Q. Yang[3], Y. Li[1] and C. Zhang[1] *1. Hebei University of Technology, Zibo, China; 2. Shandong University of Technology, Zibo, China; 3. Tianjin Polytechnic University, Tianjin, China*

U10-10. **ELF stimulations Reveals Definite Subliminal Effects to Visual Perceptions: Human Reliability Measurements on ELF-Inducing Flickering Light Sensation.** *H. Nakagawa*[1] and S. Ueno[2] *1. Department of Electrical and Electronic Engineering, Tokyo Denki University, Adachi-ku, Japan; 2. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan*

U10-11. **Novel Electromagnetic Applicator for Magnetic Hypertermia Experiments.** *I. Rodrigo Arrizabalaga*[1,2], J. Alonso-Valdesueiro[2], E. Garaio[3], J. Perez[2], I. Orue[4], J. Collantes[2], J. García[5,1] and F. Plazaola[2] *1. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 2. Department of Electricity and Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 3. Department of Physics, Public University of Navarre (UPNA), Pamplona, Spain; 4. SGIker Magnetic Measurements, University of the Basque Country (UPV/EHU), Leioa, Spain; 5. Department of Applied Physics II, University of the Basque Country (UPV/EHU), Leioa, Spain*

U10-12. **Studying nanoscale magnetic systems with polarization analysis on the small-angle neutron scattering diffractometer KWS-1.** *L. Barnsley*[1], A. Feoktystov[1], E. Babcock[1], Z. Salhi[1] and H. Frielinghaus[1] *1. Jülich Centre for Neutron Science, Forschungszentrum Jülich GmbH, Garching, Germany*

Session U11
MULTIPOLAR SCES 1: 1-2-20 MATERIALS (Poster Session)

Mingxuan Fu, Chair
NIST, Gaithersburg, MD, United States

U11-01. **Anisotropic *H-T* quadrupole phase diagrams $PrTi_2Al_{20}$: Al-NMR and Magnetization studies.** *T. Taniguchi*[1,2], H. Takeda[2], M. Takigawa[2], S. Nakamura[2], T. Sakakibara[2], K. Hattori[3], M. Tsujimoto[2], Y. Matsumoto[2], A. Sakai[2] and S. Nakatsuji[2] *1. Science, Kyoto University, Kyoto, Japan; 2. The University of Tokyo, Kashiwa, Japan; 3. Tokyo Metropolitan University, Hachioji, Japan*

U11-02. **Simultaneous suppression of the antiferroquadrupolar and superconducting transitions in $PrIr_2Zn_{20}$ by non-hydrostatic pressure.** *M. Adachi*[1], K. Umeo[3], K. Matsumoto[2], T. Onimaru[1] and T. Takabatake[1] *1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi-Hiroshima, Japan; 2. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan; 3. N-BARD, Hiroshima University, Higashi-Hiroshima, Japan*

U11-03. **Effect of Sn- and In-substitution on the structural and magnetic properties of $PrRu_2Zn_{20}$.** *K. Wakiya*[1], Y. Sugiyama[1], J. Gouchi[2], Y. Uwatoko[2], M. Kishimoto[3], T. Matsuda[3], Y. Aoki[3], M. Uehara[1] and I. Umehara[1] *1. Department of Physics, Yokohama National University, Yokohama, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Department of Physics, Tokyo Metropolitan University, Hachioji, Japan*

U11-04. **Elastic hardening at the structural phase transition in the cage compound $LaRu_2Zn_{20}$.** *T. Suzuki*[1], Y. Suetomi[1], T. Mizuno[1], S. Kumano[1], T. Onimaru[1], K. Matsumoto[2], T. Takabatake[1] and I. Ishii[1] *1. Department of Quantum Matter, AdSM, Hiroshima University, Higashi-Hiroshima, Japan; 2. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan*

U11-05. **Magnetic properties of new compound $SmTr_2Sn_2Zn_{18}$ (*Tr* = Co, Rh, and Ir).** *Y. Matsumoto*[1] and T. Kuwai[1] *1. Graduate School of Science and Engineering, University of Toyama, Toyama, Japan*

U11-06. **Elastic properties of $SmPt_2Cd_{20}$ probed by ultrasound measurements.** *Y. Nakanishi*[1], M. Nakamura[1], M. Taniguchi[1], M. Nakamura[1], M. Yoshizawa[1], A. Yamada[2], R. Higashinaka[2] and Y. Aoki[2] *1. Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Department of Physics, Tokyo Metropolitan University, Tokyo, Japan*

U11-07. **Unusual Magnetic-Field-Insensitive Heavy Electron State in $SmTr_2Al_{20}$ (*Tr* = Ti, V, Cr, and Ta).** *R. Higashinaka*[1], A. Yamada[1], T. Matsuda[1], Y. Aoki[1], M. Mizumaki[2], S. Tsutsui[2], T. Uruga[2], K. Nitta[2] and T. Ina[2] *1. Department of Physics, Tokyo Metropolitan Univ., Hachioji, Japan; 2. Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Japan*

U11-08. **Electronic states of CeT_2X_{20} (T:transition metal, X=Zn and Cd).** *Y. Hirose*[1], Y. Suzuki[2], T. Kawano[2], F. Honda[3], R. Kulkarni[4], A. Thamizhavel[4], N. Kawamura[5], M. Mizumaki[5], H. Doto[2] and R. Settai[1] *1. Department of Physics, Niigata University, Niigata, Japan; 2. Graduated School of Science and Technology, Niigata University, Niigata, Japan; 3. Institute for Material Research, Tohoku University, Oarai, Japan; 4. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Colaba, India; 5. Research & Utilization Division, Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Japan*

U11-09. **Antiferromagnetic transitions of Kramers doublets in caged cubic compounds NdT_2Zn_{20} (*T* = Co, Rh, and Ir).** *R. Yamamoto*[1], T. Onimaru[1], R.J. Yamamda[1], Y. Yamane[1], K. Umeo[2], Y. Shimura[1] and T. Takabatake[1] *1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi-Hiroshima, Japan; 2. Natural Science Center for Basic Research and Development, Hiroshima University, Higashi-Hiroshima, Japan*

THURSDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session U12
QUANTUM CRITICAL SCES III: HEAVY FERMION AND TM COMPOUNDS (Poster Session)

Sven Friedemann, Chair
University of Bristol, Bristol, United Kingdom

U12-01. **Quantum critical behavior in the correlated Weyl semimetal candidate material $CeRu_4Sn_6$.** *A. Sidorenko*[1], F. Wesley[2], J. Haenel[1], H. Winkler[1], J. Rodriguez-Rivera[3], Y. Qiu[3], A. Prokofiev[1], Q. Si[4], C.L. Broholm[2] and S. Paschen[1] *1. Institute of Solid State Physics, Vienna University of Technology, Wien, Austria; 2. Institute for Quantum Matter and Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, MD, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 4. Department of Physics and Astronomy, Rice University, Houston, TX, United States*

U12-02. **Characterization of substituted $YbNi_4P_2$ and $YbRh_2Si_2$ single crystals.** *K. Kliemt*[1], P. Denck[1], C. Butzke[1], J. Banda[2], M. Brando[2] and C. Krellner[1] *1. Institute of Physics, Goethe-University Frankfurt, Frankfurt, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

U12-03. **Non-Fermi-liquid behavior in heavy-fermion compound $CeCo_{1-x}Ni_xIn_5$.** *K. Suzuki*[1], M. Yokoyama[1], Y. Oshima[1], T. Hasegawa[1], K. Tenya[2], S. Nakamura[3], S. Kittaka[3], T. Sakakibara[3], I. Kawasaki[4], W. Higemoto[5] and I. Watanabe[6] *1. Ibaraki University, Mito, Japan; 2. Shinshu University, Nagano, Japan; 3. The University of Tokyo, Kashiwa, Japan; 4. University of Hyogo, Kamigori, Japan; 5. Japan Atomic Energy Agency, Tokai, Japan; 6. RIKEN, Wako, Japan*

U12-04. **Non-Fermi-liquid behavior at anti-ferromagnetic quantum critical point in heavy fermion system $Ce(Cu_{1-x}Co_x)_2Ge_2$.** *R. Tripathi*[1], D. Das[1,3], C. Geibel[3], S.K. Dhar[4] and Z. Hossain[2] *1. Physics, Indian Institute of Technology, Kanpur, India; 2. Physics, Indian Institute of Technology, Kanpur Nagar, India; 3. Physics of Quantum Materials, Max-Planck-Institute for Chemical Physics of Solids, Dresden, Germany; 4. Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, Mumbai, India*

U12-05. **Quantum criticality of antiferromagnet Mn_3P under pressure.** *H. Kotegawa*[1], K. Uda[1], Y. Kuwata[1], H. Tou[1], H. Sugawara[1], T. Sakurai[1], H. Ohta[1] and H. Harima[1] *1. Kobe University, Kobe, Japan*

U12-06. **Pressure evolution of magnetism in $CePd_2Ga_3$.** *J. Volny*[1], M. Vališka[1], M. Míšek[2], P. Proschek[1], A. Bartha[1] and J. Prokleska[1] *1. Department of Condensed Matter Physics, Charles University in Prague, Prague, Czechia; 2. Department of Magnetics and Superconductors, Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czechia*

U12-07. **Composition and pressure tuning of magnetic states in the proximity of UCoAl.** *P. Opletal*[1], J. Prokleska[1], P. Proschek[1], M. Míšek[2] and V. Sechovský[1] *1. Faculty of Mathematics and Physics, Charles University, Prague 2, Czechia; 2. Department of Magnetics and Superconductors, Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czechia*

U12-08. **Suppression of the Anisotropic Phase of $Sr_3Ru_2O_7$ by Hydrostatic Pressure.** *L. He*[1], M. Fu[1], D. Sun[5], R. Perry[4], A. Mackenzie[2,3] and S.R. Julian[1] *1. Department of Physics, University of Toronto, Toronto, ON, Canada; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. University of St. Andrews, St. Andrews, United Kingdom; 4. University College London, London, United Kingdom; 5. Los Alamos National Laboratory Pulsed Field Facility, Los Alamos, NM, United States*

U12-09. **Pressure Evolution of Magnetism in UCoGa and URhGa.** *M. Míšek*[1], P. Proschek[2], P. Opletal[2], J. Prokleska[2], J. Kaštil[1], J. Kamarád[1], M. Divis[2] and V. Sechovský[2] *1. Department of Magnetics and Superconductors, Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czechia; 2. DCMP, Charles University in Prague, Prague, Czechia*

U12-10. **Withdrawn**

Session U13
SUPERCONDUCTING SCES VI: FeSe AND OTHER IRON-BASED SUPERCONDUCTORS (Poster Session)

Yunkyu Bang, Chair
POSTECH, Pohang, The Republic of Korea

U13-01. **Anisotropic pressure effects on superconductivity in S-substituted $Fe_{1+y}Te$.** *T. Yamanaka*[1], K. Yamamoto[1], N. Umezawa[1], T. Yamazaki[1,2], D. Ueta[3], H. Yoshizawa[3] and H. Yaguchi[1] *1. Physics, Tokyo University of Science, Noda, Japan; 2. Physics, Waseda University, Shinjuku, Japan; 3. ISSP, The University of Tokyo, Kashiwa, Japan*

U13-02. **Pressure-induced Quantum Critical Behavior in $LaFeAsO_{1-x}H_x$ Studied via NMR.** *N. Fujiwara*[1], M. Takeuchi[1], T. Kuwayama[1], S. Nakagawa[1], S. Iimura[2], S. Matsuishi[3] and H. Hosono[2,3] *1. Graduate School of Human & Environmental Studies, Kyoto University, Kyoto, Japan; 2. Institute for Innovative Research, Tokyo Institute of Technology, Yokohama, Japan; 3. Material Research Center for Element Strategy, Tokyo Institute of Technology, Yokohama, Japan*

U13-03. **Hydrostatic Pressure Effects on the Superconductivity of $Ca_{0.9}La_{0.1}FeAs_2$ Single Crystals.** *D. Bhoi*[1], B. Min[1], Y. Sur[1], D. Jang[1], C. Kim[1], D. Kim[3], J. Shim[2], K. Murata[1] and K. Kim[1] *1. CENSCMR, Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 2. Department of Chemistry & Physics, POSTECH, Pohang, The Republic of Korea; 3. Center for High Pressure Science and Technology Advanced Research (HPSTAR), Shanghai, China*

U13-04. **Multigap superconductivity in $RbCa_2Fe_4As_4F_2$ investigated using μSR measurements.** *D. Adroja*[1,2], F. Kirschner[3], F. Lang[3], M. Smidman[4], A. Hillier[1], Z. Wang[5], G. Stenning[1] and S. Blundell[3] *1. ISIS Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; 2. Highly Correlated Matter Research Group, Physics Department, University of Johannesburg, Johannesburg, South Africa; 3. Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom; 4. Center for Correlated Matter and Department of Physics, Zhejiang University, Hangzhou, China; 5. Department of Physics and State Key Lab of Silicon Materials, Zhejiang University, Hangzhou, China*

U13-05. **Jahn-Teller distortion in two-band model for iron pnictide superconductors.** *B. Pradhan*[1] *1. Physics, BJB College, Bhubaneswar, India*

U13-06. **Phase Separation in $Cs_xFe_{2-y}Se_2$ Superconductor.** *M.I. Sturza*[1,2], K. Taddei[2,3], O. Chmaissem[2], S. Rosenkranz[2], S. Wurmehl[1], B. Büchner[4] and M. Kanatzidis[2,5] *1. Department "Synthesis and Crystal Growth", IFW - Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Germany; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 3. Quantum Condensed Matter Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 4. Institute for Solid State Research, IFW-Dresden, Dresden, Germany; 5. Department of Chemistry, Northwestern University, Evanston, IL, United States*

U13-07. **Antiferromagnetic order in epitaxial FeSe films on $SrTiO_3$.** *D. Wu*[1] *1. Nanjing University, Nanjing, China*

U13-08. **Interplay of structural properties and magnetic disorder in FeSe: Density-functional theory calculations.** *F. Lochner*[1,2], I. Eremin[2], J. Neugebauer[1] and T. Hickel[1] *1. Computational Materials Design, Max-Planck-Institut für Eisenforschung, Düsseldorf, Germany; 2. Theoretische Physik III, Ruhr-Universität Bochum, Bochum, Germany*

U13-09. **Temperature vs Pressure Phase Diagram of $FeSe_{1-x}S_x$ investigated by μSR.** *S. Holenstein*[1,2], J. Stahl[3], Z. Shermadini[1], R. Khasanov[1], J. Orain[1], A. Amato[1], E. Morenzoni[1], D. Johrendt[3] and H. Luetkens[1] *1. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Physik-Institut, Universität Zürich, Zürich, Switzerland; 3. Department Chemie, Ludwig-Maximilians-Universität München, München, Germany*

U13-10. **Magnetic fluctuations under pressure on S-doped FeSe studied via ^{77}Se NMR.** T. Kuwayama[1], K. Matsuura[2], Y. Mizukami[2], S. Kasahara[3], Y. Matsuda[3], T. Shibauchi[2], Y. Uwatoko[4] and *N. Fujiwara*[1] *1. Graduate School of Human & Environmental Studies, Kyoto University, Kyoto, Japan; 2. Graduate School of Frontier Sciences, The University of Tokyo, Chiba, Japan; 3. Department of Physics, Kyoto University, Kyoto, Japan; 4. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

U13-11. **Superconducting gap anisotropy of FeSe single crystal in fully twinned nematic state: upper critical field and conductivity in basal plane.** A.V. Sadakov[1], P.D. Grigoriev[1,2], *T.A. Romanova*[1] and D.A. Chareev[3] *1. P.N. Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russian Federation; 2. L.D. Landau Institute for Theoretical Physics, Russian Academy of Sciences, Chernogolovka, Russian Federation; 3. Institute of Experimental Mineralogy, Russian Academy of Sciences, Chernogolovka, Russian Federation*

U13-12. **Withdrawn**

U13-13. **Scaling of the Superconducting Gap with Orbital Character in FeSe.** L. Rhodes[1,2], M. Watson[3,1], A. Haghighirad[4,5], D. Evtushinsky[6], M. Eschrig[2] and *T. Kim[1] 1. Diamond Light Source Ltd, Didcot, United Kingdom; 2. Department of Physics, Royal Holloway, University of London, London, United Kingdom; 3. School of Physics and Astronomy, University of St. Andrews, St. Andrews, United Kingdom; 4. Department of Physics, University of Oxford, Oxford, United Kingdom; 5. Institute for Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany; 6. Department of Physics, Ecole Polytechnique Federale Lausanne, Lausanne, Switzerland*

THURSDAY EVENING 5:00

SAN FRANCISCO BALLROOM

Session U14
HEAVY FERMIONS VI: THEORY AND EXPERIMENT (Poster Session)

Naoyuki Tateiwa, Chair
Japan Atomic Energy Agency, Naka, Tokai, Japan

U14-01. **Magnetic, superconducting, and structural information of an epitaxially grown $CeCoIn_5$ film probed by nuclear quadrupole resonance.** *T. Yamanaka*[1], M. Shimozawa[2], S. Kitagawa[1], H. Shishido[3], H. Ikeda[4], T. Terashima[1], T. Shibauchi[5], Y. Matsuda[1] and K. Ishida[1] *1. Physics, Kyoto University, Kyoto, Japan; 2. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. Physics and Electronics, Osaka Prefecture University, Sakai, Japan; 4. Physics, Ritsumeikan University, Kusatsu, Japan; 5. Advanced Materials Science, The University of Tokyo, Kashiwa, Japan*

U14-02. **Deviation of the temperature dependent properties of Yb-based heavy Fermion systems from the Kondo scale.** *C. Laubschat*[1], K. Kummer[2], A. Generalov[3], S. Danzenbaecher[1], C. Geibel[4], C. Krellner[5], G. Zwicknagl[6], K. Matho[7] and D. Vyalikh[8] *1. Institute of Solid-State and Materials Physics, Technische Universität Dresden, D-01062 Dresden, Germany; 2. European Synchrotron Radiation Facility, F-38043 Grenoble Cedex 9, France; 3. MAX IV Laboratory, Lund University, S-22100 Lund, Sweden; 4. Max Planck Institute for Chemical Physics of Solids, D-01187 Dresden, Germany; 5. Kristall- und Materiallabor, Physikalisches Institut, Goethe-Universitaet Frankfurt, D-60438 Frankfurt a. M., Germany; 6. Institute for Mathematical Physics, Technische Universitaet Braunschweig, D-38106 Braunschweig, Germany; 7. Institut Néel, C.N.R.S. and Université Grenoble Alpes, F-38042 Grenoble cedex 9, France; 8. Donostia International Physics Center (DIPC), Departamento de Fisica de Materiales and CFM-MPC UPV/EHU, E-20080 San Sebastian, Spain*

U14-03. **Pressure-dependent uranium valence states in UPd_2Cd_{20} probed by high-energy resolution x-ray absorption spectroscopy.** *N. Kawamura*[1], Y. Hirose[2], R. Shimokasa[1,3], F. Honda[4], N. Ishimatsu[5], M. Mizumaki[1], H. Doto[6] and K. Mimura[3] *1. Research & Utilization Division, Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Japan; 2. Department of Physics, Niigata University, Niigata, Japan; 3. Graduate School of Engineering, Osaka Prefecture University, Sakai, Japan; 4. Institute for Materials Research, Tohoku University, Oarai, Japan; 5. Graduate School of Science, Hiroshima University, Higashi-Hiroshima, Japan; 6. Graduate School of Science and Technology, Niigata University, Niigata, Japan*

U14-04. **Micro-structuring the $Ce(Co,Rh,Ir)In_5$ heavy fermion family.** *M. Bachmann*[1], C. Putzke[1], T. Helm[1], K. Modic[1], K. Shirer[1], M. König[1], A. Mackenzie[1], E. Bauer[3], F. Ronning[3] and P.J. Moll[4] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. Los Alamos National Laboratory, Los Alamos, NM, United States; 4. Microstructured Quantum Matter, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

U14-05. **NMR studies on the magnetic fluctuations in the artificial heavy-fermion superlattices of $CeCoIn_5$/$YbCoIn_5$ and $CeCoIn_5$/$YbCoIn_5$.** *G. Nakamine*[1], T. Yamanaka[1], S. Kitagawa[1], K. Ishida[1], M. Naritsuka[1], T. Ishii[1], T. Shibauchi[2], T. Terashima[2], Y. Kasahara[1] and Y. Matsuda[1] *1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan*

U14-06. **Crystal Electric Field Ground State of Valence Fluctuating Compound $YbAlB_4$ Probed by Linear Dichroism of Yb 3*d* Core Level Photoelectron Spectrum.** *K. Kuga*[1], Y. Kanai[2,1], H. Fujiwara[2,1], K. Yamagami[2,1], S. Hamamoto[2,1], Y. Aoyama[2,1], A. Sekiyama[2,1], A. Higashiya[3,1], T. Kadono[4,1], S. Imada[4,1], A. Yamasaki[5,1], K. Tamasaku[1], M. Yabashi[1], T. Ishikawa[1], S. Nakatsuji[6] and T. Kiss[1,2] *1. RIKEN SPring-8 Center, Sayo, Japan; 2. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 3. Faculty of Science and Engineering, Setsunan University, Neyagawa, Japan; 4. College of Science and Engineering, Ritsumeikan University, Kusatsu, Japan; 5. Faculty of Science and Engineering, Konan University, Kobe, Japan; 6. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan*

U14-07. **THz conductivity of $YbRh_2Si_2$ thin films grown by molecular beam epitaxy.** *S. Paschen*[1,2] *1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Rice University, Houston, TX, United States*

U14-08. **Energy Scales of Doped Anderson Lattice Model.** *H. Kang*[1], H. Choi[1], J. Kim[1] and J. Shim[1,2] *1. Department of Chemistry, POSTECH, Pohang-si, The Republic of Korea; 2. Department of Physics, POSTECH, Pohang-si, The Republic of Korea*

U14-09. **Kondo effects in α-Cerium and SmB_6.** *J. Kim*[1], H. Choi[2], K. Kim[3,1] and B. Min[1] *1. Physics, POSTECH, Pohang, The Republic of Korea; 2. Chemistry, POSTECH, Pohang, The Republic of Korea; 3. Physics, Max Planck Institute for Chemical Physics of Solids, Pohang, The Republic of Korea*

U14-10. **RKKY interaction revised - spin correlation functions and quantum criticality.** *F. Eickhoff*[1], B. Lechtenberg[2] and F. Anders[1] *1. Theoretical Physics, Technical University Dortmund, Dortmund, Germany; 2. Department of Physics, Kyoto University, Kyoto, Japan*

U14-11. **Withdrawn**

THURSDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session U15
THIN FILMS, NANO- & HETEROSTRUCTURES (Poster Session)

Qing Lin He, Chair
International Center for Quantum Materials, School of Physics, Peking University, Beijing, China

U15-01. **The exchange bias and giant vertical magnetization shift in $LaMnO_3/SrMnO_3$ superlattice.** *X. Xu*[1] *1. Chemistry and Material Science, Shanxi Normal University, Linfen, China*

U15-02. **Magnetic, structural and strain properties of FeRh thin films studied using polarised neutron reflectivity and X-Ray characterisation.** C. Bull[1], C.W. Barton[1], W. Griggs[1], A. Caruana[2], C. Kinane[2], P.W. Nutter[1] and *T. Thomson*[1] *1. School of Computer Science, University of Manchester, Manchester, United Kingdom; 2. Rutherford Appleton Laboratory, STFC, Didcot, United Kingdom*

U15-03. **Structural and magnetic properties of cobalt iron disulfide ($CoxFe_{1-x}S_2$) nanocrystals.** *H.J. Gabold*[1], Z. Luan[2], M. Law[2] and A. Paul[1] *1. E21, Technical University of Munich, Munich, Germany; 2. Department of Chemical Engineering & Material Science, University of California, Irvine, Irvine, CA, United States*

U15-04. **Temperature controlled Fe/Au/FeRh spin valves.** *P. Drozdz*[1], M. Slezak[1], K. Matlak[1], J. Korecki[1,2] and T. Slezak[1] *1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Krakow, Poland*

U15-05. **Study of magnetic phase transition in $LaCoO_3$ and $La_{0.7}Sr_{0.3}CoO_3$ thin films grown by pulsed laser deposition.** *T. Joshi*[1], D. Belanger[1] and D. Lederman[1] *1. Department of Physics, University of California, Santa Cruz, Santa Cruz, CA, United States*

U15-06. **Fluctuation of stripe domains mediated by topological magnetic defects.** *S. Je*[1,2], M. Jung[2], S. Montoya[3], E.E. Fullerton[4], K. Lee[5], J. Hong[2] and M. Im[1] *1. CXRO, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology, Daegu, The Republic of Korea; 3. Space and Naval Warfare Systems Center Pacific, San Diego, CA, United States; 4. UC San Diego, La Jolla, CA, United States; 5. School of Mechanical & Advanced Material Engineering, Ulsan National Institute of Science Technology, Ulsan, The Republic of Korea*

U15-07. **Magnetostructural transition, magnetic properties, and magnetocaloric effects of $Ni_{48}Co_2Mn_{35}In_{15}$ melt spun ribbons.** S. Pandey[1], *A. Quetz*[1], P. Ibarra-Gaytan[2], C. Sanchez-Valdes[3], A. Aryal[1], I. Dubenko[1], J.L. Sanchez Llamazares[4], S. Stadler[5] and N. Ali[1] *1. Physics, Southern Illinois University, Carbondale, USA, Carbondale, IL, United States; 2. División de Materiales Avanzados, Instituto Potosino de Investigación Científica y Tecnológica A.C., San Luis Potosi, Mexico; 3. Institute of Physics, Faculty of Sciences, University Pavol Jozef Safárik, Kosice, Slovakia; 4. División Multidisciplinaria, Ciudad Universitaria, Universidad Autónoma de Ciudad Juárez (UACJ), Ciudad Juárez, Mexico; 5. Louisiana State University, Baton Rouge, LA, United States*

U15-08. **The microstructure and giant magnetocaloric effect of $Ni_{36.0}Co_{14.0}Mn_{35.7}Ti_{14.3}$ alloy ribbons.** K. Liu[1], *S. Ma*[1], Q. Ge[1], S. Yang[1], X. Han[1], K. Yu[1] and Z. Zhong[1] *1. Jiangxi Key Laboratory for Rare Earth Magnetic Materials and Devices (IREMMD), Jiangxi University of Science and Technology, Ganzhou, China*

THURSDAY EVENING 5:00 — SAN FRANCISCO BALLROOM

Session U16
VORTEX AND SKYRMION DYNAMICS II (Poster Session)

Mario Carpentieri, Chair
Politecnico of Bari, Bari, Italy

U16-01. **Frequency modulation spin waves generator via oscillating vortex core in NiFe disk array.** *L. Chang*[1], M. Kao[1], L. Tsai[1], J. Liang[3] and S. Lee[1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Department of Physics, Fu Jen Catholic University, New Taipei City, Taiwan*

U16-02. **Effects of pinning in the magnetic configuration of a single disk at low temperatures.** *S. Lendinez*[1], J. Ding[1], T. Polakovic[1], J.E. Pearson[1], A. Hoffmann[1] and V. Novosad[1] *1. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States*

U16-03. **The Role of Thermal Activation for Magnetic Vortex States.** *H. Brueckl*[1], K. Pruegl[2], T. Wurft[2], S. Luber[2], W. Raberg[2], J. Zimmer[2], A. Satz[3] and D. Suess[4] *1. Department for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, Austria; 2. Infineon Technologies AG, Regensburg, Munich, Germany; 3. Infineon Technologies Austria AG, Villach, Austria; 4. Physics of Functional Materials, University Vienna, Vienna, Austria*

U16-04. **Ultrafast Toggle Switching of Magnetic Skyrmions.** M. Stifano[1], M. Barbeau[1], T. Rasing[1] and *J. Mentink*[1] *1. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands*

U16-05. **Switching of Skyrmion chirality by local heating.** *Y. Nakatani*[1], K. Yamada[2] and A. Hirohata[3] *1. University of Electro-communications, Tokyo, Japan; 2. Gifu University, Gifu, Japan; 3. University of York, York, United Kingdom*

U16-06. **Skyrmion-Lattice Inversion and Defect-Induced Melting in Thin Magnetic Films.** *L. Pierobon*[2], C. Moutafis[1], Y. Li[1], J. Löffler[2] and M. Charilaou[2] *1. School of Computer Science, University of Manchester, Manchester, United Kingdom; 2. Laboratory of Metal Physics and Technology, Department of Materials, ETH Zurich, Zurich, Switzerland*

U16-07. **Dynamics of isolated skyrmions driven by electromagnon excitations.** *A. Takeuchi*[1] and M. Mochizuki[1,2] *1. Department of Physics and Mathematics, Aoyama Gakuin University, Sagamihara, Japan; 2. Department of Applied Physics, Waseda University, Shinjuku-ku, Japan*

U16-08. **Fixed Skyrmion Based Resonate and Fire Neuron.** *M. Azam*[1], D. Bhattacharya[1], D. Querlioz[2] and J. Atulasimha[1] *1. Virginia Commonwealth University, Richmond, VA, United States; 2. C2N, Université Paris-Sud, Orsay, France*

U16-09. **Resonance Beyond Frequency-Matching: Multidimensional Resonance.** *R. Wang*[1] *1. Xiamen University, Xiamen, China*

U16-10. **Creation of Skyrmions in arrays of coupled oscillators.** *H. Vigo Cotrina*[1] and A.P. Guimaraes[2] *1. Centro Brasileiro de Pesquisas Fisicas (CBPF), Río de Janeiro, Brazil; 2. CBPF, Rio de Janeiro, Brazil*

U16-11. **Micromagnetic study of spin transfer torque induced dynamical skyrmions and dissipative droplet solitons.** *N. Statuto*[1,2], J. Hernàndez Ferràs[1], A. Kent[3] and F. Macià[2] *1. Condensed Matter Physics Department, University of Barcelona, Barcelona, Spain; 2. Institute of Materials Science of Barcelona (ICMAB), Bellaterra, Spain; 3. Department of Physics, Center for Quantum Phenomena, New York University, New York, NY, United States*

U16-12. **Decay of Skyrmions and Droplets in Uniaxial Ferromagnets.** *M. Ruth*[1], E. Iacocca[1] and M. Hoefer[1] *1. Applied Mathematics, University of Colorado, Boulder, Boulder, CO, United States*

Session V1
CPP-GMR AND MAGNETIC TUNNEL JUNCTIONS II

Andrew Kent, Chair
New York University, New York, NY, United States

8:30

V1-01. **Perpendicular Anistropy in $Co_2FeAl_{0.5}Si_{0.5}$ for CPP-GMR devices.** W.J. Frost[1], M. Samiepour[2] and *A. Hirohata*[2] *1. Department of Electronics, University of York, York, United Kingdom; 2. University of York, York, United Kingdom*

8:45

V1-02. **$L1_0$-phase FePd fully perpendicular magnetic tunnel junctions for STT-MRAM application.** *D. Zhang*[1], C. Sun[3], R. Wu[2], Y. Lv[1], K. Schliep[2], Z. Zhao[1], J. Chen[1], A. Mkhoyan[2], P. Voyles[3] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 2. Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 3. Department of Materials Science and Engineering, University of Wisconsin-Madison, Madison, WI, United States*

9:00

V1-03. **CPP-GMR of Heusler alloy based junctions: Spacer materials and interface effects.** ***(Invited)*** *T. Kubota*[1,2], Z. Wen[1,2] and K. Takanashi[1,2] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

9:30

V1-04. **Oblique-incidence deposition for custom-designed GMR- and TMR sensor functionalities.** *S. Willing*[1,2], K. Schlage[1], T. Gurieva[1], L. Bocklage[1,3], G. Meier[3,4] and R. Roehlsberger[1,3] *1. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 2. Physics, Hamburg University, Hamburg, Germany; 3. The Hamburg Centre for Ultrafast Imaging, Hamburg, Germany; 4. Max-Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany*

9:45

V1-06. **Scavenging Properties of Metal Spacer in Perpendicular Magnetic Tunnel Junction and its Impact on Switching Characteristics of Spin Transfer Torque Random Access Memory.** *H. Dixit*[1], D. Datta[1], S. Agarwal[1] and F. Benistant[1] *1. TCAD, GLOBALFOUNDRIES, Singapore, Singapore*

Session V2
NOVEL MULTIFERROICS

Alexander Grutter, Chair
National Institute of Standards and Technology, Gaithersburg, MD, United States

8:30

V2-01. **Probing Multiferroic Metal Organic Frameworks with Neutrons.** *H. Walker*[1], Z. Yang[2], D. Le[1], R. Smith[1], D. Voneshen[1], A. Phillips[2] and D. Keen[1] *1. ISIS neutron and muon source, Rutherford Appleton Laboratory, Didcot, United Kingdom; 2. Centre for Condensed Matter and Materials Physics, Queen Mary University of London, London, United Kingdom*

8:45

V2-02. **Theory of Orbital Magnetic Quadrupole Moment and Magnetoelectric Susceptibility.** *A. Shitade*[1], H. Watanabe[2] and Y. Yanase[2] *1. Center for Emergent Matter Science, RIKEN, Wako, Japan; 2. Department of Physics, Kyoto University, Kyoto, Japan*

9:00

V2-03. **Magnetic Frustration and Exchange Anisotropy in Antiferroelectric Francisite $Cu_3Bi(SeO_3)_2O_2Cl$.** *E. Constable*[1,2], S. Raymond[4], S. Petit[3], E. Ressouche[4], F. Bourdarot[4], J. Debray[2], M. Josse[5], O. Fabelo[6], H. Berger[7], S. de Brion[2] and V. Simonet[2] *1. Technical University Vienna, Vienna, Austria; 2. Institut Néel CNRS, Grenoble, France; 3. Laboratoire Léon Brillouin, Gif-sur-Yvette, France; 4. Institut de Nanosciences et Cryogénie, CEA, Grenoble, France; 5. ICMCB, CNRS and Université de Bordeaux, Bordeaux, France; 6. Institut Laue Langevin, Grenoble, France; 7. Institute of Physics of Complex Matter, Ecole Polytechnique Federal de Lausanne, Lausanne, Switzerland*

9:15

V2-04. **Magnetoelectric Effect in a Newly Synthesized Helical Magnet $Ni_2In_{1-x}A_xSbO_6$ (A_x = $Cr_{0.1}$, $Fe_{0.05}$).** *T. Sato*[1], Y. Araki[1], A. Miyake[2], M. Tokunaga[2], T. Honda[3], S. Kimura[4], H. Sagayama[2], N. Abe[1], Y. Tokunaga[1] and T. Arima[1] *1. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. ISSP, The University of Tokyo, Kashiwa, Japan; 3. IMSS, KEK, Tsukuba, Japan; 4. IMR, Tohoku University, Sendai, Japan*

9:30

V2-05. **Magnetoelectric Effect in Buckled Honeycomb Antiferromagnet $Co_4Ta_2O_9$.** *N. Abe*[1], T. Sato[1], A. Miyake[2], S. Kimura[3], K.D. Nguyen[4], T. Omi[1], T. Moyoshi[5], A. Nakao[5], M. Tokunaga[2], Y. Tokunaga[1] and T. Arima[1,4] *1. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. Center for Emergent Matter Science, RIKEN, Wako, Japan; 5. Neutron Science and Technology Center, CROSS, Tokai, Japan*

9:45

V2-06. **Structural and spectroscopic properties of the new polar antiferromagnet Ni_2MnTeO_6.** *S. Skiadopoulou*[1,2], M. Retuerto[3], M. Greenblatt[3], D. Legut[1] and S. Kamba[2] *1. IT4Innovations Center, VSB Technical University Ostrava, Ostrava-Poruba, Czechia; 2. Institute of Physics, Czech Academy of Sciences, Prague, Czechia; 3. Department of Chemistry and Chemical Biology, Rutgers, The State University of New Jersey, Piscataway, NJ, United States*

Session V3
MRAM

Stéphane Mangin, Chair
Université de Lorraine, Vandoeuvre-lès-Nancy, France

8:30

V3-01. **Towards high density STT-MRAM at sub-20nm nodes.** ***(Invited)*** V. Nguyen[1], N. Perrissin[1], S. Lequeux[1], J. Chatterjee[1], L. Tille[1], S. Auffret[1], R.C. Sousa[1], E. Gautier[1], L. Vila[1], I.L. Prejbeanu[1] and *B. Diény*[1] *1. SPINTEC, Univ.Grenoble Alpes, CEA-INAC, CNRS, Grenoble, France*

9:00

V3-02. **A 2018 review on STT-MRAM materials.** ***(Invited)*** *M. Gottwald*[1] *1. Physical Sciences, IBM T.J. Watson Research Center, Yorktown Heights, NY, United States., New Rochelle, NY, United States*

9:30

V3-03. **High Temperature Magnetic Properties of CoFeB Free Layers with Nonmagnetic Impurities for STT-MRAM.** *J.M. Iwata-Harms*[1], G. Jan[1], H. Liu[1], S. Serrano Guisan[1], J. Zhu[1], L. Thomas[1], R. Tong[1], V. Sundar[1] and P. Wang[1] *1. TDK-Headway Technologies, Milpitas, CA, United States*

9:45

V3-04. **Quantification of process-induced damage in highly-scaled pMTJ devices for MRAM applications.** *S. Rao*[1], M. Perumkunnil[1], S. Kundu[1], L. Souriau[1], J. Swerts[1], S. Couet[1], F. Yasin[1], W. Kim[1], D. Tsvetanova[1], N. Jossart[1], D. Crotti[1], A. Furnemont[1] and G. Kar[1] *1. Imec, Leuven, Belgium*

FRIDAY MORNING 8:30

ESPLANADE 160

Session V4
THIN FILM AND HYBRID NANOSTRUCTURES II

Adrian Quesada, Chair
Instituto de Cerámica y Vidrio, CSIC, Madrid, Spain

8:30

V4-01. **Spin Engineering in Complex Oxide Heterostructures: From Textures to Spin Ice.** ***(Invited)*** *Y. Takamura*[1] *1. Materials Science and Engineering, University of California, Davis, Davis, CA, United States*

9:00

V4-02. **Competition between magnetic anisotropies in $La_{2/3}Sr_{1/3}MnO_3$ thin film grown on the patterned $SrTiO_3$ substrate.** *V.K. Malik*[1,2], R.V. Chopdekar[3], A. Kleibert[3] and C. Bernhard[2] *1. Physics, Indian Institute of Technology Roorkee, Roorkee, India; 2. Physics, University of Fribourg, Fribourg, Switzerland; 3. Paul Scherrer Institut, Villigen, Switzerland*

9:15

V4-03. **Magnetism of Manganite/Iridate Bilayers.** *S. te Velthuis*[1], S. Rosenkranz[1], X. Wang[2], J. Tornos[3], F. Gallego[3], D.J. Keavney[4], J.W. Freeland[4], Y. Choi[4], J. Strempfer[4], D. Haskel[4], B.J. Kirby[5], T. Charlton[6] and J. Santamaria[3] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Physics, Bryn Mawr College, Bryn Mawr, PA, United States; 3. Universidad Complutense de Madrid, Madrid, Spain; 4. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States; 5. NIST Center for Neutron Research, NIST, Gaithersburg, MD, United States; 6. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

9:30

V4-04. **Phase control in freestanding magnetic oxide membranes via extreme strain engineering.** *S. Hong*[1,2], D. Lu[1], A. Vailionis[1], Y. Hikita[2] and H. Hwang[1,2] *1. Stanford University, Palo Alto, CA, United States; 2. SLAC National Accelerator Laboratory, Menlo Park, CA, United States*

9:45

V4-05. **Large Moments in bcc $Fe_xCo_yMn_z$ ternary alloy thin films.** *Y.U. Idzerda*[1], R. Snow[1], H. Bhatkar[1], A.T. N'Diaye[2] and E. Arenholz[2] *1. Physics, Montana State University, Bozeman, MT, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

FRIDAY MORNING 8:30

ESPLANADE 152

Session V5
NEW MAGNETIC MATERIALS VI

Alexander Samardak, Chair
Far Eastern Federal University, Vladivostok, Russian Federation

8:30

V5-01. **Growth of FeNiN Films toward Formation of $L1_0$-ordered FeNi Films by Nitrogen Topotactic Extraction.** *K. Ito*[1], M. Mizuguchi[1], F. Takata[2], T. Suemasu[2], H. Yanagihara[2] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan*

8:45

V5-02. **Electronic tunneling through epitaxial cobalt-ferrite (001) films with perpendicular magnetic anisotropy grown on non-magnetic metal layers.** *M. Tanaka*[1], K. Naruse[1], K. Nomura[1], T. Taniguchi[2], S. Honda[3], T. Ono[2] and K. Mibu[1] *1. Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan; 2. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 3. Faculty of Engineering Science, Kansai University, Suita, Japan*

9:00

V5-03. **Magnetic and transport properties of melt spun ribbons and bulk samples of Mn_2FeGa.** *V. Khovaylo*[1], I. Gavrikov[1], M. Seredina[1], Y. Anikin[1], M. Gorshenkov[1], S.V. Taskaev[2] and R. Chatterjee[3] *1. National University of Science and Technology "MIS&S", Moscow, Russian Federation; 2. Physics department, Chelyabinsk State University, Chelyabinsk, Russian Federation; 3. Physics, Indian Institute of Technology Delhi, New-Delhi, India*

9:15

V5-04. **Structural, magnetic and dielectric properties of ferrite-ferroelectric ceramic composites.** *A. Farheen*[1] and R. Singh[1] *1. School of Physics, Univesity of Hyderabad, Hyderabad, India*

9:30

V5-05. **Controlling the magnetization and coercivity in quenched FeRh magnetic heterostructures with hydrostatic pressure.** *C. Urban*[1], S.P. Bennett[2] and I.K. Schuller[1] *1. Physics, UCSD, San Diego, CA, United States; 2. Materials Science and Technology, U.S. Naval Research Laboratory, Washington, DC, United States*

9:45

V5-06. **Study of the Static and Dynamic Magnetic Response of $Ni_{80}Fe_{20}$ Dumbbell Shaped Structures.** *P.N. Sherpa*[1,2], S. Khanal[1,2] and L. Spinu[1,2] *1. Physics, University of New Orleans, New Orleans, LA, United States; 2. AMRi/Physics, University of New Orleans, New Orleans, LA, United States*

FRIDAY MORNING 8:30

ROOM 105

Session V6
MAGNETIC SEMICONDUCTORS IV

Laura Thevenard, Co-Chair
Institut des Nanosciences de Paris, Paris, France
Xinyu Liu, Co-Chair
University of Notre Dame, Notre Dame, IN, United States

8:30

V6-01. **Spin-orbit induced effective magnetic field in GaMnAs ferromagnetic semiconductor.** ***(Invited)*** *S. Lee*[1] *1. Physics, Korea University, Seoul, The Republic of Korea*

9:00

V6-03. **Observation of spin-gapless semiconductor-like magnetotransport in CoFeVSi epitaxial films.** *S. Yamada*[1,2], S. Kobayashi[1], K. Arima[1] and K. Hamaya[1,2] *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan*

9:15

V6-04. **InAs quantum dots selectively doped with Mn.** *A. Bouravleuv*[1,2] and G. Cirlin[1] *1. St. Petersburg Academic University RAS, St. Petersburg, Russian Federation; 2. Ioffe PhysicaL Technical Institute RAS, St. Petersburg, Russian Federation*

9:30

V6-05. **Engineering Magnetoresistance in Mn_xGe_{1-x} System for Magnetic Sensor Application.** ***(Invited)*** *T. Nie*[1] *1. School of Electronic and Information Engineering, Beihang University, Beijing, China*

FRIDAY MORNING 8:30

ROOM 104

Session V7
ULTRAFAST MAGNETISM AND THZ SPINTRONICS IV

Alexey Kimel, Chair
Radboud University, Nijmegen, Netherlands

8:30

V7-01. **A microscopic perspective at THz spinorbitronics.** ***(Invited)*** F. Freimuth[1], J. Hanke[1], S. Blügel[1] and *Y. Mokrousov*[1] *1. IAS-1, Forschungszentrum Julich, Julich, Germany*

9:00

V7-02. **Efficient Spintronic THz Emitters Based on the Excitation Energy, Crystal Structure and Multilayer Stacking Order.** *L. Scheuer*[1,2], S. Keller[1,2], G. Torosyan[3], R. Beigang[1,2] and E. Papaioannou[1,2] *1. Physik, TU Kaiserslautern, Kaiserslautern, Germany; 2. Research Center OPTIMAS, Kaiserslautern, Germany; 3. Photonic Center Kaiserslautern, Kaiserslautern, Germany*

9:15

V7-03. **Spin dynamics driven by narrow-band terahertz radiation in thin film ferromagnets.** N. Awari[1], S. Kovalev[1], A. Semisalova[1], B. Green[1], K. Neeraj[2], D. Polley[2], M. Hudl[2], P. Arekapudi[3], S. Yang[4], M. Samant[4], S.S.P. Parkin[5,4], O. Hellwig[3,1], M. Gensch[1] and *S. Bonetti*[2] *1. Helmholtz Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Department of Physics, Stockholm University, Stockholm, Sweden; 3. Physics, Chemnitz University of Technology, Chemnitz, Germany; 4. IBM Almaden Research Center, San Jose, CA, United States; 5. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany*

9:30

V7-04. **Ab-initio Modelling of Ultrafast Spin Dynamics.** *P. Elliott*[1], J. Dewhurst[1], S. Sharma[1] and E. Gross[1] *1. Max Planck Institute for Microstructure Physics, Halle, Germany*

9:45

V7-05. **Terahertz Radiation via Inverse Rashba-Edelstein Effect.** C. Zhou[2], Y. Liu[1], Z. Wang[3], S. Ma[3], M. Jia[2], R. Wu[4], L. Zhou[3], Y. Wu[3] and *J. Qi*[1] *1. University of Electronic Science and Technology of China, Chengdu, China; 2. Fudan University, Shanghai, China; 3. Physics department, Fudan university, Shanghai, China; 4. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States*

Session V8
NON-EQUILIBRIUM PHENOMENA IN STRONGLY CORRELATED SYSTEMS

Mireille Lavagna, Chair
CEA-SPINTEC, Grenoble, France

8:30

V8-01. **Universal Fluctuations and Quantum Noise Measurement in a Kondo-Correlated Quantum Dot Out-of-Equilibrium.** ***(Invited)*** *M. Ferrier*[1,2], R. Delagrange[1], T. Hata[2], T. Arakawa[2], R. Sakano[3], A. Oguri[4], K. Kobayashi[2] and R. Deblock[1]
1. Laboratoire de Physique des Solides, Orsay, France; 2. Osaka University, Osaka, Japan; 3. ISSP, Tokyo University, Tokyo, Japan; 4. Osaka City University, Osaka, Japan

9:00

V8-02. **Fermi-liquid theory for Kondo quantum dots out-of-equilibrium.** ***(Invited)*** *C. Mora*[1] *1. Laboratoire Pierre Aigrain, Ecole Normale Superieure, Paris, France*

9:30

V8-03. **Real-Time Dynamics and Parity Symmetry Protected Spin Entanglement in the Two Impurity Kondo Model.**
B. Lechtenberg[1] and F. Anders[2] *1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Department of Physics, Technical University Dortmund, Dortmund, Germany*

9:45

V8-04. **Current-induced giant diamagnetism and Mott semimetal behavior in single crystalline Ca_2RuO_4.** *C. Sow*[1], S. Yonezawa[1], S. Kitamura[2,3], T. Oka[3,4], K. Kuroki[5], F. Nakamura[6] and Y. Maeno[1] *1. Physics, Kyoto University, Kyoto, Japan; 2. Physics, The University of Tokyo, Tokyo, Japan; 3. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 4. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 5. Physics, Osaka University, Osaka, Japan; 6. Education and Creation Engineering, Kurume Institute of Technology, Kurume, Japan*

Session V9
STRIPES, MAGNETISM, AND HIGH TEMPERATURE SUPERCONDUCTIVITY

Suchitra Sebastian, Chair
University of Cambridge, Cambridge, United Kingdom

8:30

V9-01. **Hourglass Magnetic Spectrum in Charge-Stripe-Ordered Cobalt Oxide.** *P. Babkevich*[1], P.G. Freeman[2], M. Enderle[3], D. Prabharakan[4] and A. Boothroyd[4] *1. Laboratory for Quantum Magnetism, EPFL, Lausanne, Switzerland; 2. Jeremiah Horrocks Institute for Mathematics, Physics and Astronomy, University of Central Lancashire, Preston, United Kingdom; 3. Institut Laue-Langevin, Grenoble, France; 4. Clarendon Laboratory, University of Oxford, Oxford, United Kingdom*

8:45

V9-02. **Distinct nature of static and dynamic magnetic stripes in cuprate superconductors.** *H. Jacobsen*[1], S. Holm-Dahlin[7], M. Lacatusu[2,7], A.T. Rømer[7], M. Bertelsen[7], M. Boehm[3], R. Toft-Petersen[4], J. Grivel[5], S. Emery[6], B. Wells[6] and K. Lefmann[7] *1. Department of Physics, University of Oxford, Oxford, United Kingdom; 2. Department of Energy Conversion and Storage, DTU ENERGY, Lyngby, Denmark; 3. Institut Laue Langevin, Grenoble, France; 4. Department of Physics, DTU, Lyngby, Denmark; 5. Institute of Energy Conversion, DTU, Lyngby, Denmark; 6. Department of Physics and Institute of Materials Science, University of Connecticut, Storrs, CT, United States; 7. Niels Bohr Inst., Univ. Copenhagen, Copenhagen Ø, Denmark*

9:00

V9-03. **Unexpected magnetic field behaviour of spin stripes in LSCO superconductor close to the underdoped quantum critical point.** *A. Tutueanu*[1,2], M. Böhm[1], P. Steffens[1], T.B. Tejsner[1,2], M. Lacatusu[3,2], J. Grivel[3], L. Folkers[4], Y. Sassa[5] and K. Lefmann[2] *1. Spectroscopy, Institut Laue Langevin, Grenoble, France; 2. Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark; 3. Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark; 4. Centre for Analysis and Synthesis, Lund University, Lund, Sweden; 5. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

9:15

V9-04. **Anomalous lattice dynamics in $La_{2-x}Sr_xCuO_{4+y}$ (LSCO): The role of static or mobile dopants.** *T.B. Tejsner*[1,2], M. Boehm[1], A. Piovano[1], K. Lefmann[2], A. Tutueanu[1,2] and L. Udby[2]
1. Institut Laue-Langevin, Grenoble, France; 2. Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark

9:30

V9-05. **Anisotropic Dispersion of the Spin Excitations in a Cuprate Superconductor.** *O. Ivashko*[1], M. Horio[1], N. Shaik[2], X. Lu[3], C.G. Fatuzzo[2,4], M. Dantz[3], D.E. McNally[3], D. Destraz[1], E. Paris[3], Y. Tseng[3], P.G. Freeman[5], W. Wan[6], N.B. Christensen[6], T. Kurosawa[7], N. Momono[7,8], M. Oda[7], H.I. Wei[9], C. Adamo[10], M. Gibert[11,1], K.M. Shen[9], C. Monney[1,12], H.M. Ronnow[2], J. Tomczak[13], T. Schmitt[3] and J. Chang[1] *1. Physik-Institut, University of Zurich, Zurich, Switzerland; 2. Physics, Ecole Polytechnique Federale De Lausanne, Lausanne, Switzerland; 3. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland; 4. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Jeremiah Horrocks Institute for Mathematics, Physics and Astronomy, University of Central Lancashire, Preston, United Kingdom; 6. Department of Physics, Technical University of Denmark, Kongens Lyngby, Denmark; 7. Department of Physics, Hokkaido University, Sapporo, Japan; 8. Department of Applied Sciences, Muroran Institute of Technology, Muroran, Japan; 9. Department of Physics, Cornell University, Ithaca, NY, United States; 10. Department of Applied Physics, Stanford University, Stanford, CA, United States; 11. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland; 12. Department of Physics, University of Fribourg, Fribourg, Switzerland; 13. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

9:45

V9-06. **Anomalously high-temperature superconductivity driven by resonant impurity states in Tl-doped PbTe.** P. Giraldo-Gallo[2], *P. Walmsley*[1], B. Sangiorgio[3], S.C. Riggs[4], R.D. Mcdonald[5], L. Buchauer[6], B. Fauque[6], C. Liu[7], N.A. Spaldin[3], A. Kaminski[7], K. Behnia[6] and I.R. Fisher[1] *1. Geballe Laboratory for Advanced Materials and Department of Applied Physics, Stanford University, Stanford, CA, United States; 2. Department of Physics, Universidad de los Andes, Bogotá, Colombia; 3. Materials Theory, ETH Zurich, Zurich, Switzerland; 4. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 5. Los Alamos National Laboratory, Los Alamos, NM, United States; 6. LPEM (UPMC-CNRS), Ecole Superieure de Physique et Chimie Industrielles, Paris, France; 7. Ames Laboratory and Department of Physics and Astronomy, Iowa State University, Ames, IA, United States*

Session V10
QUANTUM AND LOW-DIMENSIONAL MAGNETISM II

Andrey Zheludev, Co-Chair
ETH Zürich, Zürich, Switzerland
Frederic Mila, Co-Chair
EPFL, Lausanne, Switzerland

8:30

V10-01. **Quasi-one-dimensional Bose-Einstein Condensation in Spin-1/2 Ferromagnetic-leg Ladder Organic Magnets.** *Y. Kono*[1], S. Kittaka[1], H. Yamaguchi[2], Y. Hosokoshi[2] and T. Sakakibara[1] *1. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Department of Physical Science, Osaka Prefecture University, Sakai, Japan*

8:45

V10-02. **Coupled Spin Ladders near Quantum Criticality: an Inelastic Neutron Scattering Study of Ba_2CuTeO_6.** *D. Macdougal*[1], A.S. Gibbs[2], T. Ying[3,4], S. Wessel[3], H. Walker[2], D. Voneshen[2], F. Mila[5], H. Takagi[6] and R. Coldea[1] *1. Clarendon Laboratory, University of Oxford, Oxford, United Kingdom; 2. ISIS Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom; 3. Institut für Theoretische Festkörperphysik, RWTH Aachen University, Aachen, Germany; 4. Department of Physics, Harbin Institute of Technology, Harbin, China; 5. Institute of Physics, Ecole Polytechnique Fédérale Lausanne (EPFL), Lausanne, Switzerland; 6. Max Planck Institute for Solid State Research, Stuttgart, Germany*

9:00

V10-03. **Spin molecular-orbit coupling and electron correlations in multinuclear organometallic complexes.** *J. Merino*[1], A. Jacko[2], A.L. Khosla[2] and B.J. Powell[2] *1. Fisica Teorica de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Spain; 2. School of Mathematics and Physics, The University of Queensland, Brisbane, QLD, Australia*

9:15

V10-04. **Double Magnetic Field-induced Phase Transition in the Spin 1/2 Alternating Chain System $AgVOAsO_4$.** *F. Weickert*[1], A.A. Aczel[4], R. Movshovich[2], M. Gamza[5], A. Demuer[8], N. Harrison[3], H. Rosner[7] and A.A. Tsirlin[6] *1. NHMFL, Florida State University, Los Alamos, NM, United States; 2. MPA, Los Alamos National Laboratory, Los Alamos, NM, United States; 3. MPA-MAG, Los Alamos National Laboratory, Los Alamos, NM, United States; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 5. University of Central Lancashire, Preston, United Kingdom; 6. University of Augsburg, Augsburg, Germany; 7. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 8. Laboratoire National des Champs Magnetiques Intenses, Grenoble, France*

9:30

V10-05. **Disorder-Induced Bose-Einstein Condensate in a Quantum Magnet at High Magnetic Fields.** *M. Horvatic*[1], A. Orlova[1], R. Blinder[1], E. Kermarrec[1], M. Dupont[2], S. Capponi[2], N. Laflorencie[2], H. Mayaffre[1], S. Krämer[1], C. Berthier[1] and A. Paduan-Filho[3] *1. LNCMI-Grenoble / CNRS, Grenoble, France; 2. LPT - Univ. Toulouse/CNRS, Toulouse, France; 3. Instituto de Física, Universidade de São Paulo, São Paulo, Brazil*

9:45

V10-06. **Pressure-induced Quantum Phase Transition in Singlet Ground State Magnet $CsFeCl_3$ Investigated by Neutron Scattering.** S. Hayashida[1], M. Matsumoto[2], N. Kurita[3], H. Tanaka[3], Y. Uwatoko[1], S. Itoh[4], M. Soda[5], T. Hong[6], O. Zaharko[7] and *T. Masuda*[1] *1. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. Shizuoka University, Shizuoka, Japan; 3. Tokyo Institute of Technology, Meguro-ku, Japan; 4. KEK, Tsukuba, Japan; 5. RIKEN, Wako, Japan; 6. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 7. PSI, Villigen, Switzerland*

FRIDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session W1
3D PRINTING AND APPLICATIONS OF PERMANENT MAGNETS (Poster Session)

Andrés Martín-Cid, Chair
BCMaterials, Leioa, Spain

W1-01. **Withdrawn**

W1-02. **Application of LENS Additive Manufacturing Process for High-throughput Identification of Candidate Permanent Magnet Alloy Compositions.** *C.I. Nlebedim*[1], F. Meng[1], R. Chaudhary[1], K. Gandha[1], A. Palasyuk[1], M.J. Kramer[2] and R. Ott[1] *1. Critical Materials Institute, Ames Laboratory, US Department of Energy, Ames, IA, United States; 2. Ames Laboratory, Iowa State University, Ames, IA, United States*

W1-03. **Magnetic Polymerized Composites for Bonding and 3D-Printing of Alternative Permanent Magnets.** *E.M. Palmero*[1], J. Rial[1], D. Casaleiz[1], J. de Vicente[1] and A. Bollero[1] *1. Division of Permanent Magnets and Applications, IMDEA Nanoscience, Madrid, Spain*

W1-04. **Trajectory of a Non-magnetic Particle transported by a Rotating Magnetic Particle Chain.** *W. Lo*[1], C. Lu[1] and C. Chen[1] *1. Mechanical Engineering, National Chiao Tung University, Hsinchu, Taiwan, Taiwan*

W1-05. **Elastic-ferromagnetic swimmers, pumps, and membranes.** *J.K. Hamilton*[1], A.D. Gilbert[2] and F.Y. Ogrin[3] *1. Department of Physics, University of Exeter, Exeter, United Kingdom; 2. Department of Mathematics, University of Exeter, Exeter, United Kingdom; 3. University of Exeter, Exeter, United Kingdom*

W1-06. **Comparative Study of Different Stator Winding Configurations for Variable Flux Permanent Magnet Synchronous Machine.** *S. Zhang*[1], P. Zheng[1], M. Wang[1] and F. Liu[1] *1. School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China*

W1-07. **Relationship between anisotropy field and temperature rise caused by AC field applied to Nd-Fe-B permanent magnet.** *M. Ishikawa*[1], F. Akagi[2] and K. Yoshida[2] *1. Electrical and Electronic Engineering, Kogakuin University, Shinjuku-ku, Japan; 2. Kogakuin University, Shinjuku-ku, Japan*

W1-08. **Improved Modeling of Surface Degraded Sintered NdFeB Magnets with Large SA/V Ratios.** *K.C. Kurtz*[1,2], M.S. Guthrie[2] and J.F. Naber[1] *1. Electrical and Computer Engineering, University of Louisville, Prospect, KY, United States; 2. Engineering, Quadrant Solutions, inc., Prospect, KY, United States*

FRIDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session W2
ADVANCED SYNTHESIS OF MAGNETIC THIN FILMS AND MULTILAYERS II (Poster Session)

Sophie Morley, Chair
University of California, Santa Cruz, Leeds, United Kingdom

W2-01. **Epitaxial growth of magnetostrictive/piezoelectric heterostructures.** *K. Dumesnil*[1], V. Polewczyk[1], A. Hillion[2], S. Robert[1], P. Boulet[1] and M. Hehn[1] *1. Institut Jean Lamour, CNRS, Université de Lorraine, Nancy, France; 2. INSA, Université Fédérale Toulouse Midi Pyrénnées, Toulouse, France*

W2-02. **Magnetoelectrodeposition of FePd alloy thin films.** *S. Annamalai*[1] and J.R. Mohanty[1] *1. Physics, Indian Institute of Technology, Hyderabad, India*

W2-03. **Magnetic Properties for Synthetic Antiferromagnet with Perpendicular Easy Magnetic Anisotropy.** *N. Tezuka*[1], S. Fujikawa[1], M. Matsuura[1] and S. Sugimoto[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

W2-04. **Structural and magnetic properties of Fe_3O_4 nanoparticles produced by Pulsed Laser Deposition.** W.S. Torres[1], R. Huaman[3], R.D. Bini[2], L.F. Cótica[2] and *D.L. Rocco*[1] *1. Physics, Universidade Federal Fluminense, Niterói, Brazil; 2. Physics, Universidade Estadual de Maringá, Maringá, Brazil; 3. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil*

W2-05. **Evidence of Martensitic Phase Transitions in Magnetic Thin Films Based on the Mn_2FeSi Inverse Heusler Alloy.** H. Samassekou[1], A. Aryal[1], S. Pandey[1], *I. Dubenko*[1], A. Granovsky[2], E. Lähderanta[3], E. Soboleva[3], S. Stadler[4], D. Mazumdar[1] and N. Ali[1] *1. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 2. Lomonosov Moscow State University, Moscow, Russian Federation; 3. Lappeenranta University of Technology, Lappeenranta, Finland; 4. Louisiana State University, Baton Rouge, LA, United States*

W2-06. **Thickness dependence on magnetic properties for Mn_xGa ultra-thin films.** K. Sato[1], Y. Takahashi[1], S. Katayama[1], T. Shima[1] and *M. Doi*[1] *1. Faculty of Engineering, Tohoku Gakuin University, Tagajo, Japan*

W2-07. **Giant Magnetoresistance In Co-Ni-Fe Multilayers With Cu Intermediate Layers.** *J.E. Martinez Muñoz*[1], A.M. Guerrero[1], J.L. Heiras Aguirre[2] and G. Bolaños Pantoja[1] *1. Laboratorio de Física de Bajas Temperaturas, Departamento de Física, Universidad del Cauca, Popayán, Colombia; 2. Departamento Materiales Avanzados, CNyN-UNAM, B.C. México, Mexico*

W2-08. **Superspin glass behavior of Co nanocrystal arrays periodically stacked in a Ag(001) matrix.** E. Navarro[1], M. Alonso[1], A. Ruiz[1], C. Magen[2], U. Urdiroz[1], M. Sánchez-Agudo[3], F. Cebollada[3], L. Balcells[4], B. Martínez[4], J.M. González[1] and *F. Palomares*[1] *1. Nanostructures and Surfaces, Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 2. Laboratorio de Microscopías Avanzadas (LMA), Instituto de Nanociencia de Aragón (INA), Universidad de Zaragoza, Zaragoza, Spain; 3. POEMMA-CEMDATIC, ETSI de Telecomunicación - Universidad Politécnica Madrid, Madrid, Spain; 4. Magnetic Materials and Functional Oxides, Institute of Materials Science of Barcelona (ICMAB-CSIC), Barcelona, Spain*

W2-09. **Oblique Angle Deposition to Control the Structural, Magnetic, and Transport Properties of Some Metal Thin Films.** *Z. Ali*[1], D. Basaula[1], W. Zhou[1], J.A. Brock[1], M.U. Khan[1] and K. Eid[1] *1. Physics, Miami University, Oxford, OH, United States*

W2-10. **Magnetic Properties of $La_{0.67}Sr_{0.33}Mn_{1-x}Ni_xO_3$ Synthesized by Sol Gel Method.** *B. Kurniawan*[1], U. Widyaiswari[1], G. Yudharma[1], I.N. Rahman[1] and D.R. Munazat[1] *1. Department of Physics, Universitas Indonesia, Depok, Indonesia*

Session W3
EXCHANGE BIAS AND EXCHANGE SPRINGS III (Poster Session)

Nicolas Vargas, Chair
University of California, San Diego, San Diego, CA, United States

W3-01. **Interface Doping Effects in IrMn/CoFe Exchange Bias Systems.** *J. Gompertz*[1], R. Carpenter[2], G. Vallejo-Fernandez[3], S.A. Cavill[4,5] and K. O'Grady[3] *1. Department of Physics, University of York, Heslington, UK YO105DD, York, United Kingdom; 2. Imec, Leuven, Belgium; 3. The University of York, York, United Kingdom; 4. Physics, University of York, York, United Kingdom; 5. Diamond Light Source Ltd, Didcot, United Kingdom*

W3-02. **Interlayer Exchange Coupling in the Fe/MgO/$(Co,Fe)_3O_4$ Tri-layer System.** M. Hagihara[1], S. Sharmin[1] and *H. Yanagihara*[1] *1. Applied Physics, University of Tsukuba, Japan, Tsukuba, Japan*

W3-03. **Large exchange bias and giant vertical shift in $LaFeO_3$-NiO nanocomposite.** *P. Sharma*[1], S.K. Srivastav[1] and R. Chatterjee[2] *1. Physics, Indian Institute of Technology, Delhi, Faridabad, India; 2. Physics, Indian Institute of Technology Delhi, New-Delhi, India*

W3-04. **Magnetic domain observation of FePt/ Fe nano-composites.** K. Ohwada[1], T. Sato[1], M. Doi[1] and *T. Shima*[1] *1. Faculty of Engineering, Tohoku Gakuin University, Tagajo, Japan*

W3-05. **Mechanisms determining the exchange coupling and coercivity modifications in annealed and ion-irradiated IrMn/Fe/Co and IrMn/NiFe/Co films.** J.B. Salazar[1], L. Pereira[1], P. Grande[1], J. Schneider[1], J. Schmidt[1] and *J. Geshev*[1] *1. Instituto de Física, UFRGS, Porto Alegre, Brazil*

W3-06. **Spontaneous perpendicular exchange bias effect in $L1_0$-MnGa/FeMn bilayers grown by molecular-beam epitaxy.** *X. Zhao*[1], D. Wei[1], J. Lu[1] and J. Zhao[1] *1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Beijing, China*

W3-07. **Superparamagnetism and Exchange Bias effect in an antiferromagnetic nanostructured perovskite $La_2Fe_{0.875}Cr_{0.125}GaO_6$.** *R. Dhal*[1], P. Neenu Lekshmi[1] and P. Santhosh[1] *1. Department of Physics, Indian Institute of Technology Madras, Chennai, India*

W3-08. **Topologically stable helices in exchange-coupled rare-earth/rare-earth multilayer.** *J. Ye*[1], T. Baldauf[1], M. Opel[2], S. Mattauch[3] and A. Paul[1] *1. Physik-Department E21, Technische Universität München, Garching, Germany; 2. Walther-Meißner-Institute, Garching, Germany; 3. Forschungszentrum Julich, Garching, Germany*

W3-09. **Variation of magnetic properties of bilayered and trilayered NiFe and IrMn-based thin film structures.** *C. Gritsenko*[1], V. Rodionova[1], A. Berg[1], G. Babaytsev[2], I. Dzhun[2], N. Chechenin[2], M. Volochaev[3] and A. Sokolov[3] *1. Laboratory of Novel Magnetic Material, Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation; 2. Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russian Federation; 3. Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Krasnoyarsk, Russian Federation*

FRIDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session W4
MAGNETIC STRUCTURES AND MAGNETIC PHASE DIAGRAMS (Poster Session)

Alannah Hallas, Co-Chair
Rice University, Houston, TX, United States
Franziska Weickert, Co-Chair
Florida State University, Los Alamos, NM, United States

W4-01. **Critical properties of a generalized *XY* model with competing nematic-like couplings.** *M. Zukovic*[1] and G. Kalagov[1] *1. Institute of Physics, P. J. Šafárik University, Košice, Slovakia*

W4-02. **Magnetic Transitions in the Heusler Compounds $Fe_{3-x}Mn_xSi$.** *T. Nonoyama*[1], M. Hiroi[2], I. Shigeta[1], R. Kato[1], H. Manaka[2] and N. Terada[2] *1. Department of Physics and Astronomy, Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan; 2. Department of Electrical and Electronics Engineering, Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan*

W4-03. **Withdrawn**

W4-04. **Novel Quantum and Thermal Phase Transitions of Easy-Axis Triangular Antiferromagnets in a Transverse Field.** *D. Yamamoto*[1], G. Marmorini[2], M. Tabata[1] and I. Danshita[3] *1. Department of Physics and Mathematics, Aoyama-Gakuin University, Sagamihara-shi, Kanagawa, Japan; 2. Research and Education Center for Natural Sciences, Keio University, Kanagawa, Japan; 3. Yukawa Institute for Theoretical Physics, Kyoto University, Kyoto, Japan*

W4-05. **Non-equilibrium phase transitions in magnetic systems.** *A. Galda*[1,2] and V. Vinokur[2] *1. James Franck Institute, University of Chicago, Chicago, IL, United States; 2. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States*

W4-06. **Magnetic and electrical properties of R_5Ir_3 (R = Tb, Er).** *K. Ueda*[1] and T. Tsutaoka[1] *1. Graduate School of Education, Hiroshima University, Higashi-Hiroshima, Japan*

W4-07. **Magnetic properties of $Li^{57}Fe_{0.01}Mn_{0.99}PO_4$ investigated by using external field Mössbauer spectroscopy.** *H. Choi*[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, The Republic of Korea*

W4-08. **Magnetic study on inverse spinel compounds Co_2XO_4 (X = Ti, Sn) with partial substitution of Zn for Co.** *H. Ohta*[1], S. Takada[1], G. Ueda[1], K. Yamagishi[1] and H. Aruga Katori[1] *1. Department of Applied Physics, Tokyo University of Agriculture and Technology, Koganei, Japan*

W4-09. **Magnetic Property of Polymorphs $(Al_xFe_{2-x})GeO_5$.** *H. Aruga Katori*[1] *1. Department of Applied Physics, Tokyo University of Agriculture and Technology, Koganei, Japan*

W4-10. **Withdrawn**

W4-11. **Origin of Magnetocrystalline Anisotropy in Trigonal Magnetics with Zero Orbital Moment.** *J. Kliava*[1], K. Seleznyova[2], M. Strugatsky[2], A. Drovosekov[3], S. Yagupov[2] and V. Zubov[4] *1. LOMA, Université de Bordeaux, Talence, France; 2. Physics and Technology Institute, Crimean Federal University, Simferopol, Russian Federation; 3. P.L. Kapitza Institute for Physical Problems, RAS, Moscow, Russian Federation; 4. Lomonosov Moscow State University, Moscow, Russian Federation*

FRIDAY MORNING 10:00 SAN FRANCISCO BALLROOM

Session W5
MULTIFERROICS III (Poster Session)

Helen Walker, Chair
STFC, Didcot, United Kingdom

W5-01. **Spin waves in multiferroic Ni_3TeO_6.** *J. Lass*[1,2], C.R. Andersen[1], J.O. Birk[1], H.K. Leerberg[1], S. Birkemose[1], S. Toth[2], U. Stuhr[2], M. Bartoviak[2], C. Niedermayer[2], Z. Lu[3], R. Toft-Petersen[4], M. Retuerto[5] and K. Lefmann[1] *1. Niels Bohr Institute, University of Copenhagen, København Ø, Denmark; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Helmholtz-Zentrum Berlin, Berlin, Germany; 4. Physics, Technical University of Denmark, Lyngby, Denmark; 5. Instituto de Catálisis y Petroleoquímica, Consejo Superior de Investigaciones Cientificas, Madrid, Spain*

W5-02. **Effect of the Eu^{3+} ion Substitution at the Nd site of the $NdCrTiO_5$: Structural, Magnetic, Electrical And Electronic Structure Studies.** *K. Gautam*[1], A. Ahad[2], K. Dey[1], S. Majid[2], S.K. Sharma[5], J. Coaquira[3], S. Francoual[4] and D. Shukla[1] *1. Material Science, UGC-DAE,CSR, Indore, India; 2. Physics, Aligarh Muslim University, Aligarh, ALIGARH, India; 3. Laboratory of Magnetic Materials, University of Brasilia, NFA, Brazil; 4. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 5. Physics, Universidade Federal do Maranhão, Sao Luis, Brazil*

W5-03. **Field-induced antiferromagnetic cone structure in multiferroic $BiFeO_3$.** *M. Matsuda*[1], S. Dissanayake[1], Y. Ozaki[2], T. Ito[2], X. Liu[3], M. Bartkowiak[3] and O. Prokhnenko[3] *1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. AIST, Tsukuba, Japan; 3. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany*

W5-04. **Magnetic and magneto-dielectric coupling behavior of Ho_2BaNiO_5, a Haldane spin-chain compound.** S.K. Upadhyay[1] and *E. Sampathkumaran*[1] *1. Tata Institute of Fundamental Research, Mumbai, India*

W5-05. **Spin dynamics and exchange interactions in CuO measured by neutron scattering.** *H. Jacobsen*[1], S. Gaw[1], A. Princep[2], E. Hamilton[1], S. Toth[3], R. Ewings[4], M. Enderle[5], E. Hétroy-Wheeler[5], D. Prabhakaran[1] and A. Boothroyd[1] *1. Department of physics, University of Oxford, Oxford, United Kingdom; 2. ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Oxford, United Kingdom; 3. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen, Switzerland; 4. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom; 5. Institut Laue Langevin, Grenoble, France*

W5-06. **Withdrawn**

W5-07. **Effect of Co-Doping in $KNbO_3$ Samples on the Multiferroic Properties at Room Temperature.** *J.A. Astudillo*[1], S. Dionizio[2], J.L. Izquierdo[3], O. Morán[4], J.L. Heiras Aguirre[5] and G. Bolaños Pantoja[6] *1. Physics, Universidad del Cauca, Popayán, Colombia; 2. Physics, Universidad del Cauca, Popayán, Colombia; 3. Faculty of Engineering, Institución Univisitaria Pascual Bravo, Medellín, Colombia; 4. Physics, Universidad Nacional de Colombia, Medellín, Colombia; 5. Centro de Nanociencias y Nanotecnología, Universidad Nacional Autónoma de México, Ensenada, Mexico; 6. Physics, Universidad del Cauca, Popayán, Colombia*

W5-08. **Pressure effects on the Magnetic phases in $Mn_{1-x}Co_xWO_4$: x = 0.05 and 0.12.** *M.J. Gooch*[3], N. Poudel[3], B. Lorenz[3], K. Liang[3], J. Wang[1], F. Ye[1], J. Fernandez-Baca[1,2] and C. Chu[3,4] *1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Physics and Astronomy, The University of Tennessee, Knoxville, TN, United States; 3. Texas Center for Superconductivity, University of Houston, Houston, TX, United States; 4. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

W5-09. **Withdrawn**

W5-10. **Nature of spiral state, electric polarisation and magnetic transitions in Sr-doped $YBaCuFeO_5$ from first-principles study.** D. Dey[2], S. Nandy[2], *T. Maitra*[1], C.S. Yadav[3] and A. Taraphder[2] *1. Physics Department, Indian Institute of Technology, Roorkee, Roorkee, India; 2. Physics, Indian Institute of Technology Kharagpur, Kharagpur, India; 3. School of Basic Sciences, Indian Institute of Technology Mandi, Mandi, India*

W5-11. **Magnetic order in rare-earth ferroborate $CeFe_3(BO_3)_4$.** *S. Hayashida*[1], S. Asai[1], D. Kato[1], S. Hasegawa[1], M. Avdeev[2,3], H. Cao[4] and T. Masuda[1] *1. University of Tokyo, Kashiwa, Japan; 2. Australian Nuclear Science and Technology Organization, Menai, NSW, Australia; 3. School of Chemistry, The University of Sydney, Sydney, NSW, Australia; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

W5-12. **Magnetoelectric effect in frustrated spinel CoAl2O4 single crystal.** *C. De*[1] *1. CPMU, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India*

FRIDAY MORNING 10:00 — SAN FRANCISCO BALLROOM

Session W6
MULTIPOLAR SCES 2: OTHER MATERIALS, MOSTLY HEAVY FERMION (Poster Session)

Alix McCollam, Chair
Radboud University, Nijmegen, Netherlands

W6-01. **Anomalous Pressure Effect on the Nèel Temperature and Volume of DyB_6.** *G. Oomi*[1], T. Eto[1], T. Sakai[2], Y. Uwatoko[3] and S. Kunii[3] *1. Kurume Institute of Technology, Fukuoka, Japan; 2. National Institute of Technology, Omuta, Japan; 3. Department of Physics, Sendai, Japan*

W6-02. **Kondo Destruction in Multipolar Order: Implications for Heavy-Fermion Quantum criticality.** *H. Lai*[1] *1. Physics and Astronomy, Rice University, Houston, TX, United States*

W6-03. **Transport properties of multipolar ordering compounds $Ce(Pd,Pt)_3S_4$.** *S. Michimura*[1,2], U. Nishikawa[2], R. Iizuka[2], R. Numakura[2] and M. Kosaka[2] *1. Research and Development Bureau, Saitama University, Saitama-city, Japan; 2. Graduate School of Science & Engineering, Saitama University, Saitama-city, Japan*

W6-04. **Withdrawn**

W6-05. **Sequential Localization and Strange-metal Behavior in a Multipolar Kondo System.** *A. Cai*[1], E. Nica[2], C. Liu[1], R. Yu[3], S. Paschen[4] and Q. Si[1] *1. Rice University, Houston, TX, United States; 2. University of British Columbia, Vancouver, BC, Canada; 3. Renmin University of China, Beijing, China; 4. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

W6-06. **Emergence of two-dimensional orbital order in the heavy fermion superconductor $CeCoIn_5$.** *Y. Yoshida*[1], H. Kim[1,2], C. Lee[1], T. Chang[4], H. Jeng[5,8], H. Lin[3,5], Y. Haga[6], Z. Fisk[7,6] and Y. Hasegawa[1] *1. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. Department of Physics, University of Hamburg, Hamburg, Germany; 3. Physics, National University of Singapore, Singapore, Singapore; 4. Department of Physics, National Cheng Kung University, Tainan, Taiwan; 5. Institute of Physics, Academia Sinica, Taipei, Taiwan; 6. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan; 7. Department of Physics and Astronomy, University of California, Irvine, Irvine, CA, United States; 8. Department of Physics, National Tsing Hua University, Hsinchu, Taiwan*

W6-07. **Field Direction Dependence of Specific Heat in Dilute Quadrupolar System $Pr_{0.05}La_{0.95}Pb_3$.** *T. Kawae*[1], M. Koga[2], Y. Sato[1], Y. Inagaki[1], T. Kitai[3] and H.S. Suzuki[4] *1. Applied Quantum Physics, Kyushu University, Fukuoka, Japan; 2. Faculty of Education, Shizuoka University, Shizuoka, Japan; 3. Faculty of Engineering, Kyushu Institute of Technology, Kitakyushu, Japan; 4. National Institute for Material Science, Tsukuba, Japan*

W6-08. **X-ray Crystal Structure Analysis of Toroidally-Ordered Metal UNi_4B.** *C. Tabata*[1], H. Sagayama[1], H. Saito[2], H. Nakao[1] and H. Amitsuka[3] *1. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan; 2. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tokai, Japan; 3. Graduate School of Science, Hokkaido University, Sapporo, Japan*

FRIDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session W7
NON-EQUILIBRIUM STRONGLY CORRELATED ELECTRON SYSTEMS (Poster Session)

Christophe Mora, Chair
University Paris Diderot, LPA, Paris, France

W7-01. **Observation of the valence fluctuation by time-resolved reflectance on Yttrium doped Samarium mono-sulfide.** *H. Watanabe*[1], R. Ikeda[1], K. Imura[2], H.S. Suzuki[3,4], N.K. Sato[2] and S. Kimura[1] *1. Osaka University, Osaka, Japan; 2. Nagoya University, Nagoya, Japan; 3. National Institute for Materials Science (NIMS), Tsukuba, Japan; 4. Institute for Solid State Physics, The University of Tokyo, Chiba, Japan*

W7-02. **Quasiparticle Dynamics in $CeCoIn_5$ Studied by Ultrafast Optical Spectroscopy.** Y. Liu[1,2], H. Lee[3], Y. Yang[4], H. Yuan[3] and *J. Qi*[1] *1. University of Electronic Science and Technology of China, Chengdu, China; 2. Fudan University, Shanghai, China; 3. Zhejiang University, Hangzhou, China; 4. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

W7-03. **Time crystals realized by spatial translation and its symmetry breaking.** *K. Mizuta*[1], K. Takasan[1], M. Nakagawa[2] and K. Norio[1] *1. Department of Physics, Kyoto University, Kyoto, Japan; 2. RIKEN, Wako, Japan*

W7-04. **Electric Field driven Mott Metal-Insulator Transition Using NCA in Non-Equilibrium Steady State DMFT.** *B. Goh*[1] and J. Shim[1,3] *1. Chemistry, POSTECH, Pohang, The Republic of Korea; 3. Physics, POSTECH, Pohang, The Republic of Korea*

W7-05. **Emission Noise in an Interacting Quantum Dot: Role of Inelastic Scattering and Asymmetric Coupling to the Reservoirs.** A. Crépieux[2], S. Sahoo[1,3], T. Duong[2], R. Zamoum[4] and *M. Lavagna*[1] *1. Univ. Grenoble Alpes, CEA INAC-PHELIQS, Grenoble, France; 2. Aix Marseille Univ., Université de Toulon, CNRS CPT UMR 7332, Marseille, France; 3. Physics Department and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany; 4. Faculté des sciences et des sciences appliquées Université de Bouira, Bouira, Algeria*

W7-06. **Differential conductances and charge susceptibility of a double quantum dot.** *M. Lavagna*[1], V. Talbo[1], T. Duong[2] and A. Crépieux[2] *1. Univ. Grenoble Alpes, CEA, INAC-PHELIQS, Grenoble, France; 2. Aix Marseille Univ., Université de Toulon, CNRS, CPT UMR 7332, Marseille, France*

W7-07. **Role of the surface state in the Kondo effect of Co single adatoms on Ag(111).** *Q. Li*[1], C. Zheng[1], R. Wang[1,2], K. Xie[1], X. Li[1], B. Miao[1,3], R. Cao[1,4], L. Sun[1,3], D. Wu[1,3], Y. Wu[3,5], S. Li[1,3], B. Wang[1,3] and H. Ding[1,3] *1. Department of Physics, Nanjing University, Nanjing, China; 2. Department of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai, China; 3. Collaborative Innovation Center of Advanced Microstructures, Nanjing, China; 4. College of Physics Science and Technology, Yangzhou University, Yangzhou, China; 5. Department of Physics, Fudan University, Shanghai, China*

W7-08. **Withdrawn**

W7-09. **Withdrawn**

Session W8
SEMICONDUCTOR AND ORGANIC SPINTRONICS II (Poster Session)

Masashi Shiraishi, Co-Chair
Kyoto University, Kyoto, Japan
Junsaku Nitta, Co-Chair
Tohoku University, Sendai, Japan

W8-01. **Multifunctional Spintronic Device Based on a Molecule/Metal Oxide Interface.** *M.D. Rogers*[1], T. Moorsom[1], I. Scivetti[2], S. Bandaru[3], G. Teobaldi[2,3], M. Valvidares[4], M. Flokstra[5], S. Lee[5], R. Stewart[5], T. Prokscha[6], P. Gargiani[4], G. Stefanou[1], M. Ali[1], F. Al Ma'Mari[7,1], G. Burnell[1], B. Hickey[1] and O. Cespedes[1] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Department of Chemistry, Stephenson Institute for Renewable Energy, Liverpool, United Kingdom; 3. Beijing Computational Science Research Center, Beijing, China; 4. Alba Synchrotron, Barcelona, Spain; 5. School of Physics and Astronomy, University of St. Andrews, St. Andrews, United Kingdom; 6. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland; 7. Department of Physics, Sultan Qaboos University, Muscat, Oman*

W8-02. **Electrically detected spin transport in conjugated organic polymers.** *S. Wang*[1], D. Venkateshvaran[1], R. Di Pietro[2], M. Cubukcu[1], T. Wagner[2], E. McNellis[3], A. Wittmann[1], G. Schweicher[1], K. Kang[1], C. Jellet[4], M. Little[4], I. McCulloch[4], J. Wunderlich[2], J. Sinova[3] and H. Sirringhaus[1] *1. Optoelectronics Group, Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 3. Institute of Physics, Johannes Gutenberg-Universität, 55128 Mainz, Mainz, Germany; 4. Department of Chemistry, Imperial College, London, United Kingdom*

W8-03. **Spin transport in poly-acene films and the derivative films by using the spin-pumping.** *Y. Tanaka*[1], T. Kono[1], Y. Teki[3] and E. Shikoh[2] *1. Graduate School of Engineering, Osaka City University, Osaka, Japan; 2. Engineering, Osaka City University, Osaka, Japan; 3. Science, Osaka City University, Osaka, Japan*

W8-04. **Withdrawn**

W8-05. **Defect-mediated ferromagnetism in doped and undoped Cu_2O thin films.** *M.A. Tumelero*[1], I.S. Brandt[2] and A.A. Pasa[2] *1. Physics Department, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; 2. Departamento de Fisica, Universidade Federal de Santa Catarina, Florianopolis, Brazil*

W8-06. **Electrical and Optical Characterization of Fe/*n*-GaAs Non-Local Spin Valve.** *J. Kim*[1], M. Samiepour[1], J. Ryu[2], D. Iizasa[2], T. Saito[2], M. Kohda[2], J. Nitta[2], H. Beere[3], D. Ritchie[3], E. Jackson[1] and A. Hirohata[1] *1. University of York, York, United Kingdom; 2. Materials Science, Tohoku University, Sendai, Japan; 3. Physics, University of Cambridge, Cambridge, United Kingdom*

W8-07. **Measurement of the Overhauser field in a two-dimensional electron system.** X. Qian[1] and *Y. Ji*[1] *1. Institute of Semiconductors, Chinese Academy of Science, Beijing, China*

W8-08. **Withdrawn**

W8-09. **Influence of in-situ x-ray exposure on the magnetotransport properties of NPB and MADN based blue OLED structures.** *J. Bobo*[1], R. Monflier[2], L. Salvagnac[2], E. Bedel Pereira[2] and I. Séguy[2] *1. CEMES CNRS, Toulouse, France; 2. LAAS CNRS, Toulouse, France*

Session W9
SKYRMIONS III (Poster Session)

Peter Fischer, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

W9-01. **Magnetostatic Interaction Between Two Bubble Skyrmions.** *M. Castro*[1], D. Mancilla-Almonacid[1], A. Valdivia[2] and S. Allende[1] *1. Universidad de Santiago de Chile, Santiago, Chile; 2. Departamento de Física, Facultad de Ciencias, Universidad de Chile, Santiago, Chile*

W9-02. **Hysteresis-free out-of-plane magnetic field sensor based on skyrmions.** *C. Abert*[1], F. Bruckner[1], C. Vogler[1] and D. Suess[1] *1. Faculty of Physics, University of Vienna, Vienna, Austria*

W9-03. **Twisted skyrmions through dipolar interactions.** *S. Castillo-Sepulveda*[1,2], R.M. Corona[4,2], A. Nuñez[5,2] and D. Altbir[3,2] *1. Universidad Autónoma de Chile, Santiago, Chile; 2. Center for the Development of Nanoscience and Nanotechnology, Santiago, Chile; 3. Physics, Universidad de Santiago de Chile, Santiago, Chile; 4. Departamento de Física, Universidad de Santiago de Chile, Region Metropolitana, Chile; 5. Universidad de Chile, Santiago, Chile*

W9-04. **Determination of Néel-type skyrmion chirality using Lorentz-TEM under a tilted magnetic field.** *S. Zhang*[1], J. Zhang[1], Q. Zhang[1] and X. Zhang[1] *1. Physical Science and Engineering Division (PSE), King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia*

W9-05. **Multilayer skyrmions stabilized at high temperature.** K. Song[1,2], J. Jeong[3,4], H. Kwon[1,5], S. Woo[1], C.Y. Won[5], H. Chang[3,6], *J. Choi*[1] and B. Min[1,6] *1. Center for Spintronics, Korea Institute of Science and Technology (KIST), Seoul, The Republic of Korea; 2. Department of Physics, Sookmyung Women's University, Seoul, The Republic of Korea; 3. Advanced Analysis Center, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 4. Department of Physics, POSTECH, Pohang, The Republic of Korea; 5. Department of Physics, Kyung Hee University, Seoul, The Republic of Korea; 6. Department of Nanomaterials Science and Technology, University of Science and Technology, Daejeon, The Republic of Korea*

W9-06. **Twisted domain walls in perpendicularly magnetized multilayers.** *I. Lemesh*[1], F. Buettner[1] and G. Beach[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States*

W9-07. **Search for Small Skyrmion in Amorphous Ferrimagnets.** *C.T. Ma*[1], Y. Xie[2], J. Ma[2], Y. Tan[2], H. Vakilitaleghani[2], A. Ghosh[2] and J. Poon[1] *1. Department of Physics, University of Virginia, Charlottesville, VA, United States; 2. Department of Electrical and Computer Engineering, University of Virginia, Charlottesville, VA, United States*

W9-08. **Computational search for ultrasmall and fast skyrmions in the Heusler family.** *Y. Xie*[1], J. Ma[1], Y. Tan[1], C.T. Ma[2], H. Vakilitaleghani[2], J. Poon[2] and A. Ghosh[1] *1. Department of Electrical and Computer Engineering, University of Virginia, Charlottesville, VA, United States; 2. Department of Physics, University of Virginia, Charlottesville, VA, United States*

W9-09. **Withdrawn**

W9-10. **Withdrawn**

FRIDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session W10
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING VII
(Poster Session)

Rie Umetsu, Chair
Tohoku Universty, Sendai, Japan

W10-01. **Magnetic properties of FeNiMo compacted powder.** *D. Oleksakova*[1], P. Kollar[2], M. Jakubcin[2], P. Slovensky[2] and J. Fuzer[2] *1. Faculty of Manufacturing Technologies with seat in Presov, Technical University in Košice, Presov, Slovakia; 2. Institute of Physics, Faculty of Science, P.J. Šafárik University, Kosice, Slovakia*

W10-02. **Effects of static and exchange fields on magnetization reversal time with different damping constants in soft magnetic material.** *H. Ohta*[1], F. Akagi[2] and K. Yoshida[2] *1. Electrical and Electronics Engineering, Kogakuin University, Shinjuku-ku, Japan; 2. Kogakuin University, Shinjuku-ku, Japan*

W10-03. **Magneto-optical Terbium Iron Garnet and Ce-substituted TbIG thin films for integrated photonics.** *T. Fakhrul*[1], Y. Zhang[1], L. Beran[2], E.R. Rosenberg[3], M. Veis[4] and C. Ross[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 2. Institute of Physics, Charles University, Prague 2, Czechia; 3. Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Institute of Physics, Charles University, Prague, Czechia*

W10-04. **Withdrawn**

W10-05. **Synthesis of γ'-Fe_4N Soft Magnetic Material by High Pressure Nitriding Approach.** *Y. Jiang*[1] *1. Jiangnan University, Wuxi, China*

W10-06. **Single Superparamagnet Dynamics.** A.M. Abdelgawad[1], *B. Parks*[2] and S. Majetich[2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, United States*

W10-07. **Constraining the Decline of the Moon's Magnetic Field Using Apollo 12 Basalts.** *B. Strauss*[1,2], S. Tikoo[2], J. Gross[2], J. Setera[2] and B. Turrin[2] *1. Material Measurement Lab, National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. Department of Earth and Planetary Sciences, Rutgers University, Piscataway, NJ, United States*

W10-08. **Room temperature ferromagnetism of non-magnetic band insulator of (LaO)ZnPn (Pn=P, As,Sb).** *K. Takase*[1], T. Shimomura[1], Y. Takano[1] and Y. Hara[2] *1. Physics, Nihon University, Tokyo, Japan; 2. National Institute of Technology, Ibaraki College, Hitachinaka, Japan*

W10-09. **Effects of rapid solidification and annealing on magnetic properties of $LaFe_{11.38}Mn_{0.32}Si_{1.3}$ compound.** B. Macan[1], K. Sarlar[1], *E. Civan*[2] and I. Kucuk[1] *1. Uludag University, Bursa, Turkey; 2. National Defence University, Izmir, Turkey*

W10-10. **Stability Of Fine Powders Of Magnetocaloric $La(fe_xCo_ySi_{1-x-y})_{13}$ In Water And Air.** *K. Javed*[1], N. Palapati[1], S.M. Harstad[2], V. Pecharsky[3], S. Gupta[3] and R.L. Hadimani[2] *1. Mechanical Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Mechanical and Nuclear engineering, Virginia Commonwealth University, Richmond, VA, United States; 3. Division of Materials Science and Engineering, Ames Laboratory, US Dept. of Energy, Ames, IA, United States*

W10-11. **Magnetostriction in Bulk Rare Earth Doped Galfenol.** *M.C. Grijalva Castillo*[1], M.O. Adelani[2], J.S. Uribe Chavira[2], M. Botello-Zubiate[2], R. Sáenz-Hernandez[2], C. Santillan-Rodriguez[2] and J. Matutes-Aquino[2] *1. CONACYT - Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Mexico; 2. Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Mexico*

Session W11
SPIN STRUCTURES AND TRANSPORT PROPERTIES IV (Poster Session)

Seiya Shimono, Chair
Osaka Prefecture University, Sakai, Japan

W11-01. **Electronic and magnetic properties of single-layer MPX_3 metal phosphorous trichalcogenides.** *B. Chittari*[1], Y. Park[1], D. Lee[1,4], M. Han[1], A. MacDonald[2], E. Hwang[3] and J. Jung[1] *1. University of Seoul, Seoul, The Republic of Korea; 2. University of Texas at Austin, Austin, TX, United States; 3. Sungkyunkwan University, Suwon, The Republic of Korea; 4. Gwangju Institute of Science and Technology, Gwangju, The Republic of Korea*

W11-02. **Magnetic moments and correlation effects in Co-doped Nb and V clusters.** A. Diaz Bachs[1], L. Peters[1], V. Chernyy[1], R. Logemann[1], J. Bakker[2], M. Katsnelson[1] and *A. Kirilyuk*[2] *1. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 2. FELIX Laboratory, Radboud University, Nijmegen, Netherlands*

W11-03. **Magnetic ordering on a boron-doped Si(111)-$\sqrt{3} \times \sqrt{3}$ surface.** *C. Moon*[1], D. Eom[1] and J. Koo[1] *1. Quantum Technology Institute, Korea Reserach Institute of Standards and Science, Daejeon, The Republic of Korea*

W11-04. **Angle resolved photoemission spectroscopy study of Ce-doped Bi_2Se_3 3D topological insulator.** *E. Lee*[1], S. Seong[1], J. Kim[2], M. Jung[2], B. Park[3] and J. Kang[1] *1. Physics, The Catholic University of Korea, Bucheon, The Republic of Korea; 2. Department of Physics, Sogang University, Seoul, The Republic of Korea; 3. Pohang Accelerator Laboratory, Pohang, The Republic of Korea*

W11-05. **Long-Lived Surface Photovoltage in Bulk Insulating Topological Insulator Revealed by Time-Resolved ARPES.** *S.T. Ciocys*[1,2], K. Gotlieb[3,2], C. Lin[1,2], T. Morimoto[1], C. Jozwiak[5], J. Analytis[4], Z. Hussain[5] and A. Lanzara[6] *1. Physics, University of California, Berkeley, Kensington, CA, United States; 2. Material Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Applied Science and Technology, University of California, Berkeley, Berkeley, CA, United States; 4. University of California, Berkeley, Berkeley, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. Physics, University California, Berkeley, Berkeley, CA, United States*

W11-06. **Formation of antiferromagnetic NiO spiral domain and its effect on the magnetic anisotropy in Py/NiO/$Co_{0.5}$ $Ni_{0.5}$O/ vicinal Ag(001).** *M. Yang*[1], Q. Li[1], N. Gao[1], A.T. N'Diaye[2], Q. Dong[1], C. Klewe[2], P. Shafer[2], E. Arenholz[2], C. Hwang[3], J. Li[4] and Z. Qiu[1] *1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea; 4. School of Physics, International Center for Quantum Materials (ICQM), Beijing, China*

W11-07. **First-principles study of magneto-optical Kerr effect in antiferromagnets.** *T. Koretsune*[1], M. Suzuki[2] and R. Arita[2] *1. Physics, Tohoku University, Sendai, Japan; 2. RIKEN, Saitama, Japan*

W11-08. **Withdrawn**

W11-09. **Giant Rashba-type spin splitting through spin-dependent interatomic-hopping.** *J. Hong*[1], J. Rhim[2], I. Song[2], C. Kim[2], S. Park[3] and J. Shim[1] *1. POSTECH, Pohang, The Republic of Korea; 2. Seoul National University, Seoul, The Republic of Korea; 3. Incheon National University, Incheon, The Republic of Korea*

W11-10. **Withdrawn**

W11-11. **Withdrawn**

Session W12
SPIN TRANSPORT, RELAXATION AND DIFFUSION (Poster Session)

Justin Watts, Chair
University of Minnesota, Minneapolis, MN, United States

W12-01. **Withdrawn**

W12-02. **Magnetism and Spin Transport in Epitaxial Terbium and Europium Iron Garnet Films.** *E.R. Rosenberg*[1], L. Beran[6], C. Avci[2], C.A. Gonzalez-Fuentes[3], C. Zeledon[4], A. Quindeau[1,9], B. Song[1], G. Beach[2], M. Veis[6], C. Garcia[7] and C. Ross[2] *1. Massachusetts Institute of Technology, Cambridge, MA, United States; 2. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 3. Physics, UTFSM, Valparaiso, Chile; 4. Cornell University, Ithaca, NY, United States; 6. Institute of Physics, Charles University, Prague, Czechia; 7. Physics, UTFSM-Universidad Técnica Federico Santa María, Valparaiso, Chile; 9. Stanford University, Palo Alto, CA, United States*

W12-03.**Observation of complementary transistor operation using the Rashba channel.** *Y. Park*[1], J. Choi[1], H. Kim[1], J. Chang[1] and H. Koo[1,2] *1. Spin Convergence Research Center, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 2. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul, The Republic of Korea*

W12-04.**Monotonicity of the spin signal by controlling the growth of silver in Py/Ag/Py lateral spin valves.** *G. Stefanou*[1], K.A. Moran[1], M. Ali[1], M. Rosamond[3], G. Burnell[1] and B. Hickey[1] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 3. Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom*

W12-05.**Structural and Spin Transport Properties of Co_2FeSi/MgO/GaAs(001) Heterostructures.** G. Hoffmann[1], M. Ramsteiner[1], B. Jenichen[1] and *J. Herfort*[1] *1. Paul-Drude-Institute, Berlin, Germany*

W12-06.**Inverse spin-Hall effect in Pd/$Ni_{80}Fe_{20}$ bilayer films under a mechanical strain.** *K. Yasuda*[1], Y. Teki[2], H. Tsujimoto[3] and E. Shikoh[3] *1. Graduate School of Engineering, Osaka City University, Osaka, Japan; 2. Science, Osaka City University, Osaka, Japan; 3. Engineering, Osaka City University, Osaka, Japan*

W12-07.**Vertical spin transport in Cu with $Ni_{80}Fe_{20}$/Cu/Pd trilayer films using the spin-pumping.** *T. Kitamura*[1], Y. Teki[3] and E. Shikoh[2] *1. Graduate School of Engineering, Osaka City University, Osaka, Japan; 2. Engineering, Osaka City University, Osaka, Japan; 3. Science, Osaka City University, Osaka, Japan*

W12-08.**Determining the Spin Diffusion Length in a Cobalt Iron alloy through Spin Absorption.** *K.A. Moran*[1], G. Stefanou[2], M. Rosamond[5], M. Ali[2], G. Burnell[2], O. Kazakova[3] and B. Hickey[2] *1. Condensed Matter, University of Leeds, Leeds, United Kingdom; 2. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 3. National Physical Laboratory, Teddington, United Kingdom; 5. Electrical Engineering, University of Leeds, Leeds, United Kingdom*

W12-09.**Evidence for anisotropic Berry phase effect in epitaxial MnAs films.** *J. Ma*[1], H. Wang[1], X. Wang[1] and J. Zhao[1] *1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China*

W12-10.**Two types of sign change of anomalous Hall effect in heavy metal/ferrimagnetic insulator heterostructures.** *Q. Shao*[1], A.J. Grutter[2], C. Tang[3], G. Yu[1], Y. Liu[3], C. Yang[1], D.A. Gilbert[2], E. Arenholz[4], Q. He[1], B.J. Kirby[2], J. Shi[3] and K.L. Wang[1] *1. Electrical and Computer Engineering, UCLA, Los Angeles, CA, United States; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD, United States; 3. Physics and Astronomy, UCR, Riverside, CA, United States; 4. Advanced Light Source, LBNL, Berkeley, CA, United States*

W12-11.**Extraordinary Hall effect in Pd/[Co-SiO_2] multilayer thin films with perpendicular magnetic anisotropy.** *S. Michea*[1], S. Oyarzún[2] and J.C. Denardin[2] *1. Institute of Applied Chemical Sciences, CEDENNA, Universidad Autónoma de Chile, Santiago, Chile; 2. Physics Department, CEDENNA, Universidad de Santiago de Chile, Santiago, Chile*

FRIDAY MORNING 10:00

SAN FRANCISCO BALLROOM

Session W13
SUPERCONDUCTING SCES VII: CUPRATES (Poster Session)

Michael Sutherland, Chair
Cambridge University, Cambridge, United Kingdom

W13-01.**Superconductivity in new Oxyanion Superconductors:$TlSr_4Cu_2O_z(SO_4)_{1-x}(CrO_4)_x$.** *H. Lee*[1] *1. Physics, Kangwon National University, Chuncheon, The Republic of Korea*

W13-02.**Interfacial-Redox-Induced Tuning of Superconductivity in $YBa_2Cu_3O_{7-\delta}$.** *P. Murray*[1], D. Gilbert[2], A.J. Grutter[2], B.J. Kirby[2], Z.E. Brubaker[1,3], R.V. Chopdekar[4,5], V. Taufour[1], R. Zieve[1], J.R. Jeffries[3], E. Arenholz[5], Y. Takamura[4], J. Borchers[2] and K. Liu[1,6] *1. Physics Department, University of California, Davis, CA, United States; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Lawrence Livermore National Laboratory, Livermore, CA, United States; 4. Department of Materials Science and Engineering, University of California, Davis, Davis, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. Physics Department, Georgetown University, Washington, DC, United States*

W13-03.**Fully Polarized RIXS of Superconducting Cuprates.** *R. Fumagalli*[1], M. Minola[2], M. Moretti[1], Y. Peng[4], K. Kummer[9], E. Lefrancois[2], C. Morawe[9], M. Salluzzo[5], H. Suzuki[2], F. Hakhou[9], M. Le Tacon[7], B. Keimer[2], N.B. Brookes[9], G. Ghiringhelli[1] and L. Braicovich[1] *1. Politecnico di Milano, Milano, Italy; 2. Max Planck Institute for Solid State Research, Stuttgart, Germany; 4. University of Illinois at Urbana-Champaign, Urbana-Champaign, IL, United States; 5. CNR-SPIN, Napoli, Italy; 7. Karlsruhe Institute of Technology, Karlsruhe, Germany; 9. European Synchrotron radiation Facility, Grenoble, France*

W13-04.**Pressure enhanced superconducting phase of the metallic double chain compound $Pr_2Ba_4Cu_7O_{15-x}$.** *H. Taniguchi*[2], R. Kumagai[1], M. Matsukawa[1] and T. Sasaki[3] *1. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 3. IMR, Tohoku University, Sendai, Japan*

W13-05.**The Fermi Surface of Nd-LSCO Inside the Pseudogap State.** *B. Ramshaw*[1], L. Taillefer[2], P. Goddard[3] and A. Legros[2] *1. Physics, Cornell University, Ithaca, NY, United States; 2. University of Sherbrooke, Sherbrooke, QC, Canada; 3. University of Warwick, Coventry, United Kingdom*

W13-06.**Dual fermion approach to the Fermi arc formation in the two-dimensional square-lattice Hubbard model.** *A. Tanaka*[1] *1. Department of Quantum Matters, ADSM, Hiroshima University, Higashi-hiroshima, Japan*

W13-07.**Transport Signatures of Charge Density Wave Order and the Pseudogap Critical Point in Cuprate Superconductors.** *S. Badoux*[1,2], W. Tabis[3], F. Laliberté[2], G. Grissonnanche[2], B. Vignolle[3], D. Vignolles[3], J. Béard[3], D.A. Bonn[4,5], W.N. Hardy[4,5], R. Liang[4,5], N. Doiron-Leyraud[2], L. Taillefer[2,5] and C. Proust[3,5] *1. University of Bristol, Bristol, United Kingdom; 2. Université de Sherbrooke, Sherbrooke, QC, Canada; 3. LNCMI, Toulouse, France; 4. University of British Columbia, Vancouver, BC, Canada; 5. CIFAR, Toronto, ON, Canada*

W13-08.**Hybridization Effects on the Pseudogap of Hole and Electron Regimes of a Hubbard d-p Model.** *E.J. Calegari*[1], D.D. Lalis[1], S.G. Magalhaes[2], C.M. Chaves[3] and A. Troper[3] *1. Physics, Universidade Federal de Santa Maria, Santa Maria, Brazil; 2. Physics, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; 3. EXP, Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil*

W13-09.**Withdrawn**

W13-10.**Al-impurity-induced magnetic excitations in heavily over-doped $La_{0.7}Sr_{0.3}Cu_{0.95}Al_{0.05}O_4$.** *K. Ikeuchi*[1], S. Kawamura[2], K. Nakajima[2], R. Kajimoto[2], S. Wakimoto[3], K. Suzuki[4] and M. Fujita[4] *1. Neutron Science and Technology Center, CROSS, Tokai, Japan; 2. J-PARC Center, Tokai, Japan; 3. JAEA, Tokai, Japan; 4. IMR, Tohoku University, Sendai, Japan*

W13-11.**Model-mapped RPA to determine a model Hamiltonian from first-principles.** *H. Sakakibara*[5], S. Jang[2], H. Kino[3], M. Han[2], K. Kuroki[4] and T. Kotani[1] *1. Department of Applied Mathematics and Physics, Tottori University, Tottori, Japan; 2. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 3. National Institute for Materials Science (NIMS), Tukuba, Japan; 4. Department of Physics, Osaka University, Toyonaka, Japan; 5. Applied Mathematics and Physics, Tottori University, Tottori, Japan*

W13-12.**Quantized Massive Gauge Fields, Anomalous Angle-resolved Photoemission Spectra, and Other Anomalous Properties in High-Tc Cuprates.** *I. Kanazawa*[1] *1. Physics, Tokyo Gakugei University, Tokyo, Japan*

W13-13.**Withdrawn**

W13-14.**Withdrawn**

Session W14
SUPERCONDUCTING SCES VIII: 122 IRON-BASED SUPERCONDUCTORS (Poster Session)

Kai Grube, Chair
Karlsruhe Institute of Technology, Karlsruhe, Germany

W14-01.**Absence of superconductivity in $Eu(Fe_{1-x}Cu_x)_2As_2$.** *A. Laha*[1] and Z. Hossain[1] *1. Department of Physics, Indian Institute of Technology, Kanpur 208016, Uttar Pradesh, Kanpur, India*

W14-02.**Scaling Analysis of Magnetotransport and Linear Magnetoresistance in the High-Temperature Paramagnetic Phase of $Ba(Fe_{1-x}Co_x)_2As_2$ Series.** *R. Kumar*[1], S. Singh[1,2] and S. Nair[1,2] *1. Department of Physics, Indian Institute of Science Education and Research, Pune, India; 2. Center for Energy Science, Indian Institute of Science Education and Research, Pune, India*

W14-03.**Possible Magnetic Pinning Effects in Substituted (Ba, Sr) Fe_2As_2 Single Crystals.** *M.M. Piva*[1], T.M. Garitezi[1], P. Rosa[2], C. Adriano[1], R.R. Urbano[1] and P. Pagliuso[1] *1. DEQ, Instituto de Física Gleb Wataghin - Unicamp, Campinas, Brazil; 2. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States*

W14-04.**External Pressure Studies in $Sr(Fe_{1-x}Co_x)_2As_2$ Single Crystals Grown by In-flux.** M.M. Piva[1], C.B. Jesus[2], *C. Adriano*[1], R.R. Urbano[1] and P. Pagliuso[1] *1. DEQ, Instituto de Física Gleb Wataghin - Unicamp, Campinas, Brazil; 2. Departamento de Física, Universidade Federal de Sergipe, Brazil, Itabaiana, Brazil*

W14-05.**Investigation of the Band Structure and the Fermi Surface of $BaFe_2As_2$ and $EuFe_2As_2$ Compounds by means of Polarization Dependent ARPES.** *K.R. Pakuszewski*[1], M.M. Piva[1], W.S. Silva[2], P. Rosa[3], P. Pagliuso[1] and C. Adriano[1] *1. DEQ, Instituto de Física Gleb Wataghin - UNICAMP, Campinas, Brazil; 2. Laboratório Nacional da Luz Síncrotron, Campinas, Brazil; 3. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States*

W14-06.**Superconductivity with broken time reversal symmetry near Lifshitz transition in $Ba_{1-x}K_xFe_2As_2$.** *H. Klauss*[1], V. Grinenko[1], P. Materne[1], R. Sarkar[1], K. Kihou[2], C. Lee[2], S. Akhmadaliev[5], D. Efremov[3], S. Drechsler[3] and H. Luetkens[4] *1. Institute for Solid State and Material Physics, University of Technology Dresden, Dresden, Germany; 2. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 3. IFW Dresden, Dresden, Germany; 4. PSI, Villigen, Switzerland; 5. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

W14-07.**Electronic properties of the iron arsenide superconductor $A Fe_2As_2$ (*A*: Sr, Eu) under pressure.** *S. Ikeda*[1], X.W. Zhang[2], S. Kishimoto[2], T. Kikegawa[2], Y. Yoda[3], H. Nakamura[4], M. Machida[4], J.K. Glasbrenner[5], S. Kawaguchi[3], N. Hirao[3], Y. Ohishi[3], N. Nagasawa[1] and H. Kobayashi[1] *1. Graduate School of Material Science, University of Hyogo, Hyogo, Japan; 2. High Energy Accelerator Research Organization, Photon Factory, Tsukuba, Japan; 3. Japan Synchrotron Radiation Institute, Hyogo, Japan; 4. CCSE, Japan Atomic Energy Agency, Chiba, Japan; 5. National Research Council/Code 6393, Naval Research Laboratory, Washington DC, WA, United States*

W14-08.**Observation of a double-Q spin-density wave in hole-doped iron arsenide superconductors.** *S. Rosenkranz*[1], J. Allred[1,2], K. Taddei[1,3], D. Bugaris[1], M.J. Krogstad[1,4], S. Lapidus[5], D.Y. Chung[1], M. Kanatzidis[1,6], D.E. Brown[4], O. Chmaissem[1,4] and R. Osborn[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Department of Chemistry & Biochemistry, University of Alabama, Tuscaloosa, AL, United States; 3. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 4. Department of Physics, Northern Illinois University, DeKalb, IL, United States; 5. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States; 6. Department of Chemistry, Northwestern University, Evanston, IL, United States*

W14-09.**Resonant Ultrasound Spectroscopy of the Nematic Transition in an Iron-Based Superconductor.** *S.K. Lewin*[1,2], V. Nagarajan[1,2], E. Lachman[1,2] and J. Analytis[1,2] *1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

W14-10.**Nematic fluctuations in iron arsenide superconducting system probed by ^{75}As NMR.** Y. Kobayashi[1], M. Toyoda[1] and *M. Itoh*[1] *1. Department of Physics, Nagoya University, Nagoya, Japan*

W14-11.**Superconducting gap structure and its temperature dependence of layered iron-free pnictide superconductor $BaPd_2As_2$.** A.S. Usoltsev[1], *T.A. Romanova*[1] and M. Abdel-Hafiez[2] *1. P.N. Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russian Federation; 2. Institute of Physics, Goethe University Frankfurt, Frankfurt, Germany*

W14-12.**Magnetic properties of the iron arsenide superconductor $EuFe_2As_2$ under pressure.** *S. Ikeda*[1], X.W. Zhang[2], S. Kishimoto[2], T. Kikegawa[2], Y. Yoda[3], H. Nakamura[4], M. Machida[4], J.K. Glasbrenner[5], S. Kawaguchi[3], N. Hirao[3], Y. Ohishi[3], N. Nagasawa[6] and H. Kobayashi[1] *1. Graduate School of Material Science, University of Hyogo, Hyogo, Japan; 2. High Energy Accelerator Research Organization, Photon Factory, Tsukuba, Japan; 3. Japan Synchrotron Radiation Institute, Hyogo, Japan; 4. CCSE, Japan Atomic Energy Agency, Chiba, Japan; 5. Naval Research Laboratory, National Research Council/Code 6393, Washington DC, WA, United States; 6. University of Hyogo, Ako, Japan*

W14-13.**Low temperature heat capacity in the iron-based superconductor YFe_2Ge_2.** *K.J. Murphy*[1], J. Chen[1], J. Banda[2], J. Baglo[1], M. Brando[2], M. Sutherland[1] and M. Grosche[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

Session W15
SURFACE AND INTERFACE EFFECTS V (Poster Session)

Rodolfo Miranda, Chair
IMDEA Nanociencia, Madrid, Spain

W15-01.**Thermoelectric Power in Magnetic Field for Contaning Co Nanoparticles Films.** *A.I. Dmitriev*[1] *1. I.M. Frantsevych Institute for Problems of Material Science, National Academy of Sciences of Ukraine, Kyiv, Ukraine*

W15-02.**Low temperature magnetism of gold nano particles contained in electrochemical sugar recognition system.** *T. Goto*[1], Y. Kitamoto[2], K. Matsui[1], H. Kuroe[1], A. Endo[2], T. Hashimoto[2], T. Hayashita[2], S. Iguchi[3] and T. Sasaki[3] *1. Physics Division, Sophia University, Chiyodaku, Japan; 2. Department of Materials and Life Science, Sophia University, Tokyo, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan*

W15-03.**Observation of Dzyaloshiskii-Moriya Interaction Effect in Co/Pt Multilayers with variation of repeat number.** *L. Huang*[1], J. Jung[2], C. You[2] and D. Kim[1] *1. Department of Physics, Chungbuk National University, Cheongju, The Republic of Korea; 2. Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Daegu, The Republic of Korea*

W15-04.**Interlayer Effects on Magnetic Reversal and Critical Current Transparency of Fe Thin Films with Applications for a Cryogenic Memory.** *M. Loving*[1], T. Ambrose[1], I. Dayton[1], H. Ermer[1], E.C. Gingrich[1], S. Keebaugh[1], D. Miller[1], N. Rizzo[1], N. Siwak[1] and O. Naaman[1] *1. Advanced Concepts & Technologies, Northrop Grumman Corporation, Linthicum, MD, United States*

W15-05.**Magnetic properties of Fe/Pd(001) bilayer affected by quantum-well states formed in Pd layer.** *K. Mochihara*[1], S. Nakahara[1], S. Sakuragi[2], M. Sawada[3] and T. Sato[1] *1. Department of Applied Physics and Physico-Informatics, Keio University, Yokohama-shi, Japan; 2. ISSP, The University of Tokyo, Kashiwa-shi, Japan; 3. Hiroshima Synchrotron Radiation Center, Hiroshima University, Higashihiroshima-shi, Japan*

W15-06. **Differential Conductance Anomalies in Superconducting Vanadium and Niobium with Hydrogen and Deuterium Impurities.** *S. Wen*[1], M.S. Islam[1], H. Takata[1], M. Shiga[1], Y. Inagaki[1], K. Hashizume[2] and T. Kawae[1] *1. Applied Quantum Physics, Kyushu University, Fukuoka, Japan; 2. Advanced Energy Engineering Science, Kyushu University, Fukuoka, Japan*

W15-07. **Low temperature divergence in the AHE and AMR of ultra-thin Pt/Co/Pt trilayers.** *E. Zion*[1] *1. Physics, Bar Ilan University, Tel Aviv, Israel*

W15-08. **Enhanced magneto-optical Kerr effect and Faraday effect at Fe/insulator interfaces.** *B. Gu*[1,2] *1. Kavli Institute for Theoretical Sciences, University of Chinese Academy of Sciences, Beijing, China; 2. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*

FRIDAY MORNING 11:30 — ESPLANADE BALLROOM

Session X1
PLENARY IV: HIDDEN MAGNETIC ORDER IN MULTIFERROICS AND SUPERCONDUCTORS

Mark Stiles, Chair
National Institute of Standards and Technology, Gaithersburg, MD, United States

11:30

X1-01. **Hidden Magnetic Order in Multiferroics and Superconductors.** ***(Invited)*** *N.A. Spaldin*[1] *1. ETH Zürich, Zürich, Switzerland*

FRIDAY AFTERNOON 1:30 — ESPLANADE 157

Session Y1
EMERGING PHENOMENA IN VAN DER WAALS MAGNETS

Steve May, Chair
Drexel University, Philadelphia, PA, United States

1:30

Y1-01. **Evidence for Topological Order in a Magnetic van-der-Waals Material.** ***(Invited)*** *K. Burch*[1] *1. Physics, Boston College, Chestnut Hill, MA, United States*

2:00

Y1-02. **Antiferromagnetic Ordering in 2-dimensional Layered Materials.** ***(Invited)*** K. Kim[1], S. Lim[1], J. Lee[1], S. Lee[2], T. Kim[2], K. Park[2], G. Jeon[3], C. Park[2], J. Park[2] and *H. Cheong*[1] *1. Department of Physics, Sogang University, Seoul, The Republic of Korea; 2. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 3. Department of Physics, Ewha Womans University, Seoul, The Republic of Korea*

2:30

Y1-03. **Symmetry controlled optical and magnetic properties in 2D antiferromagnets.** ***(Invited)*** *D. Xiao*[1] *1. Carnegie Mellon University, Pittsburgh, PA, United States*

FRIDAY AFTERNOON 1:30 — ESPLANADE 158

Session Y2
THEORY AND SIMULATION OF MAGNETIC SYSTEMS IV

Anders Sandvik, Chair
Boston University, Boston, MA, United States

1:30

Y2-01. **Tensor Network Study on Kitaev Materials.** ***(Invited)*** *T. Okubo*[1] *1. Department of Physics, The University of Tokyo, Tokyo, Japan*

2:00

Y2-02. **A Clear Understanding of the Skyrmionic A-phase Stability in MnSi.** V. Laliena[1], *J. Campo*[1] and G. Albalate[1] *1. Aragon Materials Science Institute (CSIC-UZ), Zaragoza, Spain*

2:15

Y2-03. **The Bosonic RKKY Effect: Magnetic Order in a Dissipative Spin Chain.** *M. Butcher*[1], J. Pixley[2] and A. Nevidomskyy[1] *1. Physics and Astronomy, Rice University, Houston, TX, United States; 2. Rutgers University, Highland Park, NJ, United States*

2:30

Y2-04. **Specific heat and non-linear susceptibility in the spin glass state with random fields.** M.V. Romitti[1], F. Zimmer[1], C.A. Morais[2] and *S.G. Magalhaes*[3] *1. Physics, Universidade Federal de Santa Maria, Santa Maria, Brazil; 2. Physics, Universidade Federal de Pelotas, Pelotas, Brazil; 3. Physics, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil*

2:45

Y2-05. **Boosting the Modeling of Heusler Alloy Using Game Tree Search.** *R. Sawada*[1], Y. Iwasaki[1,2] and M. Ishida[1] *1. IoT Device Laboratory, NEC Corp, Tsukuba, Japan; 2. JST-PRESTO, Tokyo, Japan*

Session Y4
THIN FILM AND HYBRID NANOSTRUCTURES III

Yayoi Takamura, Chair
University of California, Davis, Davis, CA, United States

1:30

Y4-01. **Studying The 3D Magnetization Of Ultrathin And Antiphase-Boundary Free Spinel Crystals.** ***(Invited)*** *A. Quesada*[1], J. de la Figuera[3], S. Ruiz-Gomez[2], L. Perez[2], A. Mascaraque[2], A. Mandziak[4,3], C. Munuera[5], L. Martín-García[3], P. Prieto[6], I. Palacio[5], M. Foerster[4] and L. Aballe[4] *1. Electroceramics, Instituto de Cerámica y Vidrio (CSIC), Madrid, Spain; 2. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 3. Instituto de Química-Física Rocasolano (CSIC), Madrid, Spain; 4. ALBA Synchrotron Light Source, Cerdanyola del Vallés, Spain; 5. Instituto de Ciencia de Materiales de Madrid (CSIC), Madrid, Spain; 6. Fisica Aplicada, Universidad Autónoma de Madrid, Madrid, Spain*

2:00

Y4-02. **Real-space imaging of topological spin textures and their dynamics.** *X. Yu*[1] and Y. Tokura[2] *1. RIKEN, Saitama, Japan; 2. RIKEN Center for Emergent Matter Science (CEMS), Saitama, Japan*

2:15

Y4-03. **Experimental Evidence of Chiral Ferrimagnetism in Amorphous GdCo Films.** *R. Streubel*[1], C. Lambert[2], N. Kent[3], P. Ercius[4], A.T. N'Diaye[5], C. Ophus[4], S. Salahuddin[6] and P. Fischer[7,3] *1. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. ETH Zurich, Zurich, Switzerland; 3. Physics, University of California, Santa Cruz, Berkeley, CA, United States; 4. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. University of California, Berkeley, Berkeley, CA, United States; 7. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

2:30

Y4-04. **Exploring chiral spin textures in in-plane magnets and graphene/metal bilayers.** ***(Invited)*** *G. Chen*[1,2] *1. Department of Physics, University of California, Davis, Davis, CA, United States; 2. Lawrence Berkeley National Laboratory, Davis, CA, United States*

Session Y5
FIRST PRINCIPLE SIMULATION OF HARD MAGNETIC PROPERTIES

Olga Vekilova, Chair
Uppsala University, Uppsala, Sweden

1:30

Y5-01. **Optimizing the magnetic performance of $REFe_{12-x}M_x$ phases – an ab initio study.** ***(Invited)*** *H.C. Herper*[1], O. Vekilova[1] and O. Eriksson[1] *1. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

2:00

Y5-02. **Theoretical study on the magnetic properties of $Sm(Fe_{1-x}Co_x)_{12}$ systems.** *H. Tsuchiura*[1,2] and T. Yoshioka[1] *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

2:15

Y5-03. **First-principles study on the magnetic properties and structural stability of $Nd_2Fe_{14}X$ (X = B, C, N, O, F).** *Y. Tatetsu*[1,2], Y. Harashima[3,4], T. Miyake[4,2] and Y. Gohda[5,2] *1. 1Department of Materials Science and Engineering, Tokyo Institute of Technology, Yokohama, Japan; 2. ESICMM, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. National Institute for Materials Science, Tsukuba, Ibaraki, Japan; 4. 3CD-FMat, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 5. Tokyo Tech, Yokohama, Japan*

2:30

Y5-04. **Magnetic Properties of Fe_5SiB_2 and Its Alloys with P, S, and Co: a Combined First Principles and Experimental Study.** *M. Werwinski*[1,4], S. Kontos[2], K. Gunnarson[2], P. Svedlindh[2], J. Cedervall[3], V. Hoglin[3], M. Häggblad Sahlberg[3], A. Edström[4], O. Eriksson[4] and J. Rusz[4] *1. Department of Solid State Theory, Institute of Molecular Physics Polish Academy of Sciences, Poznan, Poland; 2. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden; 3. Department of Chemistry, Uppsala University, Uppsala, Sweden; 4. Physics and Astronomy, Uppsala Unievsrity, Uppsala, Sweden*

2:45

Y5-05. **Calculating the Temperature Dependence of the Magnetocrystalline Anisotropy in Rare-Earth-Transition-Metal Ferrimagnets.** *C.E. Patrick*[1], S. Kumar[1], G. Balakrishnan[1], R.S. Edwards[1], M.R. Lees[1], L. Petit[2] and J.B. Staunton[1] *1. Department of Physics, University of Warwick, Coventry, United Kingdom; 2. Daresbury Laboratory, Warrington, United Kingdom*

Session Y6
ANTIFERROMAGNETIC SPINTRONICS: EXPERIMENT

Libor Šmejkal, Chair
Johannes Gutenberg University, Mainz, Germany

1:30

Y6-01. **Spin torque control of antiferromagnetic moments in NiO.** ***(Invited)*** *T. Moriyama[1] 1. Kyoto University, Uji, Japan*

2:00

Y6-02. **Enhancement of spin transfer torque in antiferromagnetic barrier-based magnetic tunnel junctions.** *Y. Cheng[1]*, W. Wang[1] and S. Zhang[1] *1. Physics, University of Arizona, Tucson, AZ, United States*

2:15

Y6-03. **Angular dependence of magnetoresistance in asymmetric and symmetric nonmagnet/antiferromagnet metallic heterostructures.** *S. Duttagupta[1]*, A. Kurenkov[2], R. Itoh[2], A. Okada[2], S. Fukami[2,3] and H. Ohno[2,4] *1. CSRN, Tohoku University, Sendai, Japan; 2. RIEC, Tohoku University, Sendai, Japan; 3. CSIS, Tohoku University, Sendai, Japan; 4. CIES, Tohoku University, Sendai, Japan*

2:30

Y6-04. **Current-induced spin-orbit torques in antiferromagnets.** *C. Song[1]*, X. Zhou[1], P. Zhang[1], X. Chen[1] and F. Pan[1] *1. Tsinghua University, Beijing, China*

2:45

Y6-05. **Long Distance Lateral Spin Transport in Antiferromagnetic Insulators.** *R. Lebrun[1]*, A. Ross[1], S. Bender[3], A. Qaiumzadeh[4], R. Duine[5], A. Brataas[4] and M. Kläui[2] *1. Johannes Gutenberg University, Mainz, Germany; 2. Physics, Johannes Gutenberg - University Mainz, Mainz, Germany; 3. University of California, Los Angeles, Los Angeles, CA, United States; 4. Norwegian University of Science and Technology, Trondheim, Norway; 5. University of Utrecht, Utrecht, Netherlands*

Session Y7
VOLTAGE CONTROLLED MAGNETIC DYNAMICS

Weigang Wang, Chair
University of Arizona, Tucson, AZ, United States

1:30

Y7-01. **Electrical-current-induced magnetic hysteresis in self-assembled vertically aligned $La_{2/3}Sr_{1/3}MnO_3$:ZnO nanopillar composites.** *W. Pan[1]*, P. Lu[1], J.F. Ihlefeld[2,1], S.R. Lee[1], E.S. Choi[3], Y. Jiang[3] and Q. Jia[4,5] *1. Sandia National Laboratories, Albuquerque, NM, United States; 2. University of Virginia, Charlottesville, VA, United States; 3. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 4. University at Buffalo - The State University of New York, Buffalo, NY, United States; 5. Konkuk University, Seoul, The Republic of Korea*

1:45

Y7-02. **Electric Field-Driven Manipulation of the Magnetization State in $BaTiO_3$\FeCo Micro- and Nano-Structures.** *R. Lo Conte[1]*, J. Gorchon[1,2], A. Mougin[3], C. Lambert[1], A. El-Ghazaly[1], A. Scholl[4], S. Salahuddin[1] and J. Bokor[1,2] *1. EECS Department, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Laboratoire de Physique des Solides, CNRS, Univ. Paris-Sud, Université Paris-Saclay, ORSAY, France; 4. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

2:00

Y7-03. **Giant Voltage-Controlled Magnetic Anisotropy in Strained Ir / FeCo / MgO Heterostructure.** *S. Kwon[1]*, P. Ong[1,5], Q. Sun[1], X. Li[2], P. Khalili Amiri[3], K.L. Wang[2], Y. Kato[4], H. Yoda[4] and N. Kioussis[1] *1. Physics and Astronomy, California State University Northridge, Northridge, CA, United States; 2. Electrical Engineering, UCLA, Los Angeles, CA, United States; 3. Northwestern University, Evanston, IL, United States; 4. Toshiba Corporation, Kawasaki, Japan; 5. Physical & Computational Sciences Directorate, Pacific Northwest National Laboratory, Richland, WA, United States*

2:15

Y7-04. **Robust Room Temperature Magnetoelectric Coupling in Multiferrioc Materials for Ultralow Energy Spintronic Applications.** *B. Prasad[1]*, H. Taz[2], Y. Huang[1], Z. Chen[1], V. Thakare[1], S. Hsu[1], R. Kalyanaraman[2,3] and R. Ramesh[1,4] *1. Department of Materials Science and Engineering, UC Berkeley, Berkeley, CA, United States; 2. Bredesen Center, University of Tennessee, Knoxville, TN, United States; 3. Department of Materials Science and Engineering, University of Tennessee, Knoxville, TN, United States; 4. Department of Physics, University of California, Berkeley, CA, United States*

2:30

Y7-05. **Switching error analysis in skyrmion mediated VCMA switching.** *D. Bhattacharya*[1], P. Sutradhar[1] and J. Atulasimha[1] *1. Virginia Commonwealth University, Richmond, VA, United States*

2:45

Y7-06. **Voltage-driven high speed skyrmion motion in Skyrmion shift device.** *N. Lei*[1], Y. Liu[1], W. Kang[1], X. Zhang[2], Y. Zhou[2], Y. Zhang[1] and W. Zhao[1] *1. Beihang University, Beijing, China; 2. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong*

FRIDAY AFTERNOON 1:30 — ROOM 306

Session Y8
NEW DEVELOPMENTS IN STRONGLY CORRELATED ELECTRON SYSTEMS II

Peter Riseborough, Chair
Temple University, Philadelphia, PA, United States

1:30

Y8-01. **Topological magnon Dirac points in a three-dimensional antiferromagnet.** ***(Invited)*** W. Yao[1], C. Li[1], L. Wang[1], S. Xue[1], Y. Dan[1], K. Iida[2], K. Kamazawa[2], K. Li[3], J. Hu[3], C. Fang[3] and *Y. Li*[1] *1. International Center for Quantum Materials, Peking University, Beijing, China; 2. Neutron Science and Technology Center, Comprehensive Research Organization for Science and Society, Tokai, Japan; 3. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

2:00

Y8-02. **Observation of Direct Pu-239 Nuclear Magnetic Resonance in PuB_4.** *E. Bauer*[1], A. Dioguardi[1], H. Yasuoka[1], S.M. Thomas[1], S. Cary[1], S. Kozimor[1], J. Thompson[1], T. Albrecht-Schmitt[2] and F. Ronning[1] *1. Los Alamos National Laboratory, Los Alamos, NM, United States; 2. Florida State University, Tallahassee, FL, United States*

2:15

Y8-03. **Resonant inelastic X-ray scattering studies of correlated rare-earth systems.** *J. Hancock*[1,2] *1. Department of Physics, University of Connecticut, Storrs, CT, United States; 2. Institute of Materials Science, University of Connecticut, Storrs, CT, United States*

2:30

Y8-04. **Imaging scale-invariant magnetic textures in a strongly correlated oxide.** *J. Li*[1*], J. Pelliciari[1], C. Mazzoli[2], S. Catalano[4], F. Simmons[3], M. Gibert[4], E. Carlson[3], J. Triscone[4], S. Wilkins[2] and R. Comin[1] *1. Department of Physics, Massachusetts Institute of Technology, Cambridge, MA, United States; 2. National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, NY, United States; 3. Department of Physics, Purdue University, West Lafayette, IN, United States; 4. Département de Physique de la Matière Condensée, University of Geneva, Geneva, Switzerland*

2:45

Y8-05. **Electronic correlation effects and orbital density wave in the layered compound 1*T*-TaS_2.** X. Yu[1,2], D. Liu[1], Y. Quan[3], H. Lin[4] and *L. Zou*[1] *1. Research Laboratory of Computational Materials Sciences, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Department of Physics, Southern University of Science and Technology, Shenzhen, China; 3. Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 4. Beijing Computational Science Research Center, Beijing, China*

FRIDAY AFTERNOON 1:30 — ROOM 307/308

Session Y9
HEAVY FERMIONS VII: MULTIPOLAR MATERIALS

Satoru Nakatsuji, Chair
University of Tokyo, Kashiwa, Japan

1:30

Y9-01. **A new Ce-based heavy fermion system close to a possibly multipolar Quantum Critical Point: $CeRh_2As_2$.** *S. Khim*[1], J. Banda[1], D. Hafner[1], U. Stockert[1], D. Jang[1], M. Brando[1] and C. Geibel[1] *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

1:45

Y9-02. **Single-site non-Fermi liquid behaviors in a diluted Pr system $Y_{1-x}Pr_xIr_2Zn_{20}$.** *Y. Yamane*[1], T. Onimaru[1], K. Wakiya[1,3], K. Matsumoto[1,2], K. Umeo[4] and T. Takabatake[1] *1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi-Hiroshima, Japan; 2. Ehime University, Matsuyama, Japan; 3. Department of Physics, Yokohama National University, Yokohama, Japan; 4. Cryogenic and Instrumental Analysis Division, N-BARD, Hiroshima University, Higashi-Hiroshima, Japan*

2:00

Y9-03. **A Realistic Model for Ferrohastatic Order in Cubic Pr-based Materials.** J. van Dyke[1], G. Zhang[1] and *R. Flint*[1] *1. Iowa State University, Ames, IA, United States*

2:15

Y9-04. **Theoretical Study of Non Fermi Liquid and Ordered States in Pr 1-2-20 Systems.** *A. Tsuruta*[1] and K. Miyake[2] *1. Materials Engineering Science, Osaka University, Toyonaka-City, Japan; 2. Center for Advanced High Magnetic Field Science, Osaka University, Toyonaka, Japan*

2:30

Y9-05. **Elastoresistivity as a probe of the diverging quadrupole-strain susceptibility approaching the ferroquadrupolar phase transition in $YbRu_2Ge_2$.** *E. Rosenberg*[1], J. Straquadine[1], A. Hristov[1] and J. Palmstrom[1] *1. Stanford University, Stanford, CA, United States*

2:45

Y9-06. **Theory of Valence Fluctuation and Unconventional Heavy Fermion in Sm compounds.** *R. Shiina*[1] *1. Physics, University of Ryukyus, Nishihara, Japan*

FRIDAY
AFTERNOON
1:30

ROOM 313/314

Session Y10
MAGNETISM AND TOPOLOGICAL PHASES

Rina Takagi, Chair
RIKEN, Saitama, Japan

1:30

Y10-01. **Spin-orbital Singlet, Spiral Spin-liquid And Novel Vortex States In Magnets With Spinel Structure.** ***(Invited)*** *C. Rüegg*[1,2] *1. Neutrons and Muons, Paul Scherrer Institute, Villigen PSI, Switzerland; 2. Quantum Matter Physics, University of Geneva, Geneva, Switzerland*

2:00

Y10-02. **Study of magnetic Weyl semimetals.** *E. Lachman*[1], J. Analytis[1] and G. Lopez[1] *1. University of California, Berkeley, Berkeley, CA, United States*

2:15

Y10-03. **Spin/Charge supercurrent flow akin to chiral magnetic effect in Dirac/Weyl superconductor.** *T. Matsushita*[1], T. Liu[2,3], T. Mizushima[1] and S. Fujimoto[1] *1. Material Engineering Science, Osaka University, Toyonaka, Japan; 2. Physics and Astronomy, University of British Columbia, Vancouver, BC, Canada; 3. Quantum Matter Institute, University of British Columbia, Vancouver, BC, Canada*

2:30

Y10-04. **Quantum Kinetic Theory of the Chiral Anomaly in Topological Semimetals.** *A. Sekine*[1], D. Culcer[2] and A.H. MacDonald[1] *1. Department of Physics, The University of Texas at Austin, Austin, TX, United States; 2. School of Physics, The University of New South Wales, Sydney, NSW, Australia*

2:45

Y10-05. **Vanishing Quantum Oscillations in Dirac Semimetal $ZrTe_5$.** J. Wang[1], J. Niu[1], B. Yan[1], X. Li[1], R. Bi[1], Y. Yao[3], D. Yu[4] and *X. Wu*[1,2] *1. Physics, Peking University, Beijing, China; 2. Collaborative Innovation Center of Quantum Matter, Peking University, Beijing, China; 3. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 4. Physics department, Southern University of Science and Technology of China, Beijing, China*

FRIDAY
AFTERNOON
3:30

ESPLANADE 157

Session Z1
SKYRMIONS IV: BULK MATERIALS

Hyunsoo Yang, Chair
National University of Singapore, Singapore, Singapore

3:30

Z1-01. **Skyrmions in Chiral Multiferroic Insulators.** ***(Invited)*** *S. Seki*[1] *1. Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan*
2018 IUPAP Young Scientist Prize in Magnetism

4:00

Z1-02. **Current-induced skyrmion dynamics probed by resistance noise spectroscopy.** ***(Invited)*** *T. Sato*[1], A. Kikkawa[1], T. Yokouchi[2], H. Oike[1,2], Y. Taguchi[1], Y. Tokura[1,2] and F. Kagawa[1,2] *1. RIKEN Center for Emergent Matter Science, Wako, Japan; 2. Univ. of Tokyo, Hongo, Japan*

4:30

Z1-03. **Experimental observation of magnetic chiral bobbers in B20-type FeGe.** ***(Invited)*** *N.S. Kiselev*[1], F. Zheng[7], F. Rybakov[2], A.B. Borisov[3], D. Song[4], S. Wang[5], Z. Li[6], H. Du[5], J. Caron[7], A. Kovacs[7], M. Tian[5], Y. Zhang[5], S. Blügel[8] and R.E. Dunin-Borkowski[7] *1. Institute for Advanced Simulation, Forschungszentrum Jülich, Germany, Jülich, Germany; 2. Department of Physics, KTH-Royal Institute of Technology, Stockholm, Sweden; 3. M.N. Miheev Institute of Metal Physics of Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russian Federation; 4. National Center for Electron Microscopy in Beijing, School of Materials Science and Engineering, Tsinghua University, Beijing, China; 5. High Magnetic Field Laboratory, The Anhui Key Laboratory of Condensed Matter Physics at Extreme Conditions, Hefei, China; 6. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 7. Ernst Ruska-Centre, Forschungszentrum Juelich, Juelich, Germany; 8. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany*

FRIDAY AFTERNOON 3:30 — ESPLANADE 158

Session Z2
NOVEL MAGNETIC STRUCTURES AND MATERIALS

Priscila Rosa, Chair
Los Alamos National Laboratory, Los Alamos, NM, United States

3:30

Z2-01. **Magnetic properties of FeO_2 and FeO_2H_x - novel constituents of Earth's lower mantle.** ***(Invited)*** *S. Streltsov*[1], A. Shorikov[1], A. Poteryaev[1] and D. Khomskii[2] *1. M.N. Miheev Institute of Metal Physics UB of RAS, Ekaterinburg, Russian Federation; 2. Universität zu Köln, Cologne, Germany*

4:00

Z2-02. **The magnetic exchange parameters for the quasi-two-dimensional antiferromagnet $NiPS_3$.** D. Lançon[1,2], R. Ewings[3], T. Guidi[3], F. Formisano[4] and *A.R. Wildes*[1] *1. Institut Laue-Langevin, Grenoble, France; 2. Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; 3. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom; 4. Consiglio Nazionale delle Ricerche, Istituto Officina dei Materiali, Grenoble, France*

4:15

Z2-04. **Magnon Scatterings in van der Waals Magnets.** *C. Gong*[1] and X. Zhang[1] *1. University of California, Berkeley, Berkeley, CA, United States*

4:30

Z2-05. **Carrier and strain tunable intrinsic magnetism in two-dimensional MAX_3 transition metal chalcogenides.** B. Chittari[1], D. Lee[1], A. MacDonald[3], E. Hwang[2] and *J. Jung*[1] *1. Department of Physics, University of Seoul, Seoul, The Republic of Korea; 2. Sungkyunkwan University, Suwon, The Republic of Korea; 3. University of Texas at Austin, Austin, TX, United States*

FRIDAY AFTERNOON 3:30 — ESPLANADE 160

Session Z4
SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE VI

Kyung Jin Lee, Chair
Korea University, Seoul, The Republic of Korea

3:30

Z4-01. **Spin Hall Effect Induced Magnetism in Nonmagnetic Metals.** ***(Invited)*** *C. Stamm*[1] *1. ETH Zurich, Zurich, Switzerland*

4:00

Z4-02. **Observation of spin-transfer torque generated from spin anomalous Hall effect by spin-torque ferromagnetic resonance.** S. Iihama[1], *T. Taniguchi*[1], K. Yakushiji[1], A. Fukushima[1], Y. Shiota[2], S. Tsunegi[1], R. Hiramatsu[1], S. Yuasa[1], Y. Suzuki[3] and H. Kubota[1] *1. Spintronics Research Center, AIST, Tsukuba, Japan; 2. Kyoto University, Kyoto, Japan; 3. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan*

4:15

Z4-03. **Spin galvanic effect with spin rotation symmetry.** ***(Invited)*** W. Aljuaid[1,2], S. Allen[1], A. Humphries[1] and *X. Fan*[1] *1. Physics and Astronomy, University of Denver, Denver, CO, United States; 2. Department of Mechanical and Materials Engineering, University of Denver, Denver, CO, United States*

4:45

Z4-04. **Magnetic transport properties of platinum in contact with polycrystalline antiferromagnetic NiO.** M. Gamino[1], D.S. Maior[1], L.H. Vilela-Leão[3], R. Rodriguez[2], F.L. Machado[1], *A. Azevedo*[1] and S.M. Rezende[1] *1. Departamento de Física, Universidade Federal de Pernambuco, Recife, Brazil; 2. Physics, Pontificia Universidad Católica de Chile, Santiago, Chile; 3. Centro Acadêmico do Agreste, Universidade Federal de Pernambuco, Caruaru, Brazil*

FRIDAY AFTERNOON 3:30 — ESPLANADE 152

Session Z5
NEW MAGNETIC MATERIALS VII

Young Sun, Chair
Institute of Physics, Chinese Academy of Sciences, Beijing, China

3:30

Z5-01. **Magnetic and dielectric properties of manganese and neodymium doped calcium molybdato-tungstates.** P. Urbanowicz[1], E. Tomaszewicz[2], M. Pawlikowska[2], *T. Gron*[1], M. Berkowski[3], M. Glowacki[3], M. Oboz[1], J. Kusz[1] and B. Sawicki[1] *1. Institute of Physics, University of Silesia, Katowice, Poland; 2. Inorganic and Analytical Chemistry, West Pomeranian University of Technology, Szczecin, Poland; 3. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*

3:45

Z5-02. **Atomic configuration and electronic state of CoVMnAl quaternary Heusler alloy.** *R.Y. Umetsu*[1,2], K. Saito[3], K. Ono[3], T. Fukushima[4,5], F. Kuroda[6,7], T. Oguchi[6,8] and T. Ishigaki[9] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 3. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan; 4. Institute for NanoScience Design, Osaka University, Toyonaka, Japan; 5. Institute for Datability Science, Osaka University, Suita, Japan; 6. Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Japan; 7. CMI2-MaDIS, National Institute for Materials Science (NIMS), Tsukuba, Japan; 8. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 9. Frontier Research Center for Applied Atomic Sciences, Ibaraki University, Tokai, Japan*

4:00

Z5-03. **Magnetization process and martensitic microstructure of Ni-Mn-Ga epitaxial films.** *F. Casoli*[1], S. Fabbrici[1], M. Takhsha Ghahfarokhi[1], L. Nasi[1], R. Cabassi[1], F. Celegato[2], P. Tiberto[2], G. Varvaro[3] and F. Albertini[1] *1. CNR - IMEM, Parma, Italy; 2. INRIM, Torino, Italy; 3. CNR - ISM, Rome, Italy*

4:15

Z5-04. **Temperature-dependent interlayer exchange coupling strength in synthetic antiferromagnetic $[Pt/Co]_4/Ru/[Co/Pt]_4$ multilayers.** *P. Pan*[1], Y. Li[1], X. Jin[1], N. Zhang[1] and F. Ma[1] *1. School of Physics and Technology, Nanjing Normal University, Nanjing, China*

4:30

Z5-05. **Metallic and Half-Metallic Materials with Ultra-Low Magnetic Damping.** ***(Invited)*** *J. Shaw*[1] *1. NIST, Boulder, CO, United States*

FRIDAY AFTERNOON 3:30 — ROOM 105

Session Z6
EXCHANGE BIAS AND EXCHANGE SPRINGS IV

Arantxa Fraile Rodríguez, Chair
Universitat de Barcelona, Barcelona, Spain

3:30

Z6-01. **Magneto-Ionic Control of Exchange Bias.** ***(Invited)*** P. Murray[1], D.A. Gilbert[1,2], J. Olamit[1], B.J. Kirby[2], A.J. Grutter[2], B.B. Maranville[2], E. Arenholz[3], J. Borchers[2] and *K. Liu*[1,4] *1. Physics Department, University of California. Davis, Davis, CA, United States; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD, United States; 3. LBNL, Berkeley, CA, United States; 4. Physics Department, Georgetown University, Washington, DC, United States*

4:00

Z6-02. **Imaging the Magnetization Reversal in Strongly Exchange-coupled Bilayers of TbFe and Co/Pt.** *A. Mandru*[1], X. Zhao[1], M.A. Marioni[1] and H.J. Hug[1] *1. Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland*

4:15

Z6-03. **Field-dependent magnetic helices in ternary magnetic heterostructures.** *T. Gurieva*[1], K. Schlage[1], L. Bocklage[1,2] and R. Roehlsberger[1] *1. FS-PS, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 2. Hamburg Center for Ultrafast Imaging, Hamburg, Germany*

4:30

Z6-04. **Decoupling exchange bias and coercivity in perovskite oxide heterostructures.** *A. Kane*[1], R.V. Chopdekar[1], A.T. N'Diaye[3], E. Arenholz[4] and Y. Takamura[1] *1. University of California, Davis, Davis, CA, United States; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 4. LBNL, Berkeley, CA, United States*

4:45

Z6-05. **Exchange-Spring Magnets through the Eyes of Neutron Diffraction.** *C. Granados-Miralles*[1,2], M. Saura-Múzquiz[2], H.L. Andersen[2], A. Quesada[1], J.V. Ahlburg[2], A. Dippel[3], E. Canévet[4,5] and M. Christensen[2] *1. Instituto de Cerámica y Vidrio, CSIC, Madrid, Spain; 2. Department of Chemistry and iNANO, Aarhus University, Aarhus, Denmark; 3. Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 4. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut (PSI), Villigen, Switzerland; 5. Department of Physics, Technical University of Denmark (DTU), Copenhagen, Denmark*

FRIDAY AFTERNOON 3:30 — ROOM 104

Session Z7
SURFACE AND INTERFACE EFFECTS VI

Clemens Laubschat, Chair
Technische Universität Dresden, Dresden, Germany

3:30

Z7-01. **Topology and Antiferromagnetic Proximity Interactions at $(Bi,Sb)_2Te_3$-based Interfaces.** ***(Invited)*** *Q. He*[1,2], G. Yin[2], A.J. Grutter[3] and K.L. Wang[2] *1. International Center for Quantum Materials, School of Physics, Peking University, Beijing, China; 2. Electrical Engineering, University of California, Los Angeles, Los Angeles, CA, United States; 3. NIST Center for Neutron Research, Gaithersburg, MD, United States*

4:00

Z7-02. **Coherent quantum control and magnetism on atoms on surfaces.** *T. Choi*[1] *1. Physics, Ewha Womans University and Quantum Nanoscience, Seoul, The Republic of Korea*

4:15

Z7-03. **Long range magnetic order in 2D, fully-organic, structures on graphene.** *R. Miranda*[1,2], M. Garnica[1], F. Calleja[1], A.L. Vázquez de Parga[1,2], D. Stradi[3] and F. Martin[2,1] *1. IMDEA Nanociencia, Madrid, Spain; 2. Universidad Autónoma de Madrid, Madrid, Spain; 3. Synopsys QuantumWise, Copenhagen, Denmark*

4:30

Z7-04. **Magnetic Patterning by Electron Beam Assisted Carbon Lithography.** *F. Genuzio*[1], P. Genoni[2], O.T. Mentes[1], B. Santos[1], A. Sala[3], C. Lenardi[2] and A. Locatelli[1] *1. Elettra sincrotrone Trieste, Trieste, Italy; 2. Physics, Università degli Studi di Milano, MIlan, Italy; 3. IOM-CNR, Basovizza, Italy*

4:45

Z7-05. **Magnetization Switching in Ferromagnetic Thin Film Induced by Adsorbed Chiral Molecules Realized without Current or External Magnetic Field.** O. Ben Dor[1], S. Yochelis[1], A. Capua[2], E. Capua[4], S.S.P. Parkin[3,2], R. Naaman[4], Y. Paltiel[1] and *L.T. Baczewski*[5] *1. Applied Physics Department, The Hebrew University of Jerusalem, Jerusalem, Israel; 2. IBM Almaden Research Center, San Jose, CA, United States; 3. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany; 4. Weizmann Institute of Science, Rehovot, Israel; 5. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*

FRIDAY AFTERNOON 3:30 — ROOM 306

Session Z8
STRANGE METAL, UNDERDOPED CUPRATES, SUPERCONDUCTING INTERFACES

Jonathan Denlinger, Chair
Lawrence Berkeley National Laboratory, Kensington, CA, United States

3:30

Z8-01. **Scale-Invariant transport in high-temperature superconductors.** ***(Invited)*** *A. Shekhter*[1] *1. NHMFL, Tallahassee, FL, United States*

4:00

Z8-02. **The Hall Effect in the Strange Metal Physics of $BaFe_2(As,P)_2$.** *I. Hayes*[1], N. Maksimovic[1], M.K. Chan[2], B. Ramshaw[3], R.D. Mcdonald[4] and J. Analytis[5] *1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Physics, Cornell University, Ithaca, NY, United States; 4. Pulsed Field Facility, Los Alamos National Laboratory, Los Alamos, NM, United States; 5. University of California, Berkeley, Berkeley, CA, United States*

4:15

Z8-04. **Uncovering magnetic field-resilient superconductivity in the pseudogap regime of the underdoped high-T_c cuprates.** *M. Hartstein*[1], Y. Hsu[1], A. Davies[1], M.K. Chan[2], J. Porras[3], T. Loew[3], S. Taylor[1], H. Liu[1], M. Le Tacon[3,4], H. Zuo[5], J. Wang[5], Z. Zhu[5], G. Lonzarich[1], B. Keimer[3], N. Harrison[2] and S.E. Sebastian[1] *1. University of Cambridge, Cambridge, United Kingdom; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Max Planck Institute for Solid State Research, Stuttgart, Germany; 4. Karlsruhe Institut für Technologie, Karlsruhe, Germany; 5. National High Magnetic Field Center and School of Physics, Huazhong University of Science and Technology, Wuhan, China*

4:30

Z8-05. **Electron-phonon coupling and superconductivity in doped $SrTiO_3$.** *H. Yoon*[1], A.G. Swartz[1,2], H. Inoue[1], Y. Hikita[2] and H. Hwang[1,2] *1. Geballe Laboratory for Advanced Materials, Applied Physics, Stanford, CA, United States; 2. Stanford Institute for Materials and Energy Sciences, SLAC National Accelerator Laboratory, Menlo Park, CA, United States*

4:45

Z8-06. **Controlling iron-based superconductivity with spin currents.** *J. Lee*[1] *1. Physics, KAIST, Daejeon, The Republic of Korea*

FRIDAY AFTERNOON 3:30 — ROOM 307/308

Session Z9
HEAVY FERMIONS VIII: NOVEL EXPERIMENTS

Andrew Huxley, Chair
University of Edinburgh, Edinburgh, United Kingdom

3:30

Z9-01. **Coherent Band Excitations Studied With Inelastic Neutron Scattering.** ***(Invited)*** *R. Osborn*[1], E.A. Goremychkin[2], H. Park[1,4], J. Lawrence[3], S. Rosenkranz[1], A. Christianson[5] and V.R. Fanelli[5] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Joint Institute for Nuclear Research, Dubna, Russian Federation; 3. University of California, Irvine, Irvine, CA, United States; 4. University of Illinois at Chicago, Chicago, IL, United States; 5. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

4:00

Z9-02. **Core-level spectroscopy of the Anderson Lattice in $CePd_3$.** *M.C. Rahn*[1], A. Amorese[4], K. Kummer[3], E. Bauer[1], F. Ronning[1], J. Lawrence[2] and M. Janoschek[1] *1. Los Alamos National Laboratory, Los Alamos, NM, United States; 2. University of California, Irvine, Irvine, CA, United States; 3. European Synchrotron Radiation Facility (ESRF), Grenoble, France; 4. Institute of Physics II, University of Cologne, Dresden, Germany*

4:15

Z9-03. **XMCD Studies of Actinide Compounds with Formally Nonmagnetic 5f-electron Ground States.** *R. Caciuffo*[1], N. Magnani[1], E. Colineau[1], R. Eloirdi[1], J. Griveau[1], G.H. Lander[1], A. Rogalev[2], F. Wilhelm[2] and A.B. Shick[3] *1. Joint Research Centre, European Commission, Karlsruhe, Germany; 2. ESRF, Grenoble, France; 3. Institute of Physics, Czech Academy of Sciences, Prague, Czechia*

4:30

Z9-04. **Tests for Magnetoelectric Effects on Antiferromagnetic Metals.** ***(Invited)*** *H. Amitsuka*[1], H. Saito[1], N. Shikanai[1], M. Yamamoto[1], H. Hidaka[1], T. Yanagisawa[1], C. Tabata[2], H. Nakao[2], H. Tanida[3], T. Matsumura[4] and M. Sera[4] *1. Graduate School of Science, Hokkaido University, Sapporo, Japan; 2. IMSS CMRC, KEK, Tsukuba, Japan; 3. Graduate School of Engineering, Toyama Prefecture University, Toyama, Japan; 4. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi Hiroshima, Japan*

FRIDAY AFTERNOON 3:30

ROOM 313/314

Session Z10
ITINERANT MAGNETISM II

Philip Moll, Chair
MPI for Chemical Physics of Solids, Dresden, Germany

3:30

Z10-01. **Magnetic Excitations in the Itinerant Electron Ferromagnet Iron Measured Throughout the Brillouin Zone by Neutron Scattering.** ***(Invited)*** *T. Perring*[1], A. Buts[1] and M. Lueders[2] *1. ISIS Facility, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom; 2. Scientific Computing Department, STFC Daresbury Laboratory, Warrington, United Kingdom*

4:00

Z10-02. **Magnetic Excitations in Non-Collinear Antiferromagnetic Weyl Semimetal Mn_3Sn.** *P. Park*[1,2], J. Oh[1,2], K. Uhlirova[3], H. Kim[2], J. Jackson[4], L. Szunyogh[5,6], A. Deak[5,6], H. Walker[7], D. Adroja[7], V. Sechovský[3] and J. Park[1,2] *1. Center for Correlated Electron Systems, Institute for Basic Science, Seoul, The Republic of Korea; 2. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 3. Faculty of Mathematics and Physics, Charles University in Prague, Prague 2, Czechia; 4. Computational Science and Engineering Department, STFC Daresbury Laboratory, Warrington, United Kingdom; 5. Department of Theoretical Physics, Budapest University of Technology and Economics, Budapest, Hungary; 6. 2MTA-BME Condensed Matter Research Group, Budapest, Hungary; 7. ISIS Facility, Rutherford Appleton Laboratory, Oxon, United Kingdom*

4:15

Z10-03. **First-principle based simulations of longitudinal spin-fluctuations in metals and integration in classical space with variable spin amplitude.** *S. Khmelevskyi*[1] *1. Center for Computational Materials Science, Vienna University of Technology, Vienna, Austria*

4:30

Z10-04. **Magnetic structures and magnetic phase transitions in RMn_2Si_2 intermetallics.** *N.V. Mushnikov*[1] and E.G. Gerasimov[1] *1. Institute of Metal Physics UB RAS, Ekaterinburg, Russian Federation*

4:45

Z10-05. **X-ray Absorption and Neutron Diffraction study on Boron Substituted Heusler alloy $Ni_{50}Mn_{35}In_{14.25}B_{0.75}$.** *S. Pandey*[1], T.N. Lamichhane[2], A. Al-Wahish[3], A.T. N'Diaye[4], P. Das[5], A. Aryal[1], I. Dubenko[1], S. Roy[4], D. Mazumdar[1], H. Kaiser[3], S. Stadler[6] and N. Ali[1] *1. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 2. Physics, Iowa State University, Ames, IA, United States; 3. University of Missouri Research Reactor, University of Missouri-Columbia, Columbia, MO, United States; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Ames Laboratory, Ames, IA, United States; 6. Department of Physics & Astronomy, Louisiana State University, Baton Rouge, LA, United States*

FRIDAY AFTERNOON 5:00

ESPLANADE 152

Session ZZ
CLOSING CEREMONY

Allan MacDonald, Chair
University of Texas at Austin, Austin, TX, United States

- A -

A, S. (H2-09) 87
Aballe, L. (J6-02) 112
Aballe, L. (N1-04) 162
Aballe, L. (Q2-10) 202
Aballe, L. (Y4-01) 304
Abdel-Hafiez, M. (W14-11) 300
Abdelgawad, A.M. (G4-05) 78
Abdelgawad, A.M. (J4-05) 111
Abdelgawad, A.M. (W10-06) 293
Abe, N. (B15-04) 22
Abe, N. (G2-02) 75
Abe, N. (Q5-07) 206
Abe, N. (V2-04) 270
Abe, N. (V2-05) 271
Abele, M. (H12-04) 101
Abert, C. (W9-02) 291
Ablett, J. (N3-08) 166
Abraime, B. (B13-03) 19
Abrikosov, I. (H15-04) 105
Abrudan, R. (L1-11) 129
Acharya, S.C. (N5-04) 169
Acharya, S.C. (Q7-07) 209
Ackerl, N. (T9-04) 242
Aczel, A.A. (V10-04) 279
Adachi, M. (U11-02) 259
Adamo, C. (V9-05) 278
Adams, D.J. (U3-01) 247
Adams, J. (M1-01) 152
Adams, T. (B16-08) 24
Adelani, M.O. (B9-10) 14
Adelani, M.O. (W10-11) 293
Adelmann, C. (B6-02) 8
Adelmann, C. (T1-04) 234
Adelmann, P. (F12-01) 69
Adelung, R. (Q7-10) 209
Adeyeye, A. (N4-08) 168
Adeyeye, A. (N4-09) 168
Adnani, M. (U8-06) 255
Adolff, C. (T3-04) 235
Adriano, C. (F3-03) 56
Adriano, C. (F3-08) 55
Adriano, C. (W14-03) 299
Adriano, C. (W14-04) 299
Adriano, C. (W14-05) 299
Adroja, D. (H3-04) 88
Adroja, D. (L10-08) 143
Adroja, D. (N3-03) 166
Adroja, D. (U13-04) 262
Adroja, D. (Z10-02) 319
Aeppli, G. (B1-06) 2
Aeppli, G. (J2-05) 109
Aeschlimann, M. (E7-03) 47
AFFRONTE, M. (J2-01) 108
AFFRONTE, M. (J2-02) 109
Aftergood, J. (F12-09) 70
Agarwal, S. (V1-06) 269
Agnus, G. (T5-03) 238
Agostinelli, E. (H1-02) 84
Agostinelli, E. (H1-04) 84
Agrapidis, C. (B12-01) 17
Agrapidis, C. (L4-01) 133
Agrestini, S. (G8-04) 82
Agrestini, S. (L12-11) 146
Agrestini, S. (N14-10) 182
Agterberg, D.F. (S8-02) 231
Aguilar Reyes, B. (B5-04) 7
Aguilar Reyes, B. (B11-03) 17
Agustsson, S.Y. (N17-06) 187
Ahad, A. (Q12-04) 216
Ahad, A. (W5-02) 285
Ahlburg, J.V. (Z6-05) 315
Ahmad, H. (T1-04) 234
Ahmad, N. (L13-12) 147
Ahmed, A. (N14-13) 183
Ahmed, A. (S6-05) 229
Ahmed, F. (F6-02) 59
Ahn, C. (B13-04) 19
Aihara, D. (L1-07) 128
Aihara, S. (S5-02) 227
Aires, A. (E6-02) 46
Ait Tamerd, M. (B13-03) 19
Ajejas, F. (H2-11) 87
Ajejas, F. (N10-02) 176
Ajejas, F. (N10-04) 177
Ajejas, F. (P6-04) 194
Ajejas, F. (Q1-02) 199
Ajejas, F. (Q7-12) 210
Akagi, F. (W1-07) 281
Akagi, F. (W10-02) 293
Akagi, K. (F4-06) 57
Akai, H. (N8-11) 175
Akaki, M. (G2-04) 76
Akaki, M. (Q5-06) 206
Akaki, M. (Q5-07) 206
Akashi, T. (U1-01) 244
Akazawa, M. (C10-01) 30
Akdogan, O. (B13-06) 19
Akdogan, O. (N8-05) 174
Åkerman, J. (J6-03) 113
Akhmadaliev, S. (W14-06) 299
Akimoto, S. (F7-03) 60
Akselrud, L. (L14-07) 148
Al Ma'Mari, F. (L14-03) 148
Al Ma'Mari, F. (U9-02) 256
Al Ma'Mari, F. (W8-01) 290
Al Malki, H. (M3-02) 154
Al Mamoori, M.K. (D4-04) 34
Al Milaji, K. (H6-04) 93
Al-Wahish, A. (Z10-05) 319
Alameda, J. (E3-03) 43
Alameda, J. (Q1-04) 200
Alawein, M. (U9-05) 256
Alba Venero, D. (F11-04) 67
Alba Venero, D. (F11-09) 68
Alba Venero, D. (L1-03) 128
Albalate, G. (Y2-02) 303
Albers, R.F. (H2-03) 86
Albertini, F. (N5-08) 169
Albertini, F. (Z5-03) 314
Alberto, G. (L1-04) 128
Albrecht-Schmitt, T. (Y8-02) 308
Alburquenque, D. (N5-02) 168
Aldosary, M.H. (M7-05) 159
Aleisa, F. (B2-08) 4
Alejos, ÓSCAR. (M6-05) 158
Aleksiejew, J. (Q13-03) 218
Alghamdi, N.A. (Q7-08) 209
Alho, B.D. (H6-06) 94
Alho, B.D. (H15-05) 105
Alho, P.D. (H6-06) 94
Alho, P.D. (H15-05) 105
Ali, M. (L14-03) 148
Ali, M. (M1-01) 152
Ali, M. (W8-01) 290
Ali, M. (W12-04) 296
Ali, M. (W12-08) 296
Ali, N. (F2-05) 53
Ali, N. (H6-05) 93
Ali, N. (H6-07) 94
Ali, N. (J5-05) 112
Ali, N. (Q8-04) 211
Ali, N. (U15-07) 267
Ali, N. (W2-05) 282
Ali, N. (Z10-05) 319
Ali, S.S. (L13-12) 147
Ali, Z. (W2-09) 282
Aliev, A. (E5-03) 45
Aliev, A. (L7-02) 137
Alireza, P. (M8-01) 159
Alisultanov, Z. (F15-07) 74
Aljuaid, W. (Z4-03) 313
Alkadour, B. (N14-09) 182
Allen, J. (D9-03) 39
Allen, S. (F13-11) 72
Allen, S. (Z4-03) 313
Allende, S. (L9-03) 140
Allende, S. (W9-01) 291
Allia, P. (L1-04) 128
Alling, B. (F12-10) 70
Alling, B. (H15-04) 105
Allison, M. (L16-01) 150
Allison, M. (L16-04) 151
Allred, J. (F5-04) 58
Allred, J. (W14-08) 300
Almansouri, A. (L3-01) 132
Almansouri, A. (M3-02) 154
Almansouri, A. (Q8-01) 210
Almasi, H. (N2-10) 165
Almeida, M.S. (Q15-04) 221
Almeida, T.P. (K2-05) 119
Almeida, T.P. (N14-01) 181
Almunia, J. (K5-04) 122
Alomari, S. (H4-10) 91
Alomari, S. (L13-04) 146
Alonso Masa, J. (L1-11) 129
Alonso Masa, J. (L1-15) 130
Alonso-Valdesueiro, J. (L1-15) 130
Alonso-Valdesueiro, J. (U10-11) . . . 258
Alonso, J. (L1-03) 128
Alonso, J. (Q3-05) 203
Alonso, M. (N5-13) 170
Alonso, M. (W2-08) 282
Alp, E.E. (G5-04) 79
Alqarni, A. (H4-10) 91
Alqarni, A. (L13-04) 146
Alsharif, N. (B2-08) 4
Alsharif, N. (U9-05) 256
Altbir, D. (L9-03) 140
Altbir, D. (N1-01) 162
Altbir, D. (Q1-11) 201
Altbir, D. (W9-03) 291
Altimira, R. (K5-04) 122
Alvarez-Prado, L. (E3-03) 43
Alvarez-Prado, L. (Q1-04) 200
Alvarez, G. (N14-06) 182
Álvaro, R. (C7-01) 29
Alzamora, M. (N15-13) 185
Amado, M. (H11-02) 99
Amakai, Y. (H5-10) 92
Amakai, Y. (L5-05) 135
Amako, Y. (N11-05) 178
Amapane, N. (B5-03) 7
Amara, S. (M3-01) 154
Amara, S. (Q8-01) 210
Amara, S. (U9-05) 256
Amaral, J.S. (E5-05) 45
Amaral, J.S. (F8-07) 62
Amaral, J.S. (G5-01) 78
Amaral, J.S. (L7-03) 137
Amaral, J.S. (M2-02) 153
Amaral, J.S. (U3-07) 248
Amaral, V.S. (E5-05) 45
Amaral, V.S. (F8-07) 62
Amaral, V.S. (L7-03) 137
Amaral, V.S. (M2-02) 153
Amato, A. (H3-01) 88
Amato, A. (L12-03) 145
Amato, A. (Q10-05) 213
Amato, A. (U13-09) 263
Ambaye, H. (P7-01) 195
Ambrose, T. (F14-04) 73
Ambrose, T. (W15-04) 301
Amico, L. (J2-05) 109
Amin, V.P. (E1-04) 41
Amin, V.P. (P4-04) 192
Amini, H. (C3-01) 26
Amirov, A. (E5-03) 45
Amitsuka, H. (F12-04) 69
Amitsuka, H. (H13-06) 102
Amitsuka, H. (J8-03) 115
Amitsuka, H. (W6-08) 288
Amitsuka, H. (Z9-04) 318
Ammon, M. (N14-10) 182
Amon, A. (L5-11) 135
Amon, A. (L5-12) 135
Amorese, A. (N3-03) 166
Amorese, A. (Z9-02) 318
Amorim, C.D. (M2-02) 153
An, H. (H2-04) 86
An, H. (Q13-11) 219
An, S. (Q11-08) 215
Anadon, A. (H2-11) 87
Anadon, A. (N10-02) 176
Analytis, J. (B12-07) 18
Analytis, J. (B14-06) 21
Analytis, J. (B16-07) 24
Analytis, J. (E9-03) 49
Analytis, J. (T10-01) 243
Analytis, J. (W11-05) 294
Analytis, J. (W14-09) 300
Analytis, J. (Y10-02) 310
Analytis, J. (Z8-02) 317
Anane, A. (B8-03) 11
Anane, A. (E4-04) 44
Anane, A. (J7-02) 113
Anane, A. (T6-03) 239
Anastaziak, B. (Q1-08) 200
Anders, F. (N3-05) 166
Anders, F. (U14-10) 266
Anders, F. (V8-03) 276
Andersen, C.R. (W5-01) 285
Andersen, H.L. (Z6-05) 315
Andersson, G. (Q14-06) 220
Ando, F. (C1-01) 24
Ando, F. (N2-07) 165
Ando, K. (N10-05) 177
Ando, K. (Q13-11) 219
Ando, Y. (B8-05) 12
Ando, Y. (J7-03) 114
Ando, Y. (Q7-01) 208
Andreev, A.V. (Q12-03) 216
Andrei, P. (U1-05) 245
Andreica, D. (F9-06) 63
Andreica, D. (H3-01) 88
Andreica, D. (L12-03) 145
Andreica, D. (L16-03) 150
Andreica, D. (N6-07) 171
Andrew, J. (D3-01) 33
Andrieu, S. (T6-03) 239
Anikin, Y. (V5-03) 273
Anisimov, V. (B11-04) 17
Anjana, P. (N6-01) 170
Ankur, R. (U4-06) 250
Annamalai, S. (W2-02) 281
Ansaldo, E.J. (H3-01) 88
Ansalone, P. (L8-11) 139
Aoki, D. (D9-04) 39
Aoki, D. (G9-01) 82
Aoki, D. (H13-02) 102
Aoki, D. (J8-02) 114
Aoki, D. (J8-03) 115
Aoki, D. (K9-03) 125
Aoki, D. (L5-09) 135
Aoki, D. (N11-01) 177
Aoki, D. (T9-01) 242
Aoki, R. (H10-01) 98
Aoki, Y. (L15-02) 149
Aoki, Y. (L15-03) 149
Aoki, Y. (U11-03) 259
Aoki, Y. (U11-06) 259
Aoki, Y. (U11-07) 260
Aono, H. (H10-03) 98
Aoyama, Y. (U14-06) 265
Appel, P. (B1-10) 2
Appino, C. (L7-05) 137
Arai, Y. (Q10-06) 213
Arakawa, T. (V8-01) 276

*Best student presentation award finalist

*Best student presentation award finalist

Araki, K. (H5-01) . . . 91
Araki, S. (G9-01) . . . 82
Araki, S. (J8-02) . . . 114
Araki, Y. (F13-04) . . . 71
Araki, Y. (V2-04) . . . 270
Arantes, F. (H12-06) . . . 101
Arauzo, A.B. (B10-01) . . . 14
Arauzo, A.B. (B10-03) . . . 15
Arcon, D. (G8-05) . . . 82
Arcon, D. (G10-02) . . . 83
Arcon, D. (Q12-12) . . . 217
Arekapudi, P. (M1-05) . . . 153
Arekapudi, P. (V7-03) . . . 275
Arellano Ahumada, S. (Q5-01) . . . 205
arenas, C. (N5-02) . . . 168
Arenholz, E. (B1-05) . . . 2
Arenholz, E. (F1-06) . . . 52
Arenholz, E. (M3-05) . . . 154
Arenholz, E. (S4-04) . . . 227
Arenholz, E. (V4-05) . . . 273
Arenholz, E. (W11-06) . . . 295
Arenholz, E. (W12-10) . . . 296
Arenholz, E. (W13-02) . . . 297
Arenholz, E. (Z6-01) . . . 314
Arenholz, E. (Z6-04) . . . 315
Arias, R. (L9-03) . . . 140
Arima, K. (V6-03) . . . 274
Arima, T. (B15-04) . . . 22
Arima, T. (G2-02) . . . 75
Arima, T. (G2-03) . . . 75
Arima, T. (Q5-07) . . . 206
Arima, T. (V2-04) . . . 270
Arima, T. (V2-05) . . . 271
Arita, R. (F1-04) . . . 51
Arita, R. (H14-06) . . . 104
Arita, R. (W11-07) . . . 295
Armelao, L. (B10-01) . . . 14
Arnold, D.P. (C6-04) . . . 28
Arnold, D.P. (C7-03) . . . 29
Arnold, D.P. (H4-06) . . . 90
Arnold, F. (K9-01) . . . 125
Arnold, F. (L5-12) . . . 135
Arnold, F. (L15-05) . . . 150
Aroca, C. (H1-06) . . . 85
Aroca, C. (P6-02) . . . 194
Aronson, M.C. (D10-04) . . . 40
Aronson, M.C. (S1-01) . . . 224
Arpaia, P. (N9-09) . . . 176
Arras, R. (L8-05) . . . 139
Arredondo Leon, Y. (N13-03) . . . 180
Arregi, J. (U7-05) . . . 253
Arroo, D.M. (D4-02) . . . 34
Arroo, D.M. (F11-01) . . . 66
Arroo, D.M. (F11-05) . . . 67
Arroyo, C. (H1-07) . . . 85
Arteaga-Duran, A. (H9-01) . . . 96
Artemchuk, P. (K7-04) . . . 123
Aruga Katori, H. (W4-08) . . . 285
Aruga Katori, H. (W4-09) . . . 285
Aryal, A. (F2-05) . . . 53
Aryal, A. (H6-05) . . . 93
Aryal, A. (H6-07) . . . 94
Aryal, A. (J5-05) . . . 112
Aryal, A. (Q8-04) . . . 211
Aryal, A. (U15-07) . . . 267
Aryal, A. (W2-05) . . . 282
Aryal, A. (Z10-05) . . . 319
Asahara, A. (P5-04) . . . 193
Asai, S. (W5-11) . . . 287
Asami, A. (F13-08) . . . 71
Asenjo, A. (L11-08) . . . 144
Aslani, A. (N2-04) . . . 164
Astudillo, A. (H7-06) . . . 95
Astudillo, J.A. (N5-03) . . . 168
Astudillo, J.A. (W5-07) . . . 286
Aswartham, S. (T8-01) . . . 241
Atanasov, M. (C2-02) . . . 25
Atie, B. (L11-01) . . . 143
Atulasimha, J. (U16-08) . . . 268
Atulasimha, J. (Y7-05) . . . 308
Audehm, P. (U3-08) . . . 248
Auffret, S. (K1-04) . . . 117
Auffret, S. (Q13-10) . . . 219
Auffret, S. (Q14-01) . . . 219
Auffret, S. (U1-10) . . . 246
Auffret, S. (V3-01) . . . 271
Auslender, M. (U8-04) . . . 255
Autieri, C. (L14-04) . . . 148
Auvray, F. (P4-02) . . . 192
Auyeung, R. (Q8-08) . . . 211
Avci, C. (C1-03) . . . 25
Avci, C. (W12-02) . . . 295
Avdeev, M. (L16-04) . . . 151
Avdeev, M. (W5-11) . . . 287
Avella, A. (B11-07) . . . 17
Avella, A. (L14-04) . . . 148
Avella, A. (M8-03) . . . 159
Avignon, M. (B11-03) . . . 17
Avila, M.D. (H12-06) . . . 101
Avula, S. (J4-02) . . . 110
Avula, S. (T7-03) . . . 240
Awad, A.A. (M1-05) . . . 153
Awad, R. (L1-13) . . . 129
Awaga, K. (B10-06) . . . 15
Awaga, K. (B10-07) . . . 15
Awaga, K. (J2-04) . . . 109
Awano, H. (Q1-06) . . . 200
Awari, N. (N17-07) . . . 187
Awari, N. (N17-08) . . . 188
Awari, N. (V7-03) . . . 275
Ayala, A. (N5-04) . . . 169
Ayyub, P. (B15-08) . . . 22
Azam, M. (U16-08) . . . 268
Azevedo, A. (G1-04) . . . 75
Azevedo, A. (Z4-04) . . . 313
Azzerboni, B. (F1-10) . . . 52

- B -

Ba, Y. (M2-03) . . . 153
Babaytsev, G. (W3-09) . . . 284
Babcock, E. (U10-12) . . . 258
Babkevich, P. (B15-05) . . . 22
Babkevich, P. (N6-02) . . . 171
Babkevich, P. (N6-11) . . . 172
Babkevich, P. (V9-01) . . . 277
Bac, S. (D6-03) . . . 36
Bac, S. (L6-03) . . . 136
Bac, S. (L6-04) . . . 136
Bac, S. (L6-06) . . . 136
Bacani, M. (S6-05) . . . 229
Bacani, M. (U4-01) . . . 249
Bachmann, M. (L15-05) . . . 150
Bachmann, M. (U14-04) . . . 265
Bachmann, M.D. (K9-01) . . . 125
Back, C. (G1-01) . . . 74
Backs, A. (L14-06) . . . 148
Baczewski, L.T. (Z7-05) . . . 316
Bader, S.D. (AA-01) . . . 1
Badger, J.R. (P8-04) . . . 197
Badoux, S. (W13-07) . . . 298
Bae, G. (U5-04) . . . 251
Bae, J. (B9-11) . . . 14
Bae, K. (M5-02) . . . 156
Baek, S. (T8-05) . . . 241
Baek, S.C. (E1-04) . . . 41
Baena, J. (B5-07) . . . 7
Bag, R. (H3-09) . . . 89
Baglo, J. (M8-01) . . . 159
Baglo, J. (W14-13) . . . 301
Bagschick, K. (M6-03) . . . 157
Bahadur, D. (B2-07) . . . 4
Bai, B. (G3-03) . . . 76
Bai, B. (N9-04) . . . 175
Bai, B. (U6-02) . . . 252
Bai, H. (H14-02) . . . 103
Bai, Y. (F10-09) . . . 65
Bai, Y. (F10-10) . . . 66
Bai, Y. (F10-11) . . . 66
Bailey, J. (B1-06) . . . 2
Bailey, J. (B8-11) . . . 12
Bailleul, M. (U1-08) . . . 245
Bailleux, M. (P5-02) . . . 193
Baines, C. (B12-08) . . . 18
Baines, C. (L16-01) . . . 150
Bainsla, L. (B3-03) . . . 5
Bainsla, L. (D7-02) . . . 37
Bajorek, A. (F8-06) . . . 62
Bajorek, A. (N8-03) . . . 174
Baker, M.L. (J2-03) . . . 109
Baker, P. (B12-08) . . . 18
Bakker, J. (W11-02) . . . 294
Balakrishnan, G. (E10-01) . . . 49
Balakrishnan, G. (K7-05) . . . 124
Balakrishnan, G. (L10-03) . . . 142
Balakrishnan, G. (P9-01) . . . 197
Balakrishnan, G. (P10-02) . . . 198
Balakrishnan, G. (U8-02) . . . 255
Balakrishnan, G. (Y5-05) . . . 305
Balatsky, A. (Q12-11) . . . 217
Baláz, P. (N17-03) . . . 186
Balcells, L. (W2-08) . . . 282
Balcerzak, T. (B14-02) . . . 20
Baldauf, T. (W3-08) . . . 283
Baldoví, J. (J2-03) . . . 109
Baldrati, L. (J6-02) . . . 112
Balents, L. (K10-04) . . . 127
Balfour, E. (H6-03) . . . 93
Balicas, L. (P9-01) . . . 197
Baliha, V. (L16-14) . . . 152
Ball, A. (B5-03) . . . 7
Ballou, R. (M10-02) . . . 161
Balluff, J. (L13-05) . . . 147
Baltana, J. (J7-05) . . . 114
Baltz, V. (K1-04) . . . 117
Baltz, V. (Q14-01) . . . 219
Balz, C. (J10-03) . . . 116
Bamba, M. (S2-05) . . . 225
Bambole, V.A. (H1-08) . . . 85
Banda, J. (F3-09) . . . 55
Banda, J. (T9-03) . . . 242
Banda, J. (U12-02) . . . 260
Banda, J. (W14-13) . . . 301
Banda, J. (Y9-01) . . . 309
Bandaru, S. (W8-01) . . . 290
Banerjee, A. (J10-03) . . . 116
Bang, W. (D4-05) . . . 34
Bang, W. (L8-09) . . . 139
Bang, Y. (M9-05) . . . 161
Bao, X. (B9-05) . . . 13
Bao, X. (N8-04) . . . 174
Bapna, M. (U5-02) . . . 251
Baraban, I. (H9-10) . . . 97
Barandiaran, J. (N5-14) . . . 170
Barandiarán, J.M. (Q9-08) . . . 212
Baranov, N. (Q3-08) . . . 204
Barbeau, M. (U16-04) . . . 268
Barber, Z.H. (S3-04) . . . 226
Barber, Z.H. (U9-03) . . . 256
Barber, Z.H. (U10-04) . . . 257
Bargheer, M. (H16-07) . . . 106
Barick, K. (B2-07) . . . 4
Barker, J. (H3-04) . . . 88
Barla, A. (P7-03) . . . 195
Barnas, J. (H11-09) . . . 100
Barnsley, L. (E6-04) . . . 46
Barnsley, L. (U10-12) . . . 258
Barré, E. (G3-01) . . . 76
Barrera, G. (E6-03) . . . 46
Barrera, G. (L1-04) . . . 128
Barrera, G. (N14-04) . . . 182
Barrera, G. (U10-04) . . . 257
Barrionuevo Diestra, D.G. (Q11-09) . . . 215
Barriuso, S. (L3-02) . . . 132
Barsova, Z. (F5-03) . . . 58
Barsukov, I. (D1-01) . . . 31
Barth, S. (D4-04) . . . 34
Bartha, A. (U12-06) . . . 261
Barthélémy, Q. (J3-01) . . . 109
Bartkowiak, M. (W5-03) . . . 286
Bartlett, J. (T8-03) . . . 241
Bartolome, E. (B10-01) . . . 14
Bartolome, E. (B10-03) . . . 15
Bartolome, E. (B10-04) . . . 15
Bartolome, E. (N12-08) . . . 179
Bartolome, F. (B10-01) . . . 14
Bartolome, F. (B10-04) . . . 15
Bartolome, F. (G4-03) . . . 77
Bartolome, F. (N12-08) . . . 179
Bartolome, F. (Q1-04) . . . 200
Bartolomé, J. (B10-01) . . . 14
Bartolomé, J. (B10-03) . . . 15
Bartolomé, J. (B10-04) . . . 15
Bartolomé, J. (N12-08) . . . 179
Bartolomé, J. (Q1-04) . . . 200
Barton, C.W. (E3-04) . . . 43
Barton, C.W. (U15-02) . . . 266
Bartoviak, M. (W5-01) . . . 285
Barwal, V. (B16-05) . . . 23
Basaran, A.C. (K2-02) . . . 118
Basaula, D. (W2-09) . . . 282
Basheed, G. (H12-03) . . . 101
Bashir, A.K. (B15-06) . . . 22
Bashir, S. (B9-08) . . . 14
Basma, H.M. (L1-13) . . . 129
Basso, V. (M7-03) . . . 158
Basu, D. (G3-05) . . . 77
Batdalov, A. (L7-02) . . . 137
Batley, J. (M1-02) . . . 152
Batlle, X. (E7-04) . . . 47
Batlle, X. (J4-02) . . . 110
Batlle, X. (K2-02) . . . 118
Batlle, X. (L1-02) . . . 127
Batlle, X. (N14-07) . . . 182
Bauer, A. (B15-02) . . . 21
Bauer, A. (B16-08) . . . 24
Bauer, A. (D2-02) . . . 32
Bauer, E. (D8-02) . . . 38
Bauer, E. (G9-02) . . . 82
Bauer, E. (H5-09) . . . 92
Bauer, E. (K9-01) . . . 125
Bauer, E. (K9-02) . . . 125
Bauer, E. (S8-01) . . . 230
Bauer, E. (T9-02) . . . 242
Bauer, E. (T9-04) . . . 242
Bauer, E. (U14-04) . . . 265
Bauer, E. (Y8-02) . . . 308
Bauer, E. (Z9-02) . . . 318
Bauer, G. (G7-03) . . . 81
Bauer, G. (N4-01) . . . 167
Bauer, G. (Q2-05) . . . 202
Baumbach, R.E. (D9-05) . . . 39
Baumbach, R.E. (P8-02) . . . 196
Baumberger, F. (M8-04) . . . 160
Baumgartner, M. (M6-04) . . . 158
Beach, G. (M6-03) . . . 157
Beach, G. (W9-06) . . . 292
Beach, G. (W12-02) . . . 295
Béard, J. (W13-07) . . . 298
Beardsley, R.P. (U1-03) . . . 245
Becerra, L. (D6-01) . . . 36
Becerra, L. (Q2-09) . . . 202
Becerra, L. (U2-08) . . . 247
Beck, S. (N7-05) . . . 173
Bedel Pereira, E. (W8-09) . . . 291
Beekman, A. (B11-08) . . . 17
Beere, H. (W8-06) . . . 291
Beg, M. (B6-04) . . . 8

*Best student presentation award finalist

*Best student presentation award finalist

Beg, M. (K7-05) . . . 124
Beg, M. (L11-01) . . . 143
Beg, M. (S10-04) . . . 233
Beguin, E. (E6-04) . . . 46
Behnia, K. (V9-06) . . . 278
Beigang, R. (V7-02) . . . 275
Beik Mohammadi, J. (K1-05) . . . 117
Belanger, D. (U15-05) . . . 266
Belik, A. (F12-06) . . . 69
Belmeguenai, M. (U4-05) . . . 249
Belozerov, A. (B11-04) . . . 17
Beltrán, J. (N14-11) . . . 183
Beltrán, J. (T7-02) . . . 240
Ben Dor, O. (Z7-05) . . . 316
Ben Youssef, J. (E4-04) . . . 44
Ben Youssef, J. (G1-02) . . . 75
Ben Youssef, J. (Q2-05) . . . 202
Benckiser, E. (Q10-02) . . . 213
Bender, P. (F11-04) . . . 67
Bender, P. (L1-03) . . . 128
Bender, S. (Y6-05) . . . 306
Bendix, J. (B10-03) . . . 15
Benedikt, E. (N5-08) . . . 169
Benistant, F. (V1-06) . . . 269
Benítez, M. (H1-07) . . . 85
Bennett, L.H. (N2-04) . . . 164
Bennett, S.P. (K2-01) . . . 118
Bennett, S.P. (V5-05) . . . 273
Benton, O. (G8-03) . . . 81
Benyoussef, A. (B13-03) . . . 19
Beran, L. (F4-05) . . . 56
Beran, L. (N5-01) . . . 168
Beran, L. (T5-03) . . . 238
Beran, L. (T5-04) . . . 238
Beran, L. (W10-03) . . . 293
Beran, L. (W12-02) . . . 295
Berg, A. (W3-09) . . . 284
Berganza, E. (L11-08) . . . 144
Berger, A.J. (H11-07) . . . 100
Berger, H. (G10-02) . . . 83
Berger, H. (V2-03) . . . 270
Bergman, A. (B6-02) . . . 8
Bergman, A. (H15-09) . . . 105
Bergqvist, L. (H15-09) . . . 105
Berk, C. (H16-08) . . . 107
Berkowski, M. (F5-01) . . . 57
Berkowski, M. (Z5-01) . . . 313
Bern, F. (T7-03) . . . 240
Bernal Correa, R.A. (L6-05) . . . 136
Bernal–Alvarado, J. (H1-03) . . . 84
Bernal, O. (H1-12) . . . 85
Bernal, O. (H13-09) . . . 103
Bernand-Mantel, A. (J6-05) . . . 113
Bernhard, B. (Q3-09) . . . 204
Bernhard, C. (V4-02) . . . 272
Bernu, B. (L10-01) . . . 142
Bert, F. (C10-03) . . . 31
Bert, F. (J3-01) . . . 109
Bert, F. (L10-01) . . . 142
Bertaina, S. (F9-04) . . . 63
Bertaina, S. (U7-03) . . . 253
Bertelsen, M. (V9-02) . . . 277
Berthier, C. (S9-02) . . . 231
Berthier, C. (V10-05) . . . 280
Bertolotti, J. (L11-05) . . . 144
Besara, T. (B15-01) . . . 21
Bessarab, P. (G6-04) . . . 80
Bessonov, V. (B8-03) . . . 11
Betancourt, J.S. (F1-09) . . . 52
Betto, D. (N17-08) . . . 188
Betto, D. (Q10-02) . . . 213
Beutier, G. (Q6-05) . . . 208
Bewley, R. (G8-02) . . . 81
Bewley, R. (H3-03) . . . 88
Bhardwaj, V. (H4-09) . . . 91
Bhatkar, H. (V4-05) . . . 273
Bhatnagar, S.P. (K5-02) . . . 121
Bhattacharya, D. (U16-08) . . . 268
Bhattacharya, D. (Y7-05) . . . 308
Bhattacharyya, D. (L6-01) . . . 136
Bhoi, B. (Q2-07) . . . 202
Bhoi, D. (T8-05) . . . 241
Bhoi, D. (U13-03) . . . 262
Bi, R. (Y10-05) . . . 311
Bianchi, A. (E10-02) . . . 50
Billinge, S.J. (B6-01) . . . 8
BindraNarang, S. (F10-09) . . . 65
Bingham, N.S. (Q8-08) . . . 211
Bini, R.D. (W2-04) . . . 282
Biniskos, N. (C5-02) . . . 27
Bircakova, Z. (Q11-07) . . . 215
Birk, J.O. (W5-01) . . . 285
Birkemose, S. (W5-01) . . . 285
Birol, T. (K2-04) . . . 119
Bisotti, M. (B6-04) . . . 8
Bisotti, M. (L11-01) . . . 143
Biswas, K. (T5-02) . . . 237
Biswas, P. (H13-09) . . . 103
Black-Schaffer, A. (E8-01) . . . 48
Black, R. (F4-07) . . . 57
Blake, J. (F12-06) . . . 69
Blamire, M. (H11-08) . . . 100
Blamire, M. (K1-03) . . . 117
Blamire, M. (M1-04) . . . 152
Blanco, J. (H9-03) . . . 96
Blanco, J. (H9-04) . . . 97
Blanco, J.A. (L1-03) . . . 128
Bleuel, M. (Q12-10) . . . 217
Blinder, R. (V10-05) . . . 280
Blonski, P.S. (N12-05) . . . 179
Blonsky, A. (H16-04) . . . 106
Blonsky, A. (N17-04) . . . 187
Blonsky, A. (S7-01) . . . 229
Blosser, D. (G10-05) . . . 84
Blosser, D. (H3-03) . . . 88
Blügel, S. (B1-11) . . . 3
Blügel, S. (D2-05) . . . 32
Blügel, S. (L11-04) . . . 143
Blügel, S. (P1-03) . . . 189
Blügel, S. (P4-03) . . . 192
Blügel, S. (Q14-10) . . . 220
Blügel, S. (V7-01) . . . 275
Blügel, S. (Z1-03) . . . 311
Blümel, N. (F5-08) . . . 58
Blundell, S. (U13-04) . . . 262
Bobák, A. (B14-02) . . . 20
Bobnar, M. (L5-12) . . . 135
Bobo, J. (K3-04) . . . 120
Bobo, J. (W8-09) . . . 291
Bochenek, L. (K9-05) . . . 126
Bocklage, L. (T3-04) . . . 235
Bocklage, L. (V1-04) . . . 269
Bocklage, L. (Z6-03) . . . 315
Bodnar, S. (N17-06) . . . 187
Bodnar, S. (Q7-09) . . . 209
Boehm, M. (D10-01) . . . 40
Boehm, M. (V9-02) . . . 277
Boehm, M. (V9-04) . . . 277
Boekelheide, Z. (B2-06) . . . 4
Bogush, M. (L7-06) . . . 138
Böhm, M. (V9-03) . . . 277
Bohra, M. (Q10-09) . . . 214
Bokor, J. (H16-01) . . . 106
Bokor, J. (Y7-02) . . . 307
Bolaños Pantoja, G. (N5-03) . . . 168
Bolaños Pantoja, G. (W2-07) . . . 282
Bolaños Pantoja, G. (W5-07) . . . 286
Bolaños, G. (H7-06) . . . 95
Bollero, A. (B13-07) . . . 19
Bollero, A. (K5-04) . . . 122
Bollero, A. (L2-06) . . . 131
Bollero, A. (L2-12) . . . 131
Bollero, A. (N10-04) . . . 177
Bollero, A. (N14-02) . . . 181
Bollero, A. (W1-03) . . . 280
Bonanni, V. (B7-03) . . . 10
Bondino, F. (P7-03) . . . 195
Bonetti, S. (N17-07) . . . 187
Bonetti, S. (V7-03) . . . 275
Böni, P. (B15-02) . . . 21
Böni, P. (F7-04) . . . 60
Böni, P. (L14-06) . . . 148
Bonizzoni, C. (J2-02) . . . 109
Bonn, D.A. (W13-07) . . . 298
Bono, D. (M6-03) . . . 157
Booth, N. (L4-05) . . . 134
Boothroyd, A. (B16-04) . . . 23
Boothroyd, A. (S2-01) . . . 224
Boothroyd, A. (U8-02) . . . 255
Boothroyd, A. (V9-01) . . . 277
Boothroyd, A. (W5-05) . . . 286
Borchers, J. (D2-04) . . . 32
Borchers, J. (G4-05) . . . 78
Borchers, J. (K2-04) . . . 119
Borchers, J. (M4-01) . . . 155
Borchers, J. (N7-02) . . . 172
Borchers, J. (P7-01) . . . 195
Borchers, J. (T7-01) . . . 239
Borchers, J. (W13-02) . . . 297
Borchers, J. (Z6-01) . . . 314
Borchers, J.A. (G4-01) . . . 77
Börcsök, B. (F14-03) . . . 73
Borges, M.N. (Q15-04) . . . 221
Borges, M.N. (Q15-10) . . . 222
Boris, A. (Q12-06) . . . 217
Borisov, A.B. (Z1-03) . . . 311
Borlenghi, S. (B4-02) . . . 6
Borrmann, H. (L5-12) . . . 135
Borth, R. (L5-11) . . . 135
Bortis, A. (K2-06) . . . 119
Bortolotti, P. (B8-03) . . . 11
Bortolotti, P. (E4-04) . . . 44
Bortolotti, P. (L9-08) . . . 141
Borysov, S. (Q12-11) . . . 217
Bosacka, M. (F5-06) . . . 58
Boschini, F. (B13-03) . . . 19
Boseggia, S. (M8-04) . . . 160
Bossini, D. (G2-03) . . . 75
Botello-Zubiate, M. (B9-10) . . . 14
Botello-Zubiate, M. (H9-01) . . . 96
Botello-Zubiate, M. (W10-11) . . . 293
Böttger, R. (D6-04) . . . 36
Bou Matar, O. (S3-03) . . . 226
Bouaziz, J. (N4-03) . . . 167
Boulet, P. (W2-01) . . . 281
Bouma, D. (E2-04) . . . 42
Bouravleuv, A. (V6-04) . . . 274
Bourdarot, F. (V2-03) . . . 270
Bouzehouane, K. (K4-02) . . . 120
Bouzehouane, K. (P1-02) . . . 188
Bouzehouane, K. (U9-06) . . . 256
Bowe, S. (U1-03) . . . 245
Bowen, D. (F13-01) . . . 70
Bowen, D. (G3-05) . . . 77
Bowen, D. (N10-01) . . . 176
Bozhanova, R. (D2-02) . . . 32
Bozhko, D.A. (B4-03) . . . 6
Bozhko, D.A. (E4-02) . . . 44
Bozhko, D.A. (G1-01) . . . 74
Bozhko, D.A. (L8-08) . . . 139
Bozhko, D.A. (Q2-04) . . . 201
Bozin, E.S. (B6-01) . . . 8
Brabänder, V. (G5-04) . . . 79
Brächer, T. (B4-03) . . . 6
Brächer, T. (B8-08) . . . 12
Brächer, T. (B8-12) . . . 12
Brächer, T. (E4-02) . . . 44
Braden, M. (D8-03) . . . 38
Braden, M. (U7-01) . . . 253
Bradshaw, H. (L14-03) . . . 148
Braganca, P.M. (U2-01) . . . 246
Braicovich, L. (W13-03) . . . 297
Braithwaite, D. (G9-01) . . . 82
Braithwaite, D. (J8-02) . . . 114
Bramwell, S.T. (M10-05) . . . 162
Bran, C. (M4-02) . . . 155
Brandl, G. (P10-03) . . . 199
Brando, M. (F3-09) . . . 55
Brando, M. (T9-03) . . . 242
Brando, M. (U12-02) . . . 260
Brando, M. (W14-13) . . . 301
Brando, M. (Y9-01) . . . 309
Brandt, I.S. (W8-05) . . . 290
Branford, W.R. (D4-02) . . . 34
Branford, W.R. (F11-01) . . . 66
Branford, W.R. (F11-05) . . . 67
Brataas, A. (Y6-05) . . . 306
Braun, H. (S6-04) . . . 229
Breindel, A.J. (D9-05) . . . 39
Brennan, S.J. (T4-05) . . . 237
Brenner, M. (N14-13) . . . 183
Breth, L. (K7-05) . . . 124
Brewer, J.H. (H3-01) . . . 88
Breznay, N. (B14-06) . . . 21
Brinkman, A. (U4-07) . . . 250
Brison, J. (G9-01) . . . 82
Brock, J.A. (W2-09) . . . 282
Brockmann, M. (D10-04) . . . 40
Broholm, C.L. (M10-04) . . . 161
Broholm, C.L. (U12-01) . . . 260
Brok, E. (G4-01) . . . 77
Brook, D.J. (B10-08) . . . 16
Brookes, N.B. (Q10-02) . . . 213
Brookes, N.B. (W13-03) . . . 297
Brown, D.E. (W14-08) . . . 300
Brown, S. (D8-02) . . . 38
Brown, S. (H3-06) . . . 89
Brubaker, Z.E. (W13-02) . . . 297
Brück, E. (G5-02) . . . 78
Brück, E. (H6-02) . . . 93
Brück, E. (J5-04) . . . 112
Brückel, T. (C5-02) . . . 27
Brückel, T. (F11-03) . . . 67
Bruckner, F. (W9-02) . . . 291
Brueckl, H. (B2-01) . . . 3
Brueckl, H. (U16-03) . . . 268
Bruin, J. (K9-03) . . . 125
Bruni, F. (E2-04) . . . 42
Brüning, D. (U7-01) . . . 253
Bu, R. (U9-05) . . . 256
Buchauer, L. (V9-06) . . . 278
Büchner, B. (F5-04) . . . 58
Büchner, B. (T8-01) . . . 241
Büchner, B. (T8-05) . . . 241
Büchner, B. (U13-06) . . . 263
Buda-Prejbeanu, L.D. (L9-06) . . . 141
Budhani, R. (K1-06) . . . 118
Buettner, F. (M6-03) . . . 157
Buettner, F. (W9-06) . . . 292
Bugaris, D. (W14-08) . . . 300
Buhariwalla, C.R. (L10-09) . . . 143
Buhot, J. (D9-04) . . . 39
Buhrman, R. (E1-05) . . . 41
Buhrman, R. (H11-12) . . . 100
Buhrman, R. (I1-01) . . . 107
Bulbucan, C.E. (L1-06) . . . 128
Bull, C. (L2-04) . . . 130
Bull, C. (U15-02) . . . 266
Bunting, P. (C2-02) . . . 25
Bunting, P.C. (B10-05) . . . 15
Burch, K. (Y1-01) . . . 302
Burdin, S. (D9-04) . . . 39
Bures, R. (F10-01) . . . 64
Bures, R. (F10-06) . . . 65
Bures, R. (Q11-07) . . . 215
Burgos Parra, E.O. (J6-03) . . . 113
Burkhardt, C. (P5-03) . . . 193
Burkhardt, U. (L5-12) . . . 135

*Best student presentation award finalist

*Best student presentation award finalist

Burn, D.M. (D4-02) 34
Burnell, G. (F14-01) 72
Burnell, G. (L14-03) 148
Burnell, G. (M1-01) 152
Burnell, G. (U9-02) 256
Burnell, G. (W12-04) 296
Burnell, G. (W12-08) 296
Burnell, G. (W8-01) 290
Burrola Gándara, L.A. (N1-08) 163
Bush, A. (N15-06) 184
Busiello, G. (L14-04) 148
Butch, N. (D2-04) 32
Butch, N. (N15-03) 184
Butch, N. (S9-03) 232
Butcher, M. (Y2-03) 303
Butera, R. (F13-01) 70
Butera, R. (N10-01) 176
Buts, A. (Z10-01) 318
Butzke, C. (U12-02) 260
Buyandalai, A. (G7-02) 80
Buzdin, A. (Q14-01) 219
Buzinaro, M.P. (F10-02) 64
Buzinaro, M.P. (H9-09) 97
Buzinaro, P.H. (F10-02) 64
Buzinaro, P.H. (H9-09) 97
Buzio, M. (N9-09) 176
Byerly, K. (N9-02) 175
Bykova, I. (G1-01) 74

- C -

Cabassi, R. (N5-08) 169
Cabassi, R. (Z5-03) 314
Cabrera Baez, M. (F3-02) 54
Cabrini, S. (H16-08) 107
Caciuffo, R. (Z9-03) 318
Cadenbach, T. (H1-07) 85
Cagnon, L. (S6-03) 229
Cahaya, A. (G7-03) 81
Cahill, D.G. (F13-11) 72
Cai, A. (W6-05) 287
Cai, J. (M2-03) 153
Cai, R. (F12-07) 70
Cain, J.M. (B10-10) 16
Cain, J.M. (H3-06) 89
Cairns, L.P. (P8-01) 196
Cakmak, M. (G2-05) 76
Calder, S. (P8-05) 197
Calegari, E.J. (H5-02) 91
Calegari, E.J. (W13-08) 298
Calle, E. (S6-02) 229
Calleja, F. (Z7-03) 316
Camara, I. (D6-01) 36
Camara, I. (U2-08) 247
Camarero, J. (B13-07) 19
Camarero, J. (H2-11) 87
Camarero, J. (L2-06) 131
Camarero, J. (L2-12) 131
Camarero, J. (N10-02) 176
Camarero, J. (N10-04) 177
Camarero, J. (N14-02) 181
Camarero, J. (P6-02) 194
Camarero, J. (P6-04) 194
Camarero, J. (Q1-02) 199
Camarero, J. (Q7-06) 209
Camarero, J. (Q7-12) 210
Camarero, J. (S4-05) 227
Cambel, V. (N12-09) 179
Camley, R.E. (C6-02) 28
Camley, R.E. (Q7-08) 209
Camosi, L. (J6-05) 113
Camosi, L. (L11-02) 143
Campion, R. (N14-01) 181
Campion, R. (U1-03) 245
Campo, G. (B7-03) 10
Campo, J. (Y2-02) 303
Canals, B. (D10-01) 40
Canals, B. (M10-01) 161
Caneva, S. (J7-02) 113
Canévet, E. (P10-02) 198
Canévet, E. (Z6-05) 315
Cano, M. (H1-03) 84
Cao, C. (K8-02) 124
Cao, C. (L15-06) 150
Cao, G. (B1-08) 2
Cao, H. (N15-01) 183
Cao, H. (S9-03) 232
Cao, H. (W5-11) 287
Cao, R. (W7-07) 289
Cao, S. (S2-05) 225
Cao, Y. (C4-03) 27
Capelli, S. (L10-08) 143
Capobianchi, A. (H1-04) 84
Capponi, S. (V10-05) 280
Capua, A. (Z7-05) 316
Capua, E. (Z7-05) 316
Carara, M. (U3-01) 247
Cardoso, C. (E2-03) 42
Cardoso, S. (S3-02) 226
Caretta, L.M. (M6-03) 157
Carey, R. (B6-04) 8
Carlson, E. (Y8-04) 309
Caron, J. (Z1-03) 311
Carpenter, E. (F8-10) 62
Carpenter, R. (W3-01) 283
Carpentieri, M. (D7-04) 37
Carpentieri, M. (F1-10) 52
Carpentieri, M. (J6-04) 113
Carpentieri, M. (L9-04) 140
Carreon, H. (L3-02) 132
Carreon, M. (L3-02) 132
Carrey, J. (K3-04) 120
Carrillo Flores, D.M. (N1-08) 163
Carrillo Flores, D.M. (T5-01) 237
Carrington, A. (N11-02) 177
Carstensen, J. (Q7-10) 209
Caruana, A. (B4-07) 6
Caruana, A. (P7-02) 195
Caruana, A. (U15-02) 266
Carugo, D. (E6-04) 46
Carva, K. (N17-03) 186
Carva, K. (S7-02) 230
Carva, K. (S7-03) 230
Carva, K. (T4-04) 237
Carvalho-Santos, V.L. (N1-01) 162
Cary, S. (Y8-02) 308
Casaleiz, D. (W1-03) 280
Casals, B. (L2-07) 131
Casals, B. (Q2-10) 202
Casanova, F. (F13-10) 72
Casoli, F. (N5-08) 169
Casoli, F. (Z5-03) 314
Castán-Guerrero, C. (Q1-04) 200
Castel, V.M. (Q2-05) 202
Castilla, D. (C4-02) 27
Castillo-Sepulveda, S. (Q1-11) 201
Castillo-Sepulveda, S. (W9-03) 291
Castillo-Torres, K.Y. (C6-04) 28
Castro Espinosa, A. (N15-02) 183
Castro, M. (W9-01) 291
Castro, P.B. (N11-06) 178
Castro, T.D. (B2-05) 4
Catalano, S. (Y8-04) 309
Cathelin, V. (M10-02) 161
Caux, J. (D10-04) 40
Cavill, S.A. (U1-03) 245
Cavill, S.A. (W3-01) 283
Cazayous, M. (D9-04) 39
Ceballos, A. (H16-01) 106
Cebollada, F. (N5-13) 170
Cebollada, F. (W2-08) 282
Cedervall, J. (Y5-04) 305
Cédric, B. (N3-02) 165
Cejpek, P. (L13-02) 146
Cejpek, P. (N5-01) 168

*Best student presentation award finalist

Celegato, F. (E6-03) 46
Celegato, F. (N14-04) 182
Celegato, F. (U10-04) 257
Celegato, F. (Z5-03) 314
Çelik, K. (Q7-02) 209
Celinski, Z. (C6-02) 28
Celinski, Z. (F10-08) 65
Celinski, Z. (Q7-08) 209
Cely-Orjuela, I.G. (H9-11) 97
Centala, G. (LB-13) 140
Cerantola, V. (Q10-03) 213
Ceretti, M. (Q12-02) 216
Cermak, P. (H13-07) 102
Cermak, P. (T3-05) 235
Céspedes, E. (N14-02) 181
Cespedes, O. (L14-03) 148
Cespedes, O. (W8-01) 290
Cha, I. (Q14-05) 220
Cha, J. (H11-11) 100
Chacon, A. (B16-08) 24
Chae, D. (N2-11) 165
Chainani, A. (F13-09) 71
Chakarawet, K. (B10-05) 15
Chakravarty, A. (C5-03) 27
Chan, M. (L8-05) 139
Chan, M.K. (F7-05) 60
Chan, M.K. (Z8-02) 317
Chan, M.K. (Z8-04) 317
Chan, W.J. (L2-01) 130
Chanda, A. (S2-02) 225
Chandra, A. (B15-03) 22
Chandrasekharan, P. (C6-03) 28
Chandrasekharan, P. (D3-03) 33
Chandrasekharan, P. (E6-01) 46
Chang, C. (F13-13) 72
Chang, C. (N9-01) 175
Chang, E.K. (C3-01) 26
Chang, H. (D1-01) 31
Chang, H. (H10-02) 98
Chang, H. (M8-01) 159
Chang, H. (W9-05) 292
Chang, J. (B9-08) 14
Chang, J. (M1-03) 152
Chang, J. (P1-04) 189
Chang, J. (V9-05) 278
Chang, J. (W12-03) 296
Chang, L. (H9-06) 97
Chang, L. (L1-14) 129
Chang, L. (Q13-07) 218
Chang, L. (U16-01) 267
Chang, P. (E8-02) 48
Chang, Q. (L13-11) 147
Chang, Q. (Q5-03) 206
Chang, R. (F13-13) 72
Chang, T. (W6-06) 288
Changlani, H. (J3-03) 110
Changlani, H. (M10-04) 161
Chantrell, R. (B1-04) 2
Chantrell, R. (H16-09) 107
Chantrell, R. (P6-05) 194
Chantrell, R. (Q15-08) 221
Chapon, L. (L12-09) 145
Chapon, L. (M10-02) 161
Chareev, D.A. (U13-11) 263
Charilaou, M. (S6-04) 229
Charilaou, M. (U16-06) 268
Charipar, K. (Q8-08) 211
Charipar, N. (Q8-08) 211
Charles, B. (U5-10) 252
Charlton, T. (P7-01) 195
Charlton, T. (P7-02) 195
Charlton, T. (V4-03) 272
Chase, T. (S7-03) 230
Chatterjee, J. (V3-01) 271
Chatterjee, R. (H4-09) 91
Chatterjee, R. (V5-03) 273
Chatterjee, R. (W3-03) 283
Chaturvedi, V. (K2-04) 119
Chaudhary, R. (W1-02) 280
Chaudhary, S. (B16-05) 23
Chauhan, H.C. (P10-05) 199
Chauleau, J. (P1-02) 188
Chauleau, J. (U9-06) 256
Chaves, C. (B15-09) 23
Chaves, C.M. (W13-08) 298
Chaves, D.A. (H14-05) 104
Chebotkevich, L. (U4-04) 249
Chechenin, N. (W3-09) 284
Checinski, J. (H11-09) 100
Chelkowska, G. (N8-03) 174
Chen, A.P. (N2-06) 164
Chen, B. (J9-02) 115
Chen, C. (F13-09) 71
Chen, C. (H11-13) 100
Chen, C. (H16-04) 106
Chen, C. (P10-04) 199
Chen, C. (Q13-07) 218
Chen, C. (S7-01) 229
Chen, C. (W1-04) 280
Chen, D. (G3-03) 76
Chen, D. (N9-04) 175
Chen, D. (U6-02) 252
Chen, F. (L1-10) 129
Chen, G. (B1-05) 2
Chen, G. (N8-04) 174
Chen, G. (Q14-10) 220
Chen, G. (U4-02) 249
Chen, G. (Y4-04) 304
Chen, H. (M3-06) 155
Chen, H. (N8-08) 174
Chen, H. (Q4-07) 205
Chen, H. (T2-03) 234
Chen, H. (U2-07) 247
Chen, H. (U2-09) 247
Chen, J. (L9-01) 140
Chen, J. (M9-03) 160
Chen, J. (N2-06) 164
Chen, J. (N4-01) 167
Chen, J. (N14-08) 182
Chen, J. (N14-09) 182
Chen, J. (N16-01) 185
Chen, J. (Q4-04) 204
Chen, J. (V1-02) 269
Chen, J. (W14-13) 301
Chen, K. (D9-05) 39
Chen, M. (N17-07) 187
Chen, P. (F13-05) 71
Chen, R. (L3-03) 132
Chen, S. (F13-13) 72
Chen, S. (H4-07) 90
Chen, S. (L3-05) 132
Chen, S. (L13-01) 146
Chen, S. (L13-03) 146
Chen, S. (N14-08) 182
Chen, S. (Q13-01) 218
Chen, T. (E2-04) 42
Chen, X. (J9-02) 115
Chen, X. (M8-01) 159
Chen, X. (P9-01) 197
Chen, X. (Y6-04) 306
Chen, Y. (B9-09) 14
Chen, Y. (F10-08) 65
Chen, Y. (F12-07) 70
Chen, Y. (H4-05) 90
Chen, Y. (H10-02) 98
Chen, Y. (K4-05) 121
Chen, Y. (M3-06) 155
Chen, Y. (N14-05) 182
Chen, Y. (N2-09) 165
Chen, Y. (Q2-03) 201
Chen, Y. (Q6-02) 207
Chen, Y. (Q7-05) 209
Chen, Y. (U2-01) 246
Chen, Z. (Y7-04) 307

*Best student presentation award finalist

Cheng, C.W. (L2-01) 130
Cheng, R. (G6-05) 80
Cheng, S. (Q4-04) 204
Cheng, X. (T6-02) 239
Cheng, Y. (Y6-02) 306
Cheng, Z. (N9-03) 175
Cheon, G. (N14-05) 182
Cheong, H. (Y1-02) 303
Cheong, S. (H3-01) 88
Cheong, S. (N15-01) 183
Cheong, S. (Q12-10) 217
Chérif, S.M. (U4-05) 249
Chern, G. (L2-01) 130
Chernenko, V. (N5-14) 170
Chernyshev, S. (B14-05) 21
Chernyshev, S. (C10-02) 31
Chernyy, V. (W11-02) 294
Chiao, J. (B9-09) 14
Chiappini, S. (J6-04) 113
Chiba, D. (C1-01) 24
Chiba, D. (N2-07) 165
Chiba, D. (Q13-02) 218
Chiba, D. (T4-02) 236
Chien, C. (F1-04) 51
Chikina, A. (T7-05) 240
Chillal, S. (G8-02) 81
Chin, Y. (F13-09) 71
Chinen, K. (L5-04) 135
Chioar, I. (M10-01) 161
Chioar, I. (Q8-03) 211
Chiorescu, I. (U7-03) 253
Chittari, B. (W11-01) 294
Chittari, B. (Z2-05) 312
Chiu, K. (N2-03) 164
Chmaissem, O. (U13-06) 263
Chmaissem, O. (W14-08) 300
Cho, B. (L2-03) 130
Cho, C. (B9-09) 14
Cho, E. (M8-02) 159
Cho, H. (Q12-01) 216
Cho, S. (K4-04) 121
Cho, S. (L15-01) 149
Cho, S. (L3-11) 133
Cho, S. (U10-06) 257
Cho, Y. (Q2-07) 202
Choe, S. (F12-11) 70
Choe, S. (U1-09) 245
Choi, C. (B13-04) 19
Choi, C. (Q9-06) 212
Choi, E.S. (Y7-01) 307
Choi, H. (U7-10) 254
Choi, H. (U7-11) 254
Choi, H. (U14-08) 265
Choi, H. (U14-09) 265
Choi, H. (W4-07) 285
Choi, J. (B13-04) 19
Choi, J. (P1-04) 189
Choi, J. (W12-03) 296
Choi, J. (W9-05) 292
Choi, M. (B9-04) 13
Choi, S. (B9-11) 14
Choi, S. (L6-06) 136
Choi, T. (Z7-02) 316
Choi, Y. (V4-03) 272
Chopdekar, R.V. (F11-08) 67
Chopdekar, R.V. (K3-02) 119
Chopdekar, R.V. (V4-02) 272
Chopdekar, R.V. (W13-02) 297
Chopdekar, R.V. (Z6-04) 315
Chou, F. (D2-04) 32
Choudhary, R. (Q12-04) 216
Chovan, J. (H15-06) 105
Chow, K.H. (H3-01) 88
Christensen, M. (Z6-05) 315
Christensen, N.B. (V9-05) 278
Christianen, P. (H16-11) 107
Christianson, A. (P8-05) 197
Christianson, A. (Z9-01) 317
Christianson, A.D. (F7-12) 61
Christianson, A.D. (N15-03) 184
Christivana, M. (S10-02) 232
Christou, E. (F15-05) 74
Christovam, D.S. (F3-03) 56
Chshiev, M. (U5-10) 252
Chu, C. (U8-06) 255
Chu, C. (W5-08) 286
Chu, P. (H14-07) 104
Chuang, T. (H2-10) 87
Chuang, T. (H4-07) 90
Chuang, T. (L13-01) 146
Chuang, T. (L13-03) 146
Chuang, W. (N14-09) 182
Chubykalo-Fesenko, O. (L11-08) . . . 144
Chubykalo-Fesenko, O. (M4-02) . . . 155
Chubykalo-Fesenko, O. (M4-03) . . . 155
Chubykalo-Fesenko, O. (N1-11) . . . 163
Chubykalo-Fesenko, O. (U1-12) . . . 246
Chulkov, E. (T7-05) 240
Chumak, A. (B4-03) 6
Chumak, A. (B8-08) 12
Chumak, A. (B8-12) 12
Chung, C. (H2-10) 87
Chung, D. (B10-08) 16
Chung, D.Y. (F5-04) 58
Chung, D.Y. (W14-08) 300
Chung, K. (B13-04) 19
Chung, K. (N8-02) 173
Chung, K. (Q9-06) 212
Churikova, A. (M6-03) 157
Cialone, M. (N14-04) 182
Cialone, M. (U9-03) 256
Cialone, M. (U10-04) 257
Cibiel, G. (L9-08) 141
Ciccarelli, C. (H11-08) 100
Ciccarelli, C. (K1-03) 117
Cichelero, R. (L2-07) 131
Cichelero, R. (Q2-10) 202
Cichorek, T. (K9-05) 126
Cichorek, T. (L15-04) 149
Ciftja, O. (B11-06) 17
Cimpoesu, D. (U1-06) 245
Cimpoesu, D. (U10-02) 257
Ciocys, S.T. (W11-05) 294
Ciomaga Hatnean, M. (E10-01) 49
Ciomaga Hatnean, M. (L10-03) 142
Ciomaga Hatnean, M. (P9-01) 197
Ciomaga Hatnean, M. (P10-02) 198
Ciou, S. (N14-09) 182
Cirlin, G. (V6-04) 274
Ciubotaru, F. (T1-04) 234
Civan, E. (L7-01) 137
Civan, E. (W10-09) 293
Clark, B. (B12-05) 18
Clark, B. (J3-03) 110
Clark, C. (H13-03) 102
Clark, G. (N14-03) 181
Clark, L. (L10-01) 142
Clark, T. (P3-04) 191
Clements, E. (U7-09) 254
Clerac, R. (C2-03) 26
Clingenpeel, T. (C7-03) 29
Coak, M.J. (N7-01) 172
Coak, M.J. (Q12-05) 216
Coaquira, J. (W5-02) 285
Cobden, D.H. (N14-03) 181
Coey, M. (F1-07) 52
Coey, M. (N5-12) 170
Coey, M. (N17-08) 188
Cogulu, E. (H10-02) 98
Cohen, L.F. (D4-02) 34
Cohen, L.F. (F11-05) 67
Cohen, L.F. (H11-08) 100
Cohen, L.F. (J5-01) 111
Cohen, L.F. (K1-03) 117

*Best student presentation award finalist

Coira, E. (H3-03) 88
Coisson, M. (E6-03) 46
Coisson, M. (N14-04) 182
Coisson, M. (U9-03) 256
Coisson, M. (U10-04) 257
Cojocaru, C.S. (J4-03) 111
Coldea, R. (K10-01) 126
Coldea, R. (M10-03) 161
Coldea, R. (V10-02) 279
Coleman, P. (E8-02) 48
Colineau, E. (Z9-03) 318
Collantes, J. (L1-15) 130
Collantes, J. (U10-11) 258
Collet, M. (B8-03) 11
Collet, M. (E4-04) 44
Collett, C. (B10-09) 16
Collier, B.D. (Q7-07) 209
Collin, S. (K4-02) 120
Collin, S. (P1-02) 188
Collin, S. (U9-06) 256
Collins, S. (M8-04) 160
Collins, S. (Q6-05) 208
Collins, S. (T10-04) 244
Colvin, B. (F4-07) 57
Comin, R. (Y8-04) 309
Conca, A. (H2-08) 87
Conde-Rubio, A. (E7-04) 47
Conde, A. (E5-01) 45
Conde, A. (L7-04) 137
Conde, A. (N14-06) 182
Conder, K. (Q3-05) 203
Cong, P.T. (J8-03) 115
Coniglio, W. (M8-01) 159
Conolly, S. (C6-03) 28
Conolly, S. (D3-03) 33
Conolly, S. (E6-01) 46
Constable, E. (V2-03) 270
Continentino, M. (J8-04) 115
Continentino, M. (N15-13) 185
Continentino, M.A. (F15-01) 73
Contreras Medrano, C.P. (N15-13) . . 185
Coomer, F. (G10-02) 83
Copley, J. (D10-04) 40
Cordova-Fraga, T. (H1-03) 84
Cornejo, D.R. (N1-05) 163
Corona, R.M. (Q1-11) 201
Corona, R.M. (W9-03) 291
Coronado, E. (J2-01) 108
Coronado, E. (J2-03) 109
Cortajarena, A.L. (E6-02) 46
Corte-León, H. (E3-04) 43
Corte-León, H. (Q1-05) 200
Corte-Leon, P. (H9-03) 96
Corte-Leon, P. (H9-04) 97
Cortes-Llanos, B. (H1-06) 85
Cortes-Ortuño, D. (S10-04) 233
Cortés-Ortuño, D.I. (B6-04) 8
Cortés-Ortuño, D.I. (K7-05) 124
Cortés-Ortuño, D.I. (L11-01) 143
Costa, C. (H1-07) 85
Costa, J.D. (T1-04) 234
Costanzi, B. (T6-01) 238
Cótica, L.F. (W2-04) 282
Couet, S. (U5-05) 251
Couet, S. (V3-04) 272
Cowburn, R. (F2-09) 54
Cowburn, R. (T4-05) 237
Cox, C. (B4-07) 6
Cox, C. (P7-02) 195
Crassee, I. (C2-02) 25
Crawford, T.M. (D4-01) 33
Crépieux, A. (W7-05) 289
Crépieux, A. (W7-06) 289
Cress, C. (K2-01) 118
Cristiani, G. (Q10-02) 213
Crommie, M. (Q6-02) 207
Cros, V. (B8-03) 11
Cros, V. (E4-04) 44
Cros, V. (K4-02) 120
Cros, V. (L9-08) 141
Cros, V. (P1-02) 188
Cros, V. (U9-06) 256
Crossley, S. (L8-04) 138
Crotti, D. (V3-04) 272
Crowell, P.A. (J1-01) 108
Crowell, P.A. (M1-02) 152
Cubukcu, M. (W8-02) 290
Cui, H. (B10-12) 16
Culcer, D. (Y10-04) 310
Cuñado, J.F. (L2-06) 131
Cuñado, J.F. (U6-06) 252
Cunha, F. (F10-02) 64
Cunha, G.C. (F10-02) 64
Cuoco, M. (M9-04) 160
Cuono, G. (L14-04) 148
Curé, B. (B5-03) 7
Čurlik, I. (F3-04) 55

- D -

D C, B. (N5-04) 169
d'Aquino, M. (L8-01) 138
d'Aquino, M. (L8-10) 139
d'Aquino, M. (L8-11) 139
d'Aquino, M. (L9-05) 140
da Silva Júnior, J.H. (G1-04) 75
da Silva, J.H. (E5-05) 45
da Silva, J.H. (L7-03) 137
da Silva, S.W. (B2-05) 4
Dabkowska, H. (E10-02) 50
Dabkowska, H. (K10-03) 127
Dabkowska, H. (L10-09) 143
Daem, A. (S5-01) 227
Dagan, Y. (J9-04) 116
Dahlberg, D. (T6-01) 238
Daido, A. (M9-01) 160
Daisenberger, D. (Q12-05) 216
Dakova, L. (F10-01) 64
Dakova, L. (F10-06) 65
Dalla Piazza, B. (N13-04) 180
Dalmas de Réotier, P. (L12-03) 145
Dalmasso, M. (P5-02) 193
Damay, F. (M10-02) 161
Damgaard-Møller, E. (C2-02) 25
Damle, K. (L16-10) 151
Dan, S. (B13-05) 19
Dan, Y. (Y8-01) 308
Danilyuk, A. (J4-03) 111
Danshita, I. (F15-03) 73
Danshita, I. (W4-04) 284
Dantz, M. (V9-05) 278
Danzenbaecher, S. (T7-05) 240
Danzenbaecher, S. (U14-02) 264
DaPron, T. (F4-07) 57
Darques, M. (J6-05) 113
Das, D. (F6-05) 59
Das, D. (U12-04) 261
Das, P. (F11-02) 66
Das, P. (G9-02) 82
Das, P. (Z10-05) 319
Das, R. (B4-09) 6
Das, R. (L1-15) 130
Das, R. (T10-02) 243
Das, R. (U7-02) 253
Das, R. (U7-09) 254
Dash, S. (U8-09) 255
Dashwood, C.D. (B16-04) 23
Dashwood, C.D. (N7-06) 173
Datta, D. (V1-06) 269
Datta, S. (M1-03) 152
Davane, S.M. (B15-03) 22
Davarpanah, A. (E5-05) 45
Davarpanah, A. (L7-03) 137
Dave, V.H. (K5-02) 121
Davidson, A. (F13-11) 72

*Best student presentation award finalist

Davidson, B. (C1-04) 25
Davies, A. (P9-01) 197
Davies, A. (Z8-04) 317
Davies, C.S. (C5-03) 27
Davies, C.S. (H16-06) 106
Davis, A. (H4-10) 91
Davis, A. (L13-04) 146
Davydova, M.D. (H16-06) 106
Dayton, I. (W15-04) 301
de Abreu Avila, M. (F3-02) 54
de Almeida, R. (F7-10) 61
de Brion, S. (V2-03) 270
de Julián Fernández, C. (B7-03) 10
de Julián Fernández, C. (G4-04) 78
de la Figuera, J. (N1-04) 162
de la Figuera, J. (Y4-01) 304
de la Fuente Rodríguez, M. (L1-03) . . . 128
de la Presa, P. (H1-06) 85
De la Rosa, E. (H1-03) 84
de la Torre Medina, J. (B5-04) 7
de Loubens, G. (B8-03) 11
de Loubens, G. (E4-04) 44
de Loubens, G. (G1-02) 75
de Oliveira, A. (B15-09) 23
de Oliveira, A.J. (H2-03) 86
de Oliveira, A.J. (K5-05) 122
de Oliveira, A.J. (U8-08) 255
De Oliveira, N.A. (J5-03) 112
de Oliveira, T. (N17-07) 187
de Paula, V.G. (H6-06) 94
de Souza Chaves, D. (Q1-02) 199
de Souza Chaves, D. (T7-04) 240
de Souza, S.M. (F9-03) 63
de Teresa, J. (L11-08) 144
de Vicente, J. (W1-03) 280
de Visser, A. (S9-04) 232
De, C. (W5-12) 287
De, D. (L1-05) 128
Deac, A.M. (N17-07) 187
Deac, A.M. (N17-08) 188
Deak, A. (Z10-02) 319
Deb, M. (S7-05) 230
Debeer-Schmitt, L. (L10-09) 143
Deblock, R. (V8-01) 276
Debray, J. (V2-03) 270
Debut, A. (H1-07) 85
Deen, P. (L10-03) 142
Degri, M. (P5-03) 193
Deguchi, H. (L1-01) 127
Deguchi, K. (H13-01) 102
Deguchi, K. (L5-06) 135
Deinert, J. (N17-07) 187
Dekadjevi, D. (K1-04) 117
Del Canto, M. (N5-02) 168
del Val, J. (J5-02) 111
del Valle, J. (K6-03) 123
Delagrange, R. (V8-01) 276
Delgado-Matarín, A. (L7-04) 137
Delin, A. (B4-02) 6
Delin, A. (H15-09) 105
Della Torre, E. (N2-04) 164
Delley, B. (E10-02) 50
Delmas, C. (L16-03) 150
Demidov, V.E. (B8-03) 11
Demidov, V.E. (E1-03) 41
Demidov, V.E. (E4-04) 44
Demidov, V.E. (G1-02) 75
Demidov, V.E. (L8-02) 138
Demin, G.D. (B3-01) 5
Demin, G.D. (B4-01) 6
Demokritov, S. (B8-03) 11
Demokritov, S. (E1-03) 41
Demokritov, S. (E4-04) 44
Demokritov, S. (G1-02) 75
Demokritov, S. (L8-02) 138
Demsar, J. (N17-06) 187
Demuer, A. (V10-04) 279
Denardin, J.C. (W12-11) 297
Denck, P. (U12-02) 260
Denecke, R. (N5-11) 169
Deng, G. (T3-02) 235
Deng, L. (H14-07) 104
Deng, L. (U8-06) 255
Deng, S. (F12-08) 70
Deng, Y. (L8-05) 139
Deng, Y. (T10-03) 243
Dengre, S. (L16-01) 150
Denis, J. (P5-01) 193
Denlinger, J. (D9-03) 39
Denlinger, J. (Q16-03) 222
Dennis, C. (B5-01) 7
Derlet, P. (K2-06) 119
Derlet, P. (S10-05) 233
Derzhko, O. (L16-14) 152
Desautels, R.D. (U4-06) 250
Désilets-Benoit, A. (E10-02) 50
Destraz, D. (V9-05) 278
Devaraj, A. (P3-04) 191
Devolder, T. (T1-04) 234
Devolder, T. (U5-05) 251
Dewhurst, J. (V7-04) 275
Dey, D. (W5-10) 286
Dey, K. (Q12-04) 216
Dey, K. (W5-02) 285
Dhal, R. (W3-07) 283
Dhar, A. (N15-04) 184
Dhar, S.K. (H5-05) 92
Dhar, S.K. (U12-04) 261
Dhar, V.S. (F2-06) 53
Dho, J. (U2-03) 246
Dhruv, P. (F10-09) 65
Dhruv, P. (F10-10) 66
Dhuey, S. (F11-10) 68
Dhuey, S. (H16-08) 107
Dhuey, S. (Q14-04) 220
Dhuey, S. (T1-02) 233
Di Ciolo, A. (B11-07) 17
Di Pietro, R. (W8-02) 290
Diao, Z. (T10-02) 243
Dias, E. (F7-06) 60
Diaz Bachs, A. (W11-02) 294
Diény, B. (U5-10) 252
Diény, B. (V3-01) 271
Dieterle, G. (G1-01) 74
Diez, J. (H2-11) 87
Diez, J. (L2-12) 131
Diez, J. (N10-02) 176
Diez, J. (Q7-12) 210
Dimian, M. (U1-05) 245
Dimitrova, O. (Q6-05) 208
Ding, C. (H15-08) 105
Ding, H. (L11-07) 144
Ding, H. (W7-07) 289
Ding, J. (B8-13) 13
Ding, J. (K6-02) 122
Ding, J. (U16-02) 267
Ding, L. (F12-06) 69
Ding, L. (F8-03) 62
Ding, L. (U8-02) 255
Ding, Y. (C3-01) 26
Dioguardi, A. (Y8-02) 308
Dionizio, S. (N5-03) 168
Dionizio, S. (W5-07) 286
Dippel, A. (Z6-05) 315
Dissanayake, S. (W5-03) 286
Divan, R. (B8-13) 13
Divieto, C. (E6-03) 46
Divinskiy, B. (E1-03) 41
Divinskiy, B. (L8-02) 138
Divis, M. (Q6-01) 207
Divis, M. (S8-04) 231
Divis, M. (U12-09) 261
Divitini, G. (T4-05) 237
Dixit, H. (V1-06) 269

*Best student presentation award finalist

Dlubak, B. (J7-02) 113
Dmitrienko, V. (Q6-05) 208
Dmitriev, A. (B7-03) 10
Dmitriev, A.I. (W15-01) 301
Do, B. (Q1-06) 200
Dobak, S. (F10-01) 64
Dobak, S. (N9-06) 176
Dobrowolska, M. (D6-03) 36
Dobrowolska, M. (L6-03) 136
Dobrowolska, M. (L6-04) 136
Doerr, M. (Q9-05) 212
Doerrer, L. (B10-03) 15
Doi, M. (L13-06) 147
Doi, M. (W2-06) 282
Doi, M. (W3-04) 283
Doiron-Leyraud, N. (W13-07) 298
Doki, H. (C10-01) 30
Dolinsek, J. (F7-01) 60
Domocos, A. (U1-06) 245
Dong, C. (H14-02) 103
Dong, C. (U2-07) 247
Dong, M. (B9-06) 13
Dong, Q. (F1-06) 52
Dong, Q. (W11-06) 295
Dong, S. (D6-03) 36
Dong, S. (L6-03) 136
Dong, S. (L6-04) 136
Donnelly, C. (K2-06) 119
Döntgen, J. (J5-06) 112
Doria Andrade, J.G. (L6-05) 136
Dorj, O. (F1-11) 52
dos Santos Dias, M. (N4-03) 167
dos Santos, F. (N4-03) 167
Doto, H. (U11-08) 260
Doto, H. (U14-03) 265
Downing, G. (K7-05) 124
Downing, G. (L11-01) 143
Drechsler, S. (G10-01) 83
Drechsler, S. (J9-03) 116
Drechsler, S. (W14-06) 299
Dreyer, M. (F13-01) 70
Dreyer, M. (N10-01) 176
Driscoll, J. (G5-05) 79
Drovosekov, A. (W4-11) 285
Drozdz, P. (S4-03) 227
Drozdz, P. (U3-06) 248
Drozdz, P. (U15-04) 266
Drulis, H. (Q9-05) 212
Du, H. (Z1-03) 311
Du, Y. (H11-01) 99
Du, Y. (H11-03) 99
Duan, Y. (J2-01) 108
Duarte, C.M. (M3-01) 154
Dubenko, I. (F2-05) 53
Dubenko, I. (H6-05) 93
Dubenko, I. (H6-07) 94
Dubenko, I. (J5-05) 112
Dubenko, I. (Q8-04) 211
Dubenko, I. (U15-07) 267
Dubenko, I. (W2-05) 282
Dubenko, I. (Z10-05) 319
Dubowik, J. (H15-04) 105
Dubowik, J. (T1-03) 233
Dubs, C. (B1-06) 2
Dubs, C. (B4-03) 6
Dubs, C. (B8-08) 12
Dubs, C. (B8-11) 12
Dubs, C. (S2-01) 224
Duda, H. (F5-01) 57
Duda, H. (F5-06) 58
Duerloo, K.N. (N14-05) 182
Duine, R. (Y6-05) 306
Dumesnil, K. (H16-07) 106
Dumesnil, K. (S3-03) 226
Dumesnil, K. (T6-03) 239
Dumesnil, K. (W2-01) 281
Dumitru, I. (U1-06) 245
Dumitru, I. (U10-02) 257
Dung, N. (F7-08) 61
Dunin-Borkowski, R.E. (Z1-03) . . . 311
Duong, T. (W7-05) 289
Duong, T. (W7-06) 289
Dupont, M. (V10-05) 280
Dupré, L. (S5-01) 227
Duquesne, J. (D6-01) 36
Duquesne, J. (Q2-09) 202
Duquesne, J. (U2-08) 247
Dura, J.A. (G4-01) 77
Durdaut, P. (M3-03) 154
Dürr, H. (H16-09) 107
Durr, H. (N17-04) 187
Dürr, H. (S7-03) 230
Dusch, Y. (S3-03) 226
Dushenko, S. (J7-03) 114
Dutoit, C. (F9-04) 63
Duttagupta, S. (B1-07) 2
Duttagupta, S. (Y6-03) 306
Duvinage, C. (L3-10) 133
Duvinage, C. (M10-04) 161
Dwivedi, J. (Q14-02) 220
Dyakonov, A.A. (L7-06) 138
Dzhun, I. (W3-09) 284
Dzsaber, S. (K8-03) 124
Dzubinska, A. (F3-04) 55

- E -

Ebels, U. (L9-06) 141
Ebels, U. (L9-08) 141
Ebukuro, Y. (F9-02) 63
Ebukuro, Y. (G2-04) 76
Echevarria Bonet, C. (L1-03) 128
Eckberg, C. (S9-03) 232
Edelman, I. (J4-01) 110
Ederer, C. (N7-05) 173
Ederer, C. (P2-03) 190
Ederer, C. (Q10-01) 213
Edkins, S.D. (K3-03) 120
Edmonds, K. (U1-03) 245
Edrisy, A. (S5-03) 228
Edström, A. (P2-03) 190
Edström, A. (Y5-04) 305
Edwards, E. (H11-07) 100
Edwards, P. (H3-06) 89
Edwards, R.S. (Y5-05) 305
Efimenko, A. (L12-11) 146
Efremov, D. (J9-03) 116
Efremov, D. (T8-05) 241
Efremov, D. (W14-06) 299
Eggert, B. (G5-04) 79
Eguchi, G. (K8-03) 124
Ehlers, G. (D10-04) 40
Ehlers, G. (L10-03) 142
Ehresmann, A. (T6-04) 239
Eickhoff, F. (U14-10) 266
Eid, K. (W2-09) 282
Eisaki, H. (F9-02) 63
Eisebitt, S. (M6-03) 157
Eisebitt, S. (N17-07) 187
Ekholm, M. (H15-04) 105
El Kenz, A. (B13-03) 19
El-Gendy, A.A. (B2-03) 3
El-Gendy, A.A. (B2-06) 4
El-Gendy, A.A. (F8-09) 62
El-Gendy, A.A. (F8-10) 62
El-Gendy, A.A. (H6-03) 93
El-Gendy, A.A. (H6-04) 93
El-Gendy, A.A. (K5-01) 121
El-Ghazaly, A. (Y7-02) 307
Elizalde Galindo, J.T. (N1-08) 163
Elizalde Galindo, J.T. (T5-01) 237
Eljaouhari, E. (E9-02) 49
Ellers, K. (B10-09) 16
Elliott, P. (V7-04) 275
ElMassalami, M. (H14-05) 104

*Best student presentation award finalist

ElMassalami, M. (N11-06) 178
Elmazria, O. (S3-03) 226
Elmers, H. (Q7-09) 209
Elnaggar, H.M. (Q6-05) 208
Eloirdi, R. (Z9-03) 318
Emery, S. (V9-02) 277
Emori, S. (K1-06) 118
Emori, S. (L8-05) 139
Emori, S. (L8-06) 139
Emori, S. (M3-05) 154
Endean, D.E. (T6-01) 238
Enderle, M. (V9-01) 277
Enderle, M. (W5-05) 286
Enderlein, C. (N16-07) 186
Endo, A. (W15-02) 301
Endo, Y. (L8-03) 138
Engel, D. (M6-03) 157
Engelhardt, L. (H3-06) 89
Eom, D. (W11-03) 294
Era, H. (N9-05) 175
Ercius, P. (Y4-03) 304
Eremin, I. (U13-08) 263
Eriksson, O. (B6-02) 8
Eriksson, O. (H15-09) 105
Eriksson, O. (Q9-04) 212
Eriksson, O. (Q12-11) 217
Eriksson, O. (Y5-01) 305
Eriksson, O. (Y5-04) 305
Ermer, H. (W15-04) 301
Erten, O. (E8-02) 48
Escamilla Guerrero, R. (N15-02) 183
Escanhoela Jr, C. (T10-03) 243
Eschrig, M. (K1-03) 117
Eschrig, M. (U13-13) 264
Escobar, R.A. (L9-03) 140
Escoda-Torroella, M. (L1-02) 127
Escrig, J. (C7-01) 29
Escrig, J. (F11-06) 67
Escrig, J. (N5-02) 168
Esien, K. (F11-14) 68
Esien, K. (U7-06) 254
Esmaeily, A. (N5-12) 170
Espeso, J. (L1-03) 128
Esquinazi, P. (N5-11) 169
Estevez, D. (Q11-03) 214
Estiphanos, M. (H1-12) 85
Estrada Chávez, F. (B11-03) 17
Eto, S. (U7-04) 253
Eto, T. (W6-01) 287
Etter, M. (T10-03) 243
Eustance, T. (M8-05) 160
Evans, R.F. (B1-04) 2
Evans, R.F. (K7-03) 123
Evans, R.F. (N12-06) 179
Evans, R.F. (P6-05) 194
Evans, R.F. (Q15-08) 221
Evans, R.F. (U1-12) 246
Evelt, M. (B8-03) 11
Evelt, M. (E4-04) 44
Evtushinsky, D. (U13-13) 264
Ewings, R. (S2-01) 224
Ewings, R. (W5-05) 286
Ewings, R. (Z2-02) 312

- F -

Fabbrici, S. (Z5-03) 314
Fabbris, G.F. (T10-03) 243
Fabelo, O. (V2-03) 270
Faberova, M. (F10-01) 64
Faberova, M. (F10-06) 65
Faberova, M. (Q11-07) 215
Fabrizi, F. (Q6-05) 208
Fähnle, M. (G1-01) 74
Fak, B. (B15-05) 22
Fåk, B. (L1-03) 128
Fakhrul, T. (W10-03) 293
Fallon, K. (K2-05) 119
Fan, X. (F13-11) 72
Fan, X. (L8-07) 139
Fan, X. (Z4-03) 313
Fan, Y. (G7-01) 80
Fanchiang, Y. (H11-13) 100
Fanelli, V.R. (Z9-01) 317
Fang, B. (D7-04) 37
Fang, C. (Y8-01) 308
Fangohr, H. (B6-04) 8
Fangohr, H. (K7-05) 124
Fangohr, H. (L11-01) 143
Fangohr, H. (S10-04) 233
Farheen, A. (V5-04) 273
Farias, R. (T5-01) 237
Fariborzi, H. (U9-05) 256
Farle, M. (B8-02) 11
Farle, M. (E4-03) 44
Farmer, W.M. (L16-13) 151
Fasolino, A. (U4-07) 250
Fassbender, J. (B1-10) 2
Fassbender, J. (M1-05) 153
Fassbender, J. (N17-08) 188
Fassbender, J. (T1-01) 233
Fatuzzo, C.G. (V9-05) 278
Faupel, F. (M3-03) 154
Fauque, B. (V9-06) 278
Faure, Q. (D10-01) 40
Faure, Q. (F9-08) 64
Faure, S. (K3-04) 120
Favre, V.Y. (B12-08) 18
Favre, V.Y. (L16-02) 150
Feggeler, T. (B8-02) 11
Feggeler, T. (E4-03) 44
Felser, C. (F1-05) 51
Felser, C. (G6-02) 79
Felser, C. (N5-08) 169
Felser, C. (Q2-03) 201
Felton, S. (U7-06) 254
Felts, A.C. (B10-10) 16
Feng, Q. (Q8-05) 211
Feng, Y. (N2-06) 164
Feng, Z. (G3-03) 76
Feng, Z. (L1-10) 129
Feng, Z. (M1-04) 152
Feng, Z. (N9-04) 175
Fennell, A. (E10-02) 50
Fennell, T. (P10-02) 198
Feoktystov, A. (U10-12) 258
Ferenc Segedin, D. (M2-01) 153
Ferenc Segedin, D. (P2-02) 190
Ferguson, A. (K1-03) 117
Fernandes, R. (P7-01) 195
Fernandez Barcia, M. (N14-04) 182
Fernández Barquín, L. (F11-04) 67
Fernández Barquín, L. (L1-03) 128
Fernández Cuñado, J. (L2-12) 131
Fernández Cuñado, J. (P6-02) 194
Fernandez Cuñado, J.L. (N10-04) 177
Fernández Díaz, M. (L12-09) 145
Fernandez-Baca, J. (W5-08) 286
Fernandez-Barquín, L. (L1-11) 129
Fernandez-Gonzalez, C. (N1-04) 162
Fernández-Gubieda, M. (B2-02) 3
Fernández-Gubieda, M. (F11-04) 67
Fernández-Gubieda, M. (F2-09) 54
Fernández-Gubieda, M. (L1-03) 128
Fernández-Gubieda, M. (L1-11) 129
Fernández-Gubieda, M. (L1-12) 129
Fernandez-Outon, L.E. (H2-06) 86
Fernandez-Roldan, J. (M4-02) 155
Fernandez-Roldan, J. (M4-03) 155
Fernandez-Roldan, J. (N1-11) 163
Fernandez-Rossier, J. (E2-03) 42
Fernandez-Scarioni, A. (E3-02) 43
Fernandez-Scarioni, A. (F12-04) 69
Fernández, E. (B2-02) 3
Ferrante, Y. (F6-03) 59
Ferrara, E. (L7-05) 137
Ferrari, L. (B10-01) 14
Ferreira de oliveira, J. (N16-07) 186
Ferreira, J.L. (N11-06) 178
Ferreira, N.D. (F2-04) 53
Ferreira, N.D. (F10-02) 64
Ferreira, N.D. (H9-09) 97
Ferreira, R. (S3-02) 226
Ferrer, S. (E3-03) 43
Ferrier, M. (V8-01) 276
Fert, A. (J7-02) 113
Fert, A. (K4-02) 120
Fert, A. (P1-02) 188
Fert, A. (U9-06) 256
Feuchtwanger, J. (B2-02) 3
Feygenson, M. (B6-01) 8
Fiebig, M. (K2-06) 119
Figueira, M. (F14-07) 73
Figueiredo, L.C. (B2-05) 4
Fijalkowski, M. (F5-02) 57
Fijalkowski, M. (H13-04) 102
Filianina, M. (J6-02) 112
Filipek, E. (F5-06) 58
Filippetti, A. (C1-04) 25
Finco, A. (N12-03) 178
Finizio, S. (B1-06) 2
Finizio, S. (F4-03) 56
Finizio, S. (G1-01) 74
Finizio, S. (L2-04) 130
Finizio, S. (L11-06) 144
Finizio, S. (P1-05) 189
Finizio, S. (U9-02) 256
Finocchio, G. (D7-04) 37
Finocchio, G. (F1-10) 52
Finocchio, G. (J6-04) 113
Finocchio, G. (L9-04) 140
Fiorani, D. (H1-02) 84
Fiorani, D. (H1-04) 84
Fiorillo, F. (L7-05) 137
Firastrau, I. (L9-06) 141
Fischbacher, J. (D5-04) 35
Fischer, B. (B2-09) 4
Fischer, G. (F12-01) 69
Fischer, M.H. (S8-02) 231
Fischer, P. (F11-10) 68
Fischer, P. (P1-04) 189
Fischer, P. (Q14-04) 220
Fischer, P. (Y4-03) 304
Fisher, I.R. (K3-03) 120
Fisher, I.R. (S1-02) 224
Fisher, I.R. (T8-04) 241
Fisher, I.R. (T10-02) 243
Fisher, I.R. (V9-06) 278
Fisk, Z. (N3-03) 166
Fisk, Z. (Q16-06) 223
Fisk, Z. (W6-06) 288
Fitzsimmons, M. (P7-01) 195
Flachbart, K. (B14-03) 20
Flajsman, L. (B8-06) 12
Flajsman, L. (L2-09) 131
Flament, S. (Q7-12) 210
Flatte, M.E. (K7-01) 123
Fleming, C. (B10-08) 16
Flint, C. (L13-09) 147
Flint, R. (B12-05) 18
Flint, R. (Y9-03) 309
Flokstra, M. (L14-03) 148
Flokstra, M. (W8-01) 290
Flouquet, J. (G9-01) 82
Flouquet, J. (J8-02) 114
Flouquet, J. (T9-01) 242
Foerster, M. (J6-02) 112
Foerster, M. (N1-04) 162
Foerster, M. (Q2-10) 202
Foerster, M. (Y4-01) 304
Fokwa, B.P. (H12-07) 101
Fokwa, B.P. (L16-12) 151
Folkers, L. (V9-03) 277
Fonseca, J.M. (N1-01) 162
Fonseca, R.G. (H2-03) 86
Fontcuberta, J. (K4-03) 120
Fontcuberta, J. (P7-03) 195
Fontes, M. (N16-07) 186
Forestier, G. (K1-04) 117
Forestier, G. (Q14-01) 219
Formisano, F. (Z2-02) 312
Forslund, O.K. (F9-06) 63
Forslund, O.K. (L14-08) 149
Forslund, O.K. (L16-03) 150
Forslund, O.K. (N6-07) 171
Förster, J. (B1-06) 2
Förster, J. (B8-11) 12
Förster, J. (G1-01) 74
Förster, J. (T1-03) 233
Förster, T. (H5-08) 92
Forte, F. (L14-04) 148
Fortini, A.M. (H2-06) 86
Fortunato, N.M. (G5-01) 78
Foster, M. (K8-04) 124
Fowley, C. (N17-08) 188
Fradkin, E. (J3-03) 110
Fraile Rodríguez, A. (E7-04) 47
Fraile Rodríguez, A. (J4-02) 110
Fraile Rodríguez, A. (K2-02) 118
Fraile Rodríguez, A. (L1-02) 127
Fraile Rodríguez, A. (N14-07) 182
Franceschini, D.F. (H7-11) 95
Franco, D.G. (K9-05) 126
Franco, D.G. (L4-02) 133
Franco, R. (F14-07) 73
Franco, V. (E5-01) 45
Franco, V. (L7-04) 137
Francoual, S. (H10-04) 98
Francoual, S. (W5-02) 285
Frangou, L. (K1-04) 117
Frano, A. (B14-06) 21
Franz, C. (B16-08) 24
Franz, C. (D2-02) 32
Franz, C. (G9-02) 82
Franz, C. (T3-05) 235
Freeland, J.W. (P7-01) 195
Freeland, J.W. (V4-03) 272
Freeman, P.G. (V9-01) 277
Freeman, P.G. (V9-05) 278
Freimuth, F. (D2-05) 32
Freimuth, F. (P4-03) 192
Freimuth, F. (V7-01) 275
Freindl, K. (S4-03) 227
Freitas, D. (N15-13) 185
Freitas, G.S. (F3-08) 55
Freitas, P. (S3-02) 226
Freitas, R.S. (B12-08) 18
Frey, P. (L8-08) 139
Friedemann, S. (C9-02) 30
Friedemann, S. (E9-02) 49
Friedemann, S. (H5-03) 91
Friedemann, S. (H5-11) 92
Friedemann, S. (M8-01) 159
Friedlein, J. (M7-04) 158
Friedman, J.R. (B10-09) 16
Frielinghaus, H. (U10-12) 258
Friesen, C. (M7-04) 158
Fripp, K.G. (B8-10) 12
Frisbie, C.D. (P7-01) 195
Frontzek, M. (L4-09) 134
Frontzek, M. (Q12-02) 216
Frost, W.J. (V1-01) 269
Fruchart, O. (L11-02) 143
Fruchart, O. (S6-03) 229
Fruchart, O. (U5-10) 252

*Best student presentation award finalist

*Best student presentation award finalist

Frustaglia, D. (J7-05) 114
Fu, H. (H6-03) 93
Fu, J. (L10-04) 142
Fu, M. (U12-08) 261
Fu, Z. (F4-08) 57
Fubasami, S. (H8-01) 95
Fuentes, G. (C4-02) 27
Fujibayashi, Y. (H2-02) 86
Fujii, H. (L12-07) 145
Fujii, K. (G7-02) 80
Fujii, S. (U7-04) 253
Fujikawa, S. (F13-06) 71
Fujikawa, S. (W2-03) 281
Fujimoto, C. (P5-05) 193
Fujimoto, S. (Y10-03) 310
Fujisawa, M. (N6-04) 171
Fujishiro, H. (Q6-06) 208
Fujishiro, H. (Q6-07) 208
Fujita, M. (W13-10) 298
Fujiuchi, R. (H14-04) 104
Fujiwara, H. (Q12-08) 217
Fujiwara, H. (U14-06) 265
Fujiwara, K. (L1-07) 128
Fujiwara, N. (U13-02) 262
Fujiwara, N. (U13-10) 263
Fujiwara, T. (P5-05) 193
Fukami, S. (B1-07) 2
Fukami, S. (F13-02) 71
Fukami, S. (F13-03) 71
Fukami, S. (F6-01) 59
Fukami, S. (J1-02) 108
Fukami, S. (M6-04) 158
Fukami, S. (Y6-03) 306
Fukui, S. (F14-02) 73
Fukumoto, Y. (B10-02) 15
Fukumoto, Y. (B14-04) 20
Fukumoto, Y. (H15-07) 105
Fukuoka, H. (P8-03) 197
Fukura, T. (Q12-08) 217
Fukushima, A. (L9-08) 141
Fukushima, A. (L9-12) 141
Fukushima, A. (Z4-02) 313
Fukushima, K. (N8-06) 174
Fukushima, T. (L12-07) 145
Fukushima, T. (Z5-02) 314
Fullerton, E.E. (N17-04) 187
Fullerton, E.E. (S7-05) 230
Fullerton, E.E. (U15-06) 267
Fullerton, E.E. (U7-05) 253
Fumagalli, P. (F5-08) 58
Fumagalli, R. (W13-03) 297
Fundator, M. (F9-05) 63
Furdyna, J.K. (D6-03) 36
Furdyna, J.K. (L6-03) 136
Furdyna, J.K. (L6-04) 136
Furdyna, J.K. (L6-06) 136
Furnemont, A. (V3-04) 272
Fursich, K. (Q10-02) 213
Furukawa, N. (N6-06) 171
Furukawa, N. (N6-09) 172
Furukawa, N. (N13-01) 180
Furuya, K. (F13-02) 71
Furuya, S. (D10-01) 40
Furuya, S. (H3-05) 89
Furuya, Y. (L13-14) 147
Furuya, Y. (Q7-11) 210
Futakawa, Y. (M6-02) 157
Futakawa, Y. (U1-09) 245
Fuzer, J. (F10-01) 64
Fuzer, J. (F10-06) 65
Fuzer, J. (N9-06) 176
Fuzer, J. (Q11-07) 215
Fuzer, J. (W10-01) 292

- G -

Gabani, S. (B14-03) 20
Gabani, S. (F3-04) 55
Gabay, A. (Q9-08) 212
Gabold, H.J. (U15-03) 266
Gabor, N. (M7-05) 159
Gaddi, A. (B5-03) 7
Gai, Z. (S4-02) 226
Gaita Ariño, A. (J2-01) 108
Gaita Ariño, A. (J2-03) 109
Galceran, R. (J7-02) 113
Galda, A. (W4-05) 284
Galdino, C.W. (H12-06) 101
Galeski, S. (G10-05) 84
Galeski, S. (H3-08) 89
Galisova, L. (L4-03) 133
Gallagher, A. (D9-05) 39
Gallagher, B. (U1-03) 245
Gallais, Y. (D9-04) 39
Gallego, F. (V4-03) 272
Gallego, S. (U4-02) 249
Galliou, S. (L9-08) 141
Gambarelli, S. (K1-04) 117
Gamino, M. (K4-03) 120
Gamino, M. (Z4-04) 313
Gamza, M. (M8-01) 159
Gamza, M. (M9-03) 160
Gamza, M. (V10-04) 279
Gamzatov, A. (L7-02) 137
Gan, W. (Q1-07) 200
Gandha, K. (W1-02) 280
Gandia, D. (L1-12) 129
Ganesan, V. (E5-02) 45
Gangwar, A. (G1-01) 74
Gannon, W. (D10-04) 40
Gao, H. (Q4-06) 205
Gao, H. (S5-05) 228
Gao, L. (C3-01) 26
Gao, N. (F1-06) 52
Gao, N. (W11-06) 295
Gao, P. (B9-06) 13
Gao, X. (B9-05) 13
Gao, X. (N5-05) 169
Gao, X. (N8-04) 174
Gao, Y. (D6-02) 36
Gao, Y. (M3-06) 155
Gaonkar, V. (F7-06) 60
Garaio, E. (L1-15) 130
Garaio, E. (U10-11) 258
García Arribas, A. (F11-04) 67
García Arribas, A. (L1-11) 129
García del Muro, M. (J4-02) 110
García del Muro, M. (N14-07) 182
García Prieto, A. (F11-04) 67
García Prieto, A. (L1-11) 129
García Prieto, A. (L1-12) 129
García-Arribas, A. (B2-02) 3
García-Arribas, A. (F2-09) 54
García-Arribas, A. (L1-03) 128
García-Arribas, A. (L11-08) 144
Garcia-Cortes, I. (U6-06) 252
Garcia-Fernandez, M. (T10-04) 244
Garcia-Hernandez, K. (B8-03) 11
García-Hernández, M. (N14-02) . . . 181
García-Martín, A. (E7-02) 47
García-Martín, J.M. (C7-01) 29
Garcia-Martinez, N. (E2-03) 42
García-Prieto, A. (L1-03) 128
Garcia-Sanchez, F. (E3-02) 43
Garcia, A. (H3-06) 89
Garcia, C. (Q7-13) 210
Garcia, C. (W12-02) 295
Garcia, D. (K5-05) 122
Garcia, D. (U8-08) 255
Garcia, J. (B7-02) 10
García, J. (G5-06) 79
García, J. (L1-15) 130
Garcia, J. (U10-11) 258
Garcia, K. (K4-02) 120
Garcia, L. (B10-04) 15
Garcia, L. (Q1-04) 200
Gardner, J.S. (L16-01) 150
Gardner, J.S. (L16-04) 151
Garg, C. (C4-01) 26
Gargiani, P. (K4-03) 120
Gargiani, P. (N14-10) 182
Gargiani, P. (P7-03) 195
Gargiani, P. (S4-05) 227
Gargiani, P. (W8-01) 290
Garitezi, T.M. (W14-03) 299
Garlea, O. (E10-06) 50
Garnica, M. (Z7-03) 316
Garst, M. (B15-02) 21
Garst, M. (B16-08) 24
Garst, M. (P10-03) 199
Gartside, J.C. (D4-02) 34
Gartside, J.C. (F11-01) 66
Gartside, J.C. (F11-05) 67
Gasser, U. (B16-08) 24
Gastaldo, F. (F3-04) 55
Gaucher, S. (F6-04) 59
Gaudet, J. (L10-09) 143
Gaudin, G. (Q13-10) 219
Gaudin, G. (U1-10) 246
Gaulin, B. (K10-03) 127
Gaulin, B. (L10-09) 143
Gautam, K. (Q12-04) 216
Gautam, K. (W5-02) 285
Gautam, N. (U6-07) 252
Gauthier, A. (C8-02) 29
Gauthier, N. (E10-02) 50
Gautier, E. (V3-01) 271
Gauzzi, A. (K5-05) 122
Gauzzi, A. (U8-08) 255
Gavrikov, I. (V5-03) 273
Gaw, S. (W5-05) 286
Gawryluk, D. (Q3-05) 203
Gazit, S. (L5-02) 135
Gazo, E. (B14-03) 20
Gazquez, J. (K4-03) 120
Gazquez, J. (P7-03) 195
Ge, Q. (U15-08) 267
Gebert, A. (N14-04) 182
Geerts, W.J. (N5-04) 169
Geerts, W.J. (Q7-07) 209
Geessinck, J. (U4-07) 250
Geibel, C. (C9-02) 30
Geibel, C. (F3-09) 55
Geibel, C. (K9-04) 125
Geibel, C. (K9-05) 126
Geibel, C. (L4-02) 133
Geibel, C. (L12-02) 145
Geibel, C. (T7-05) 240
Geibel, C. (T9-03) 242
Geibel, C. (U12-04) 261
Geibel, C. (U14-02) 264
Geibel, C. (Y9-01) 309
Geilhufe, M. (Q12-11) 217
Generalov, A. (T7-05) 240
Generalov, A. (U14-02) 264
Genevrier, S. (P5-02) 193
Genoni, P. (Z7-04) 316
Gensch, M. (N17-07) 187
Gensch, M. (N17-08) 188
Gensch, M. (V7-03) 275
Gentry, C. (H16-04) 106
Gentry, C. (N17-04) 187
Gentry, C. (S7-01) 229
Genuzio, F. (Z7-04) 316
Georgii, R. (B15-02) 21
Georgii, R. (B16-08) 24
Georgii, R. (L4-08) 134
Gerada, C. (U10-05) 257
Geraldi, N. (M3-01) 154
Gerasimenko, A. (U4-04) 249
Gerasimov, E.G. (Z10-04) 319
Gerken, M. (E3-04) 43
Germanskiy, S. (N17-07) 187
Gerwig, H. (B5-03) 7
Geshev, J. (W3-05) 283
Ghimire, M. (F10-09) 65
Ghimire, M. (F10-10) 66
Ghimire, M. (F10-11) 66
Ghimire, S. (U2-03) 246
Ghiringhelli, G. (W13-03) 297
Ghirri, A. (J2-01) 108
Ghirri, A. (J2-02) 109
Ghivelder, L. (J5-01) 111
Ghorashi, S. (K8-04) 124
Ghosh, A. (W9-07) 292
Ghosh, A. (W9-08) 292
Ghosh, E. (S5-03) 228
Ghosh, S. (P10-05) 199
Ghosh, T. (T5-02) 237
Ghosheh, Y. (B2-08) 4
Giamarchi, T. (D10-01) 40
Giamarchi, T. (F9-08) 64
Giamarchi, T. (H3-03) 88
Gibbs, A.S. (V10-02) 279
Gibert, M. (V9-05) 278
Gibert, M. (Y8-04) 309
Giblin, S.R. (M10-05) 162
Gil Cartón, D. (F11-04) 67
Gilbert, A.D. (W1-05) 281
Gilbert, D. (S4-04) 227
Gilbert, D. (W13-02) 297
Gilbert, D.A. (D2-04) 32
Gilbert, D.A. (W12-10) 296
Gilbert, D.A. (Z6-01) 314
Gilbert, E.P. (L4-05) 134
Gingras, M. (N15-03) 184
Gingrich, E.C. (W15-04) 301
Giordano, A. (J6-04) 113
Giovannini, L. (D4-05) 34
Giovannini, L. (N4-02) 167
Giovannini, L. (N4-09) 168
Giovannini, M. (F3-04) 55
Giovannini, M. (T9-04) 242
Giraldo-Gallo, P. (V9-06) 278
Giri, A. (L7-04) 137
Giri, S. (G5-05) 79
Giri, S. (L1-05) 128
Giridharan, N. (Q5-08) 206
Giuseppe, M. (H1-02) 84
Gjoka, M. (D5-04) 35
Gladii, O. (K1-04) 117
Gladii, O. (Q14-01) 219
Gladii, O. (U1-08) 245
Glasbrenner, J.K. (W14-07) 300
Glasbrenner, J.K. (W14-12) 300
Glatzel, P. (Q3-08) 204
Glazkov, V. (H3-08) 89
Glazyrin, K. (T10-03) 243
Gliga, S. (K6-01) 122
Gliga, S. (P1-05) 189
Gloss, J. (B8-06) 12
Gloss, J. (L2-09) 131
Glowacki, M. (F5-01) 57
Glowacki, M. (Z5-01) 313
Go, D. (Q13-09) 219
Go, G. (E1-04) 41
Gobaut, B. (C1-04) 25
Göbel, B. (D2-03) 32
Göbel, B. (L11-03) 143
Goddard, P. (W13-05) 298
Godel, F. (J7-02) 113
Goering, E.J. (D4-03) 34
Goering, E.J. (H4-05) 90
Goering, E.J. (M5-05) 156
Goering, E.J. (U3-08) 248
Goh, B. (W7-04) 289
Goh, S.K. (J9-02) 115
Gohda, Y. (Y5-03) 305

*Best student presentation award finalist

*Best student presentation award finalist

Goiriena-Goikoetxea, M. (F2-09) . . . 54
Goiriena-Goikoetxea, M. (L11-08) . . . 144
Goko, T. (H3-01) . . . 88
Goko, T. (J9-03) . . . 116
Goko, T. (N6-04) . . . 171
Gokturk, H. (B9-01) . . . 13
Gokturk, H. (N12-04) . . . 178
Goldfarb, R. (B5-08) . . . 7
Goll, D. (S5-04) . . . 228
Golub, V. (N5-14) . . . 170
Gomes, A.M. (J5-01) . . . 111
Gomez Sal, J.C. (L1-03) . . . 128
Gomez, A. (G4-01) . . . 77
Gomez, A. (K6-03) . . . 123
Gomez, A. (N5-03) . . . 168
Gomez, C. (K1-04) . . . 117
Gomez, C. (Q14-01) . . . 219
Gomez, M.E. (F1-09) . . . 52
Gomilsek, M. (C10-03) . . . 31
Gomilsek, M. (G10-02) . . . 83
Gomonay, O. (Q7-09) . . . 209
Gompertz, J. (W3-01) . . . 283
Goncalves, F. (Q2-11) . . . 202
Gonçalves, J. (G5-01) . . . 78
Gonçalves, J. (M2-02) . . . 153
Gong, A. (B16-07) . . . 24
Gong, C. (Z2-04) . . . 312
Gong, R. (L1-10) . . . 129
Gönnenwein, S.T. (Q2-03) . . . 201
Gonzalez Barrio, M. (U4-02) . . . 249
Gonzalez-Carrasco, J. (L3-02) . . . 132
Gonzalez-Fuentes, C.A. (M1-06) . . . 153
Gonzalez-Fuentes, C.A. (Q7-13) . . . 210
Gonzalez-Fuentes, C.A. (U2-05) . . . 247
Gonzalez-Fuentes, C.A. (W12-02) . . . 295
Gonzalez-Gutierrez, J. (P5-03) . . . 193
González-Sánchez, R. (F7-11) . . . 61
Gonzalez, E.M. (K6-03) . . . 123
Gonzalez, J. (H9-03) . . . 96
González, J.M. (N5-13) . . . 170
González, J.M. (W2-08) . . . 282
González, T. (Q7-06) . . . 209
González, T. (Q7-12) . . . 210
Gooch, M.J. (U8-06) . . . 255
Gooch, M.J. (W5-08) . . . 286
Goodenough, J. (B1-08) . . . 2
Goodwill, P. (E6-01) . . . 46
Gopalan, D.P. (T2-05) . . . 235
Gopman, D.B. (F1-04) . . . 51
Goraus, J. (F3-12) . . . 56
Goraus, J. (F5-02) . . . 57
Goraus, J. (H13-04) . . . 102
Gorbunov, D. (Q12-03) . . . 216
Gorchon, J. (S7-05) . . . 230
Gorchon, J. (Y7-02) . . . 307
Goremychkin, E.A. (Z9-01) . . . 317
Gorshenkov, M. (V5-03) . . . 273
Goryczka, T. (F5-03) . . . 58
Goryunov, Y. (N16-04) . . . 185
Goryunov, Y. (N16-06) . . . 186
Gosavi, T. (F13-10) . . . 72
Goschew, A. (F5-08) . . . 58
Goswami, P. (T9-05) . . . 242
Gotlieb, K. (W11-05) . . . 294
Goto, S. (D5-01) . . . 35
Goto, T. (B12-06) . . . 18
Goto, T. (E4-01) . . . 44
Goto, T. (N6-04) . . . 171
Goto, T. (W15-02) . . . 301
Gottlieb-Schönmeyer, S. (D2-02) . . . 32
Gottwald, M. (V3-02) . . . 271
Gouchi, J. (H5-04) . . . 92
Gouchi, J. (N11-05) . . . 178
Gouchi, J. (U11-03) . . . 259
Gourdon, C. (D6-01) . . . 36
Gourdon, C. (Q2-09) . . . 202
Gourdon, C. (U2-08) . . . 247
Gourgout, A. (K9-03) . . . 125
Govor, G. (L7-02) . . . 137
Graczyk, P. (T1-02) . . . 233
Graf, D. (D9-05) . . . 39
Graf, D. (J9-04) . . . 116
Graf, D. (T9-02) . . . 242
Graf, M. (N7-02) . . . 172
Graf, M. (T7-01) . . . 239
Gräfe, J. (B1-06) . . . 2
Gräfe, J. (B8-11) . . . 12
Gräfe, J. (D4-03) . . . 34
Gräfe, J. (M5-05) . . . 156
Gräfe, J. (T1-03) . . . 233
Granado, E. (H12-06) . . . 101
Granados-Miralles, C. (Z6-05) . . . 315
Grandal, J. (T7-02) . . . 240
Grande, P. (W3-05) . . . 283
Granovsky, A. (E4-01) . . . 44
Granovsky, A. (J5-05) . . . 112
Granovsky, A. (W2-05) . . . 282
Grantz, S. (C3-01) . . . 26
Gray, B.A. (M3-05) . . . 154
Gray, M. (E6-04) . . . 46
Gray, M.T. (K1-06) . . . 118
Green, B. (N17-07) . . . 187
Green, B. (N17-08) . . . 188
Green, B. (V7-03) . . . 275
Green, E. (K10-03) . . . 127
Green, R.J. (L13-07) . . . 147
Greenblatt, M. (V2-06) . . . 271
Greer, L.A. (S3-04) . . . 226
Greer, L.A. (U9-03) . . . 256
Grefe, S.E. (Q16-02) . . . 222
Gregg, J.F. (P4-05) . . . 192
Gremaud, B. (N13-05) . . . 180
Grenier, B. (D10-01) . . . 40
Grenier, B. (F9-08) . . . 64
Greven, M. (P7-01) . . . 195
Griffith, M.A. (F15-01) . . . 73
Griggs, W. (U15-02) . . . 266
Grigorev, V. (N17-06) . . . 187
Grigoriev, P.D. (U13-11) . . . 263
Grijalva Castillo, M.C. (B9-10) . . . 14
Grijalva Castillo, M.C. (H9-01) . . . 96
Grijalva Castillo, M.C. (W10-11) . . . 293
Grin, Y. (L5-11) . . . 135
Grin, Y. (L5-12) . . . 135
Grinenko, V. (J9-03) . . . 116
Grinenko, V. (W14-06) . . . 299
Grishunin, K. (H16-11) . . . 107
Grissonnanche, G. (W13-07) . . . 298
Gritsenko, C. (W3-09) . . . 284
Griveau, J. (Z9-03) . . . 318
Grivel, J. (V9-02) . . . 277
Grivel, J. (V9-03) . . . 277
Grockowiak, A. (M8-01) . . . 159
Groen, I. (F13-10) . . . 72
Grollier, J. (J1-03) . . . 108
Gron, T. (F5-01) . . . 57
Gron, T. (F5-02) . . . 57
Gron, T. (F5-03) . . . 58
Gron, T. (F5-06) . . . 58
Gron, T. (Z5-01) . . . 313
Gronemann, J. (Q12-03) . . . 216
Grosche, M. (M8-01) . . . 159
Grosche, M. (M9-03) . . . 160
Grosche, M. (N16-05) . . . 185
Grosche, M. (W14-13) . . . 301
Gross, E. (V7-04) . . . 275
Groß, F. (D4-03) . . . 34
Groß, F. (M5-05) . . . 156
Groß, F. (T1-03) . . . 233
Gross, J. (W10-07) . . . 293
Grossnickle, M.J. (M7-05) . . . 159
Grube, K. (P8-02) . . . 196
Grube, K. (S1-03) . . . 224
Grundmann, M. (N5-11) . . . 169
Grünebohm, A. (K2-03) . . . 118
Gruner, M. (G5-04) . . . 79
Gruszecki, P. (T1-03) . . . 233
Grutter, A.J. (D2-04) . . . 32
Grutter, A.J. (K2-04) . . . 119
Grutter, A.J. (M4-01) . . . 155
Grutter, A.J. (P7-01) . . . 195
Grutter, A.J. (S4-04) . . . 227
Grutter, A.J. (W12-10) . . . 296
Grutter, A.J. (W13-02) . . . 297
Grutter, A.J. (Z6-01) . . . 314
Grutter, A.J. (Z7-01) . . . 315
Gu, B. (W15-08) . . . 302
Gualdi, A. (U8-08) . . . 255
Guan, W. (H9-05) . . . 97
Gubbiotti, G. (N4-08) . . . 168
Gubbiotti, G. (N4-09) . . . 168
Gubbiotti, G. (T1-02) . . . 233
Gudin, A. (H2-11) . . . 87
Gudin, A. (L2-12) . . . 131
Gudin, A. (N10-02) . . . 176
Gudin, A. (Q1-02) . . . 199
Gudwanski, A. (F5-02) . . . 57
Guenther, C. (M6-03) . . . 157
Guerrero, A.M. (W2-07) . . . 282
Guerrero, R. (H11-02) . . . 99
Guerrero, R. (H2-11) . . . 87
Guerrero, R. (N1-04) . . . 162
Guerrero, R. (N10-02) . . . 176
Guerrero, R. (P6-04) . . . 194
Guerrero, R. (Q1-02) . . . 199
Guerrero, R. (Q7-06) . . . 209
Guerrero, R. (Q7-12) . . . 210
Guettler, M. (T7-05) . . . 240
Guguchia, Z. (F9-06) . . . 63
Guguchia, Z. (L12-03) . . . 145
Gui, Y. (Q2-08) . . . 202
Guidi, T. (K10-01) . . . 126
Guidi, T. (Z2-02) . . . 312
Guimaraes, A.P. (U16-10) . . . 268
Gukasov, A. (N15-05) . . . 184
Gulevich, D. (G6-04) . . . 80
Gumeniuk, R. (L14-07) . . . 148
Gunduz Akdogan, N. (B13-06) . . . 19
Gunduz Akdogan, N. (N8-05) . . . 174
Gunnarson, K. (Y5-04) . . . 305
Guo, C. (K8-02) . . . 124
Guo, C. (L15-06) . . . 150
Guo, C. (U10-01) . . . 257
Guo, G. (T2-03) . . . 234
Guo, J. (S8-01) . . . 230
Guo, W. (H15-08) . . . 105
Gupta, A. (H12-03) . . . 101
Gupta, A. (K1-05) . . . 117
Gupta, A. (Q14-02) . . . 220
Gupta, A. (U4-09) . . . 250
Gupta, J. (B2-07) . . . 4
Gupta, J. (N14-13) . . . 183
Gupta, M. (Q14-02) . . . 220
Gupta, M. (U4-09) . . . 250
Gupta, N. (B16-05) . . . 23
Gupta, R. (T5-06) . . . 238
Gupta, S. (B2-03) . . . 3
Gupta, S. (F8-09) . . . 62
Gupta, S. (H6-04) . . . 93
Gupta, S. (W10-10) . . . 293
Gurieva, T. (L2-08) . . . 131
Gurieva, T. (T3-04) . . . 235
Gurieva, T. (V1-04) . . . 269
Gurieva, T. (Z6-03) . . . 315
Gurioli, M. (B7-03) . . . 10
Gürsoy, D. (E3-03) . . . 43
Gurung, N. (T10-04) . . . 244
Gusev, V. (T6-03) . . . 239
Guslienko, K. (L11-08) . . . 144
Gusmão, M.E. (Q15-04) . . . 221
Gutfleisch, O. (G5-04) . . . 79
Gutfleisch, O. (L7-02) . . . 137
Guthrie, M.S. (W1-08) . . . 281
Gutierrez, C.O. (T5-01) . . . 237
Gutmann, M. (L10-08) . . . 143
Gvozdikova, M. (F7-05) . . . 60
Gweon, H. (L2-02) . . . 130
Gyulasaryan, H. (H1-12) . . . 85

- H -

Ha, D. (N8-02) . . . 173
Ha, J. (N7-04) . . . 172
Haase, J. (K10-03) . . . 127
Hache, T. (M1-05) . . . 153
Hache, T. (T1-01) . . . 233
Hada, T. (J7-04) . . . 114
Hadimani, R.L. (B2-03) . . . 3
Hadimani, R.L. (B2-06) . . . 4
Hadimani, R.L. (F8-09) . . . 62
Hadimani, R.L. (H6-03) . . . 93
Hadimani, R.L. (H6-04) . . . 93
Hadimani, R.L. (W10-10) . . . 293
Hadjipanayis, G. (Q9-08) . . . 212
Haenel, J. (U12-01) . . . 260
Hafner, D. (T9-03) . . . 242
Hafner, D. (Y9-01) . . . 309
Haga, Y. (G9-03) . . . 83
Haga, Y. (G9-04) . . . 83
Haga, Y. (H13-02) . . . 102
Haga, Y. (W6-06) . . . 288
Hage-Ali, S. (S3-03) . . . 226
Hägele, D. (J5-06) . . . 112
Häggblad Sahlberg, M. (Y5-04) . . . 305
Haghighirad, A. (U13-13) . . . 264
Haghshenasfard, Z. (N4-08) . . . 168
Hagihara, M. (W3-02) . . . 283
Hagiwara, M. (Q5-06) . . . 206
Hagiwara, M. (Q5-07) . . . 206
Haglund, A. (T2-05) . . . 235
Haines, C.R. (N7-01) . . . 172
Haines, C.R. (Q12-05) . . . 216
Hajiri, T. (J6-02) . . . 112
Hakhou, F. (W13-03) . . . 297
Halasz, G. (J10-02) . . . 116
Hallal, A. (U5-10) . . . 252
Hallas, A. (P10-01) . . . 198
Haller, E. (H13-02) . . . 102
Halley, D. (U1-08) . . . 245
Hallsteinsen, I. (S4-04) . . . 227
Ham, W. (N10-03) . . . 176
Ham, W. (Q13-05) . . . 218
Hamad, M.K. (N6-03) . . . 171
Hamamoto, S. (U14-06) . . . 265
Hamane, D. (F1-01) . . . 51
Hamaya, K. (V6-03) . . . 274
Hamedoun, M. (B13-03) . . . 19
Hamidov, H. (Q12-05) . . . 216
Hamilton, E. (W5-05) . . . 286
Hamilton, J.K. (W1-05) . . . 281
Hamlin, J.J. (P8-02) . . . 196
Hammer, L. (N14-10) . . . 182
Hampel, A. (Q10-01) . . . 213
Han, D. (B9-07) . . . 13
Han, H. (J6-01) . . . 112
Han, H. (N14-09) . . . 182
Han, H. (P1-04) . . . 189
Han, H. (Q15-03) . . . 221
Han, H. (U1-04) . . . 245
Han, J. (C10-01) . . . 30
Han, K. (N9-08) . . . 176
Han, M. (W11-01) . . . 294
Han, M. (W13-11) . . . 298
Han, S. (M1-03) . . . 152
Han, T. (U9-01) . . . 256
Han, W. (F12-07) . . . 70

*Best student presentation award finalist

*Best student presentation award finalist

Han, W. (H14-09) 104
Han, W. (P4-01) 192
Han, X. (L13-12) 147
Han, X. (M2-03) 153
Han, X. (U15-08) 267
Hancock, J. (N3-08) 166
Hancock, J. (Y8-03) 308
Haneef, A. (Q8-01) 210
Haney, P.M. (Q13-13) 219
Hang, X. (H4-02) 90
Hanke, J. (P4-03) 192
Hanke, J. (V7-01) 275
Hankiewicz, J.H. (C6-02) 28
Hankiewicz, J.H. (Q7-08) 209
Hansen, U.B. (B10-03) 15
Hansen, U.B. (D10-03) 40
Hao, J. (F8-01) 61
Hara, Y. (H5-10) 92
Hara, Y. (W10-08) 293
Harada, K. (H2-02) 86
Harada, M. (H3-01) 88
Harasawa, A. (Q12-08) 217
Harashima, Y. (Y5-03) 305
Harder, M. (Q2-08)* 202
Hardy, W.N. (W13-07) 298
Harima, H. (H13-02) 102
Harima, H. (N7-09) 173
Harima, H. (U12-05) 261
Haripriya, G. (L10-07) 142
Harris, I.R. (P5-03) 193
Harris, V.G. (F10-08) 65
Harris, V.G. (H9-07) 97
Harrison, N. (P9-01) 197
Harrison, N. (Q16-07) 223
Harrison, N. (V10-04) 279
Harrison, N. (Z8-04) 317
Harstad, S.M. (B2-03) 3
Harstad, S.M. (B2-06) 4
Harstad, S.M. (F8-09) 62
Harstad, S.M. (H6-04) 93
Harstad, S.M. (W10-10) 293
Hartmann, S. (C9-02) 30
Hartstein, M. (P9-01) 197
Hartstein, M. (Z8-04) 317
Hase, M. (F9-02) 63
Hase, M. (H3-07) 89
Hase, T.P. (Q14-06) 220
Hasegawa, S. (W5-11) 287
Hasegawa, T. (L2-05) 130
Hasegawa, T. (U12-03) 261
Hasegawa, Y. (W6-06) 288
Hashimoto, M. (T8-04) 241
Hashimoto, T. (L1-07) 128
Hashimoto, T. (T8-02) 241
Hashimoto, T. (W15-02) 301
Hashizume, K. (W15-06) 302
Hashmi, A. (Q14-03) 220
Haskel, D. (T10-03) 243
Haskel, D. (V4-03) 272
Haslbeck, F. (B16-08) 24
Haslbeck, F. (G9-02) 82
Haslinger, M. (B2-01) 3
Hassan, P. (B2-07) 4
Hassinger, E. (L5-12) 135
Hassinger, E. (L15-05) 150
Hassinger, H. (K9-01) 125
Hata, T. (V8-01) 276
Hatsugai, Y. (H8-01) 95
Hatton, P. (K7-05) 124
Hattori, K. (U11-01) 259
Häußler, W. (B16-08) 24
Havela, L. (Q6-01) 207
Havela, L. (Q9-05) 212
Haverkort, M. (N3-03) 166
Haverkort, M. (Q10-02) 213
Haw, S. (N14-08) 182
Hawsawi, M. (Q8-01) 210
Hayami, S. (T2-01) 234
Hayashida, H. (F4-04) 56
Hayashida, S. (V10-06) 280
Hayashida, S. (W5-11) 287
Hayashita, T. (W15-02) 301
Hayes, I. (E9-03) 49
Hayes, I. (Z8-02) 317
Hazra, B.K. (T2-02) 234
He, C. (Q13-04) 218
He, J. (F8-01) 61
He, J. (H10-06) 98
He, L. (U12-08) 261
He, P. (K4-01) 120
He, Q. (Q13-04) 218
He, Q. (W12-10) 296
He, Q. (Z7-01) 315
He, X. (H10-06) 98
He, X. (L13-11) 147
He, X. (Q5-03) 206
He, X. (U6-02) 252
Heczko, O. (L13-02) 146
Heczko, O. (N5-01) 168
Heczko, O. (P2-04) 190
Hedo, M. (F3-11) 55
Hedrich, N. (B1-10) 2
Hehn, M. (S3-03) 226
Hehn, M. (S7-05) 230
Hehn, M. (U9-04) 256
Hehn, M. (W2-01) 281
Heikes, C. (M2-01) 153
Heikes, C. (S9-03) 232
Heindl, R. (B10-08) 16
Heinemann, A. (G9-02) 82
Heinonen, O. (K6-02) 122
Heinonen, O. (T6-02) 239
Heinz, B. (B4-03) 6
Heinz, B. (B8-08) 12
Heinz, T. (G3-01) 76
Heinze, L. (G10-01) 83
Heiras Aguirre, J.L. (W2-07) 282
Heiras Aguirre, J.L. (W5-07) 286
Hellman, F. (E2-04) 42
Hellman, F. (H16-01) 106
Hellsvik, J. (H15-09) 105
Hellsvik, J. (Q12-11) 217
Hellwig, O. (M1-05) 153
Hellwig, O. (S7-03) 230
Hellwig, O. (V7-03) 275
Helm, T. (K9-01) 125
Helm, T. (U14-04) 265
Henk, J. (D2-03) 32
Henk, J. (L11-03) 143
Henriques, M. (Q12-03) 216
Henriques, M. (Q6-01) 207
Henry, Y. (U1-08) 245
Henschel, A. (G8-04) 82
Herbrych, J. (H3-06) 89
Herfort, J. (F6-04) 59
Herfort, J. (W12-05) 296
Herklotz, A. (K2-01) 118
Herklotz, A. (S4-02) 226
Hermann, A. (L16-06) 151
Hermann, A. (L5-01) 134
Hermann, A. (P8-01) 196
Hermes, M. (B2-09) 4
Hernandez Ferras, J. (Q2-10) 202
Hernàndez Ferràs, J. (U16-11) 268
Hernández-López, L. (B10-04) 15
Hernández-López, L. (G4-03) 77
Hernández-Mínguez, A. (L2-07) . . . 131
Hernández-Mínguez, A. (Q2-10) . . . 202
Hernàndez, J. (L2-07) 131
Herper, H.C. (K2-03) 118
Herper, H.C. (Q9-04) 212
Herper, H.C. (Y5-01) 305
Herranz, G. (L2-07) 131
Herranz, G. (P7-03) 195

*Best student presentation award finalist

Herrero-Albillos, J. (B10-01) 14
Herrero-Albillos, J. (B10-04) 15
Herrero-Albillos, J. (Q1-04) 200
Herrero-Martin, J. (B10-04) 15
Herrero-Martin, J. (G8-04) 82
Herrmannsdoerfer, T. (K10-03) 127
Herrmannsdoerfer, T. (L16-01) 150
Hertel, R. (K7-05) 124
Hervé, A. (B5-03) 7
Hesjedal, T. (K7-05) 124
Hessing, P. (M6-03) 157
Hétroy-Wheeler, E. (W5-05) 286
Heussner, F. (B4-03) 6
Heyderman, L. (K2-06) 119
Heyderman, L. (L2-04) 130
Heyderman, L. (L11-06) 144
Heyderman, L. (P10-02) 198
Heyderman, L. (S10-05) 233
Heyderman, L. (T10-04) 244
Heyns, M. (U5-05) 251
Hibbins, A.P. (G1-03) 75
Hibino, Y. (Q13-02) 218
Hickel, T. (U13-08) 263
Hicken, R.J. (F1-06) 52
Hicken, R.J. (J6-03) 113
Hickey, B. (M1-01) 152
Hickey, B. (W8-01) 290
Hickey, B. (W12-04) 296
Hickey, B. (W12-08) 296
Hicks, C. (D8-02) 38
Hicks, C. (T8-03) 241
Hidaka, H. (F12-04) 69
Hidaka, H. (H13-06) 102
Hidaka, H. (J8-03) 115
Hidaka, H. (Z9-04) 318
Hidayah, I. (H6-08) 94
Hierro-Rodriguez, A. (E3-03) 43
Hierro-Rodriguez, A. (Q1-04) 200
Higa, N. (F3-11) 55
Higashi, D. (L4-05) 134
Higashinaka, R. (L15-02) 149
Higashinaka, R. (L15-03) 149
Higashinaka, R. (U11-06) 259
Higashinaka, R. (U11-07) 260
Higashiya, A. (U14-06) 265
Higemoto, W. (U12-03) 261
Higgins, J. (N15-03) 184
Higley, D. (N17-04) 187
Higo, T. (F1-01) 51
Higo, T. (F1-04) 51
Hijii, K. (K10-02) 126
Hikihara, T. (H3-05) 89
Hikita, Y. (L8-04) 138
Hikita, Y. (V4-04) 272
Hikita, Y. (Z8-05) 317
Hilgenkamp, H. (U4-07) 250
Hill, R. (P9-01) 197
Hill, S. (J2-01) 108
Hillebrands, B. (B4-03) 6
Hillebrands, B. (D1-02) 31
Hillebrands, B. (E4-02) 44
Hillebrands, B. (H2-08) 87
Hillebrands, B. (L8-08) 139
Hillebrands, B. (P4-05) 192
Hillebrands, B. (Q2-04) 201
Hillier, A. (H3-04) 88
Hillier, A. (H13-09) 103
Hillier, A. (U13-04) 262
Hillion, A. (T6-03) 239
Hillion, A. (W2-01) 281
Hindmarch, A. (P7-02) 195
Hinkel, D. (F13-01) 70
Hinkel, D. (N10-01) 176
Hino, H. (M5-04) 156
Hino, H. (T3-06) 236
Hinrichs, S. (B2-09) 4
Hiraka, H. (Q3-03) 203
Hiraka, H. (U10-06) 257
Hirale, J. (K9-04) 125
Hiramatsu, R. (Z4-02) 313
Hirano, W. (N3-04) 166
Hirano, W. (P9-03) 198
Hirano, W. (Q16-04) 222
Hirao, N. (W14-07) 300
Hirao, N. (W14-12) 300
Hirao, Y. (K10-02) 126
Hiraoka, K. (F3-10) 55
Hiraoka, N. (N3-08) 166
Hiraoka, Y. (F4-06) 57
Hirata, M. (B16-02) 23
Hirata, M. (S9-02) 231
Hirata, Y. (M6-02) 157
Hirata, Y. (U1-09) 245
Hirohata, A. (E3-05) 43
Hirohata, A. (L13-05) 147
Hirohata, A. (Q1-05) 200
Hirohata, A. (U16-05) 268
Hirohata, A. (V1-01) 269
Hirohata, A. (W8-06) 291
Hiroi, K. (F4-01) 56
Hiroi, K. (F4-04) 56
Hiroi, M. (F12-05) 69
Hiroi, M. (Q3-02) 203
Hiroi, M. (Q3-06) 203
Hiroi, M. (Q3-07) 204
Hiroi, M. (W4-02) 284
Hirokawa, S. (F3-07) 55
Hirokawa, S. (L13-08) 147
Hirosawa, S. (M5-01) 156
Hirose, A. (B6-10) 9
Hirose, H. (P8-03) 197
Hirose, Y. (B14-04) 20
Hirose, Y. (H15-07) 105
Hirose, Y. (K9-03) 125
Hirose, Y. (U11-08) 260
Hirose, Y. (U14-03) 265
Hishida, S. (H13-08) 103
Hishida, S. (H13-09) 103
Hitosugi, T. (L14-08) 149
Hitti, B. (H3-01) 88
Hjörvarsson, B. (Q8-03) 211
Hjörvarsson, B. (Q14-06) 220
Hlawacek, G. (B8-01) 11
Ho, P. (H13-08) 103
Ho, P. (H13-09) 103
Ho, P. (Q10-07) 214
Hoch, J.P. (M1-02) 152
Hoefer, M. (H11-06) 99
Hoefer, M. (H16-09) 107
Hoefer, M. (N17-04) 187
Hoefer, M. (Q13-12) 219
Hoefer, M. (U16-12) 268
Hoesch, M. (T8-01) 241
Hoffmann, A. (B8-13) 13
Hoffmann, A. (D4-05) 34
Hoffmann, A. (K6-02) 122
Hoffmann, A. (L8-09) 139
Hoffmann, A. (N17-01) 186
Hoffmann, A. (T6-02) 239
Hoffmann, A. (U16-02) 267
Hoffmann, G. (W12-05) 296
Hoffmann, J. (G10-01) 83
Hoffmann, M. (P1-03) 189
Hofmann, S. (J7-02) 113
Höft, M. (M3-03) 154
Hoglin, V. (Y5-04) 305
Hohs, D. (S5-04) 228
Holder, T. (E8-03) 48
Holenstein, S. (U13-09) 263
Holm-Dahlin, S. (V9-02) 277
Holzinger, D. (T6-04) 239
Homma, Y. (H13-02) 102
Homma, Y. (L5-09) 135
Honda, F. (H13-02) 102

*Best student presentation award finalist

Honda, F. (L5-09) 135
Honda, F. (Q6-01) 207
Honda, F. (S8-04) 231
Honda, F. (U11-08) 260
Honda, F. (U14-03) 265
Honda, S. (B3-05) 5
Honda, S. (Q1-12) 201
Honda, S. (V5-02) 273
Honda, T. (V2-04) 270
Honecker, A. (B14-05) 21
Honecker, D. (F11-04) 67
Honecker, D. (T2-01) 234
Hong, D. (Q4-09) 205
Hong, D. (U6-03) 252
Hong, J. (H11-11) 100
Hong, J. (H4-03) 90
Hong, J. (L7-07) 138
Hong, J. (N2-02) 164
Hong, J. (N2-03) 164
Hong, J. (N7-04) 172
Hong, J. (P1-04) 189
Hong, J. (Q14-03) 220
Hong, J. (S5-05) 228
Hong, J. (U1-04) 245
Hong, J. (U3-02) 247
Hong, J. (U3-03) 248
Hong, J. (U3-05) 248
Hong, J. (U15-06) 267
Hong, J. (W11-09) 295
Hong, M. (H11-13) 100
Hong, M. (Q13-07) 218
Hong, S. (F12-11) 70
Hong, S. (M1-03) 152
Hong, S. (N2-05) 164
Hong, S. (V4-04) 272
Hong, T. (H12-02) 101
Hong, T. (V10-06) 280
Hong, Y. (B9-09) 14
Hono, K. (U5-10) 252
Horiba, K. (P9-03) 198
Horio, M. (V9-05) 278
Horký, M. (L2-09) 131
Horký, M. (U7-05) 253
Horsch, P. (M8-03) 159
Horsley, S.A. (B8-09) 12
Horsley, S.A. (U1-07) 245
Horvatic, M. (V10-05) 280
Hosoi, S. (T8-03) 241
Hosokoshi, Y. (C2-01) 25
Hosokoshi, Y. (V10-01) 279
Hosono, H. (U13-02) 262
Hossain, Z. (U12-04) 261
Hossain, Z. (W14-01) 299
Hou, D. (B1-03) 2
Hou, D. (F1-06) 52
Hou, J. (E6-05) 47
Hou, Y. (E6-05) 47
Hovorka, O. (B6-04) 8
Hovorka, O. (K7-05) 124
Hovorka, O. (L11-01) 143
Hovorka, O. (S10-04) 233
Howe, B.M. (K1-06) 118
Howe, B.M. (M3-05) 154
Hrabec, A. (Q1-01) 199
Hristov, A. (Y9-05) 310
Hrkac, G. (K7-02) 123
Hrkac, G. (L2-04) 130
Hrkac, S. (N17-04) 187
Hsieh, J. (G4-05) 78
Hsu, C. (N14-12) 183
Hsu, P. (N12-03) 178
Hsu, S. (Y7-04) 307
Hsu, Y. (P9-01) 197
Hsu, Y. (Z8-04) 317
Hu, C. (Q2-08) 202
Hu, J. (Y8-01) 308
Hu, M.Y. (G5-04) 79
Hu, X. (D3-02) 33
Hu, Z. (G8-04) 82
Hu, Z. (L12-11) 146
Hu, Z. (L13-11) 147
Hu, Z. (N8-10) 174
Hu, Z. (Q7-03) 209
Hua, N. (N17-04) 187
Huaman, R. (W2-04) 282
Huang, A. (N8-01) 173
Huang, B. (G5-02) 78
Huang, B. (H6-02) 93
Huang, B. (N14-03) 181
Huang, C. (B15-01) 21
Huang, C. (H2-10) 87
Huang, K. (D9-05) 39
Huang, K. (J8-03) 115
Huang, L. (W15-03) 301
Huang, M. (C1-03) 25
Huang, M. (M5-03) 156
Huang, P. (C3-01) 26
Huang, S. (D2-04) 32
Huang, X. (F8-03) 62
Huang, Y. (H5-08) 92
Huang, Y. (S9-04) 232
Huang, Y. (Y7-04) 307
Huang, Y.S. (B8-04) 11
Huber, D.L. (G4-01) 77
Hudl, M. (V7-03) 275
Huebner, R. (B1-10) 2
Huettenes, W.K. (U10-04) 257
Huettenes, W.K. (U9-03) 256
Hug, H.J. (P6-03) 194
Hug, H.J. (S6-05) 229
Hug, H.J. (U4-01) 249
Hug, H.J. (Z6-02) 315
Huhnstock, R. (T6-04) 239
Hula, T. (U1-08) 245
Humphries, A. (F13-11) 72
Humphries, A. (Z4-03) 313
Hunagund, S. (B2-03) 3
Hunagund, S. (B2-06) 4
Hung, C. (N2-03) 164
Hunt-Isaak, I. (G4-05) 78
Hunt, B. (T2-05) 235
Huo, Y. (N10-06) 177
Husain, S. (B16-05) 23
Hussain, M. (Q8-01) 210
Hussain, Z. (Q6-02) 207
Hussain, Z. (W11-05) 294
Hussein, Z.A. (B2-06) 4
Hussey, N. (D9-04) 39
Huth, M. (D4-04) 34
Huth, P. (N5-11) 169
Huxley, A. (H13-03) 102
Huxley, A. (L5-01) 134
Huxley, A. (P8-01) 196
Huxley, A. (P9-04) 198
Huyan, S. (H14-07) 104
Hwang, C. (F1-06) 52
Hwang, C. (N3-06) 166
Hwang, C. (Q6-02) 207
Hwang, C. (W11-06) 295
Hwang, E. (W11-01) 294
Hwang, E. (Z2-05) 312
Hwang, G. (B13-04) 19
Hwang, H. (L8-04) 138
Hwang, H. (V4-04) 272
Hwang, H. (Z8-05) 317
Hwang, S. (B6-07) 9
Hwang, S. (B6-09) 9
Hwang, Y. (U5-04) 251
Hwang, Y. (U5-06) 251
Hyun, J. (Q12-07) 217

- I -

Iacocca, E. (H11-06) 99
Iacocca, E. (H16-09) 107
Iacocca, E. (K6-02) 122
Iacocca, E. (N17-04) 187
Iacocca, E. (Q13-12) 219
Iacocca, E. (U16-12) 268
Ibarra-Gaytan, P. (U15-07) 267
Ibarra-Sánchez, J. (H1-03) 84
Ibrahim, M.N. (S5-01) 227
Ichiyanagi, Y. (L1-07) 128
Ide, T. (L1-07) 128
Idzerda, Y.U. (V4-05) 273
Iga, F. (L5-07) 135
Iga, F. (N3-04) 166
Iga, F. (P9-03) 198
Iga, F. (Q16-04) 222
Iga, F. (Q3-04) 203
Iglesias, O. (G4-02) 77
Iglesias, O. (L1-05) 128
Iglesias, O. (N1-02) 162
Iglesias, O. (N1-12) 163
Iguchi, S. (H3-02) 88
Iguchi, S. (W15-02) 301
Ihara, Y. (H13-06) 102
Ihlefeld, J.F. (Y7-01) 307
Iida, K. (P2-05) 190
Iida, K. (Y8-01) 308
Iihama, S. (B8-05) 12
Iihama, S. (S7-05) 230
Iihama, S. (Z4-02) 313
Iimura, S. (U13-02) 262
Iino, T. (H10-03) 98
Iizasa, D. (W8-06) 291
Iizuka, R. (W6-03) 287
Ijiri, Y. (G4-05) 78
Ikebuchi, T. (B1-02) 2
Ikebuchi, T. (N10-03) 176
Ikeda, H. (U14-01) 264
Ikeda, R. (W7-01) 288
Ikeda, S. (W14-07) 300
Ikeda, S. (W14-12) 300
Ikeda, Y. (H12-02) 101
Ikedo, Y. (H3-01) 88
Ikeuchi, K. (W13-10) 298
Ikhlas, M. (F1-04) 51
Ikhsan, N. (N2-01) 164
Ikhsan, N. (U4-03) 249
Ilse, S.E. (D4-03) 34
Ilse, S.E. (M5-05) 156
Im, M. (P1-04) 189
Im, M. (Q14-04) 220
Im, M. (U1-04) 245
Im, M. (U3-03) 248
Im, M. (U15-06) 267
Imada, S. (U14-06) 265
Imai, M. (J9-02) 115
Imai, Y. (B16-01) 23
Imamura, H. (U2-04) 247
Imperatori, P. (H1-04) 84
Imura, K. (L5-06) 135
Imura, K. (N3-08) 166
Imura, K. (W7-01) 288
Ina, T. (U11-07) 260
Inaba, N. (H4-01) 90
Inagaki, Y. (L5-07) 135
Inagaki, Y. (W6-07) 288
Inagaki, Y. (W15-06) 302
Incorvia, J.C. (G3-01) 76
Inglis, A. (P4-05) 192
Inkaya, U.Y. (Q7-02) 209
Inokuchi, T. (G7-02) 80
Inoue, H. (Z8-05) 317
Inoue, J. (J4-04) 111
Inoue, J. (Q9-02) 212
Inoue, K. (B10-02) 15
Inoue, K. (B10-11) 16
Inoue, K. (Q2-11) 202
Inoue, M. (E4-01) 44
Ipatov, M. (H9-03) 96
Ipatov, M. (H9-04) 97
Ipatov, M. (J5-02) 111
Iqbal, Y. (C10-04) 31
Iqbal, Y. (G8-02) 81
Irie, K. (D8-04) 38
Irons, H. (J2-05) 109
Isaac, B. (N7-02) 172
Isaac, B. (T7-01) 239
Isaza, V.C. (N5-03) 168
Ishibashi, H. (L12-06) 145
Ishibashi, M. (C1-01) 24
Ishibashi, M. (N2-07) 165
Ishida, K. (H13-01) 102
Ishida, K. (K9-04) 125
Ishida, K. (U14-01) 264
Ishida, K. (U14-05) 265
Ishida, M. (Y2-05) 303
Ishigaki, K. (Q6-03) 207
Ishigaki, T. (Z5-02) 314
Ishii, I. (H5-01) 91
Ishii, I. (U11-04) 259
Ishii, R. (F1-01) 51
Ishii, T. (U14-05) 265
Ishii, Y. (H2-02) 86
Ishii, Y. (L12-06) 145
Ishikawa, K. (S9-02) 231
Ishikawa, M. (G7-02) 80
Ishikawa, M. (W1-07) 281
Ishikawa, T. (G3-02) 76
Ishikawa, T. (M5-04) 156
Ishikawa, T. (U14-06) 265
Ishimatsu, N. (U14-03) 265
Ishizuka, J. (S8-03) 231
Isikawa, Y. (N5-07) 169
Islam, A. (G8-02) 81
Islam, M.S. (W15-06) 302
Islam, Z. (B14-06) 21
Islam, Z. (T10-02) 243
Isnard, O. (F7-10) 61
Isobe, M. (F9-06) 63
Issac, F. (K3-04) 120
Itakura, M. (H4-01) 90
Ito, H. (H2-05) 86
Ito, K. (V5-01) 273
Ito, S. (L5-05) 135
Ito, T. (F9-02) 63
Ito, T. (W5-03) 286
Itoh, H. (B3-05) 5
Itoh, K. (H13-02) 102
Itoh, M. (H7-03) 94
Itoh, M. (W14-10) 300
Itoh, N. (F2-10) 54
Itoh, R. (B1-07) 2
Itoh, R. (Y6-03) 306
Itoh, S. (V10-06) 280
Iubini, S. (B4-02) 6
Iurchuk, V. (L9-06) 141
Iusan, D. (H15-09) 105
Ivanov, D. (N13-04) 180
Ivanov, N.B. (H3-10) 89
Ivanova, O. (J4-01) 110
Ivantsov, R. (J4-01) 110
Ivashko, O. (V9-05) 278
Ivek, T. (G10-02) 83
Iwano, K. (G3-02) 76
Iwano, K. (M5-04) 156
Iwasa, Y. (J7-01) 113
Iwasaki, Y. (Y2-05) 303
Iwasawa, H. (T8-01) 241
Iwata-Harms, J.M. (V3-03) 271
Izadkhah, H. (B6-06) 9
Izquierdo, J.L. (H7-06) 95
Izquierdo, J.L. (N5-03) 168
Izquierdo, J.L. (W5-07) 286

- J -

Jaafar, M. (L11-08) 144

*Best student presentation award finalist

*Best student presentation award finalist

Jacinto, C. (B7-02) . . . 10
Jackeli, G. (K10-04) . . . 127
Jacko, A. (V10-03) . . . 279
Jackson, E. (E3-05) . . . 43
Jackson, E. (W8-06) . . . 291
Jackson, J. (Z10-02) . . . 319
Jackson, M.A. (U5-08) . . . 251
Jacobsen, H. (B16-04) . . . 23
Jacobsen, H. (V9-02) . . . 277
Jacobsen, H. (W5-05) . . . 286
Jacques, V. (E3-01) . . . 43
Jadwisienczak, W. (Q11-09) . . . 215
Jadwisienczak, W. (Q11-10) . . . 215
Jaglicic, Z. (F7-01) . . . 60
Jahjah, W. (K1-04) . . . 117
Jaime, M. (Q10-07) . . . 214
Jaiswal, S. (Q8-01) . . . 210
Jakob, G. (Q8-01) . . . 210
Jakubcin, M. (Q11-07) . . . 215
Jakubcin, M. (W10-01) . . . 292
James Raju, K. (F10-09) . . . 65
Jan, G. (V3-03) . . . 271
Jang, D. (U13-03) . . . 262
Jang, D. (Y9-01) . . . 309
Jang, J. (L15-01) . . . 149
Jang, L. (G8-04) . . . 82
Jang, S. (E9-03) . . . 49
Jang, S. (W13-11) . . . 298
Jang, T. (M5-02) . . . 156
Janoschek, M. (G9-02) . . . 82
Janoschek, M. (J8-03) . . . 115
Janoschek, M. (Z9-02) . . . 318
Jao, M. (N14-12) . . . 183
Jaouen, N. (P1-02) . . . 188
Jaouen, N. (U9-06) . . . 256
Jara, A.A. (D1-01) . . . 31
Jara, A.A. (U2-01) . . . 246
Jarillo-Herrero, P. (N14-03) . . . 181
Jaris, M. (H16-08) . . . 107
Jarrige, I. (N3-08) . . . 166
Jaubert, L. (H8-05) . . . 96
Jaubert, L. (N15-04) . . . 184
Javed, K. (L13-12) . . . 147
Javed, K. (W10-10) . . . 293
Javorsky, P. (F3-05) . . . 55
Javorsky, P. (H13-07) . . . 102
Javorsky, P. (T3-05) . . . 235
Jay, J. (K1-04) . . . 117
Je, S. (U15-06) . . . 267
Jeffries, J.R. (W13-02) . . . 297
Jeffris, K. (C6-03) . . . 28
Jelen, A. (F7-01) . . . 60
Jellet, C. (W8-02) . . . 290
Jendrzejewska, I. (F5-03) . . . 58
Jeng, H. (W6-06) . . . 288
Jeng, J. (N9-01) . . . 175
Jenichen, B. (F6-04) . . . 59
Jenichen, B. (W12-05) . . . 296
Jenkins, S. (B1-04) . . . 2
Jenkins, S. (P6-05) . . . 194
Jenkins, S. (Q15-08) . . . 221
Jensen, J. (D10-03) . . . 40
Jenus, P. (K5-03) . . . 121
Jeon, G. (Y1-02) . . . 303
Jeon, H. (K1-06) . . . 118
Jeon, H. (M3-05) . . . 154
Jeon, I. (D9-05) . . . 39
Jeon, K. (H11-08) . . . 100
Jeon, K. (K1-03) . . . 117
Jeong, G. (Q4-02) . . . 204
Jeong, H. (H4-05) . . . 90
Jeong, J. (M8-02) . . . 159
Jeong, J. (W9-05) . . . 292
Jeong, J.S. (K2-04) . . . 119
Jeong, J.S. (M1-02) . . . 152
Jeong, M. (B10-03) . . . 15
Jeong, M. (N6-02) . . . 171
Jeong, Y. (U6-03) . . . 252
Jeschke, H. (C10-04) . . . 31
Jeschke, H. (G8-02) . . . 81
Jesus, C.B. (F3-03) . . . 56
Jesus, C.B. (F3-08) . . . 55
Jesus, C.B. (W14-04) . . . 299
Jha, R. (L15-02) . . . 149
Jha, R. (L15-03) . . . 149
Jha, S. (L6-01) . . . 136
Ji, W. (Q4-02) . . . 204
Ji, X. (U9-01) . . . 256
Ji, Y. (B6-11) . . . 9
Ji, Y. (W8-07) . . . 291
Jia, H. (B1-11) . . . 3
Jia, M. (B1-05) . . . 2
Jia, M. (N10-06) . . . 177
Jia, M. (V7-05) . . . 275
Jia, Q. (Y7-01) . . . 307
Jia, S. (L10-06) . . . 142
Jiang, C. (Q6-02) . . . 207
Jiang, J. (Q6-02) . . . 207
Jiang, L. (H9-08) . . . 97
Jiang, W. (K6-02) . . . 122
Jiang, W. (T6-02) . . . 239
Jiang, X. (N8-01) . . . 173
Jiang, Y. (B2-10) . . . 4
Jiang, Y. (B6-07) . . . 9
Jiang, Y. (B6-09) . . . 9
Jiang, Y. (N1-07) . . . 163
Jiang, Y. (Q4-04) . . . 204
Jiang, Y. (Q13-08) . . . 219
Jiang, Y. (U2-02) . . . 246
Jiang, Y. (W10-05) . . . 293
Jiang, Y. (Y7-01) . . . 307
Jiao, L. (C9-02) . . . 30
Jiao, L. (T9-02) . . . 242
Jih, N. (H2-10) . . . 87
Jimenez, K.R. (K5-05) . . . 122
Jin, H. (E8-04) . . . 48
Jin, T. (Q1-07) . . . 200
Jin, X. (N4-05) . . . 167
Jin, X. (Q8-05) . . . 211
Jin, X. (Z5-04) . . . 314
Jin, Y. (F5-07) . . . 58
Jin, Z. (S2-05) . . . 225
Jindasuwan, S. (F2-02) . . . 53
Jing, T. (H6-01) . . . 93
Jinnai, B. (F13-02) . . . 71
Jinnai, B. (F13-03) . . . 71
Jinnai, B. (F6-01) . . . 59
Jo, I. (Q4-02) . . . 204
Johannes, M. (P9-01) . . . 197
Johrendt, D. (U13-09) . . . 263
Joly, Y. (T10-04) . . . 244
Jones, J. (K1-05) . . . 117
Jonietz, F. (B16-08) . . . 24
Jónsson, H. (L11-04) . . . 143
Jonsson, V. (F9-06) . . . 63
Jorba Cabré, P. (F7-04) . . . 60
Joshi, D. (F12-09) . . . 70
Joshi, R. (F10-10) . . . 66
Joshi, R. (F10-11) . . . 66
Joshi, T. (U15-05) . . . 266
Jossart, N. (V3-04) . . . 272
Josse, M. (V2-03) . . . 270
Josten, E. (B8-11) . . . 12
Jotania, R. (F10-09) . . . 65
Jotania, R. (F10-10) . . . 66
Jotania, R. (F10-11) . . . 66
Jouini, N. (N1-06) . . . 163
Jouini, N. (Q15-01) . . . 221
Joumard, I. (Q14-01) . . . 219
Joumard, I. (U1-10) . . . 246
Jourdan, M. (N17-06) . . . 187
Jourdan, M. (Q7-09) . . . 209
Jozwiak, C. (W11-05) . . . 294
Ju, G. (C3-01) . . . 26
Ju, X. (N8-10) . . . 174
Ju, Y. (E6-05) . . . 47
Jué, E. (L9-07) . . . 141
Julian, S.R. (U12-08) . . . 261
Julien, J. (Q16-08) . . . 223
Jung, D. (J6-01) . . . 112
Jung, D. (Q15-03) . . . 221
Jung, J. (W11-01) . . . 294
Jung, J. (W15-03) . . . 301
Jung, J. (Z2-05) . . . 312
Jung, M. (N16-03) . . . 185
Jung, M. (P1-04) . . . 189
Jung, M. (U3-03) . . . 248
Jung, M. (U3-05) . . . 248
Jung, M. (U15-06) . . . 267
Jung, M. (W11-04) . . . 294
Jung, S. (D4-02) . . . 34
Jung, S. (L15-01) . . . 149
Jung, S.H. (L3-07) . . . 132
Jungfleisch, M. (B8-13) . . . 13
Jungfleisch, M. (D4-05) . . . 34
Jungfleisch, M. (K6-02) . . . 122
Jungfleisch, M. (N17-01) . . . 186
Jungfleisch, M. (T6-02) . . . 239
Jungwirth, T. (B1-09) . . . 2
Jungwirth, T. (G6-01) . . . 79
Jungwirth, T. (O1-01) . . . 188
Jungwirth, T. (Q7-09) . . . 209
Jurado, J.F. (J5-01) . . . 111
Juraszek, J. (K9-05) . . . 126
Juraszek, J. (L15-04) . . . 149
Jurčišin, M. (B14-02) . . . 20
Jurčišinová, E. (B14-02) . . . 20

- K -

K B, A. (H2-09) . . . 87
K G, A. (Q1-09) . . . 200
K, F. (T5-02) . . . 237
K, S. (L10-07) . . . 142
Kabanov, Y.P. (F1-04) . . . 51
Kaczorowski, D. (B15-06) . . . 22
Kaczorowski, D. (N11-02) . . . 177
Kaczorowski, D. (Q6-01) . . . 207
Kadono, T. (U14-06) . . . 265
Kagawa, F. (Z1-02) . . . 311
Kageyama, H. (F7-03) . . . 60
Kageyama, Y. (N10-05) . . . 177
Kahn, S. (Q6-02) . . . 207
Kai, T. (F4-04) . . . 56
Kaidarova, A. (L3-01) . . . 132
Kaidarova, A. (M3-01) . . . 154
Kaido, C. (N9-05) . . . 175
Kaiser, H. (Z10-05) . . . 319
Kajimoto, R. (H7-07) . . . 95
Kajimoto, R. (W13-10) . . . 298
Kákay, A. (T1-01) . . . 233
Kákay, A. (U1-08) . . . 245
Kakizakai, H. (C1-01) . . . 24
Kalache, A. (N5-08) . . . 169
Kalagov, G. (W4-01) . . . 284
Kalappattil, V. (B4-09) . . . 6
Kalinowski, L.S. (F3-12) . . . 56
Kallin, C. (D8-01) . . . 38
Kalyanaraman, R. (Y7-04) . . . 307
Kamantsev, A.P. (L7-02) . . . 137
Kamarád, J. (U12-09) . . . 261
Kamazawa, K. (P2-05) . . . 190
Kamazawa, K. (Y8-01) . . . 308
Kamba, S. (V2-06) . . . 271
Kambale, R.N. (H1-08) . . . 85
Kambhala, N. (H7-10) . . . 95
Kamenskyi, D. (N15-06) . . . 184
Kamide, Y. (N5-07) . . . 169
Kamimaki, A. (B8-05) . . . 12
Kaminski, A. (V9-06) . . . 278
Kamishima, S. (B9-03) . . . 13
Kamitani, M. (H14-06) . . . 104
Kampfrath, T. (N17-07) . . . 187
Kanagawa, T. (N2-01) . . . 164
Kanagawa, T. (U4-03) . . . 249
Kanai, Y. (U14-06) . . . 265
Kanai, Y. (U5-03) . . . 251
Kanak, J. (H11-09) . . . 100
Kanak, J. (Q13-03) . . . 218
Kanamori, Y. (P5-05) . . . 193
Kanasugi, S. (H14-08) . . . 104
Kanatzidis, M. (F5-04) . . . 58
Kanatzidis, M. (U13-06) . . . 263
Kanatzidis, M. (W14-08) . . . 300
Kanazawa, I. (G7-05) . . . 81
Kanazawa, I. (W13-12) . . . 298
Kanchanavatee, N. (D9-05) . . . 39
Kanchanavatee, N. (J8-03) . . . 115
Kanda, K. (L1-07) . . . 128
Kane, A. (F11-08) . . . 67
Kane, A. (Z6-04) . . . 315
Kane, M. (L13-09) . . . 147
Kaneko, T. (C8-03) . . . 30
Kaneko, U.F. (H12-06) . . . 101
Kanesaka, T. (N6-09) . . . 172
Kaneshige, K. (Q3-01) . . . 203
Kang, C. (N3-02) . . . 165
Kang, D. (L3-07) . . . 132
Kang, H. (U14-08) . . . 265
Kang, J. (D9-03) . . . 39
Kang, J. (Q16-03) . . . 222
Kang, J. (W11-04) . . . 294
Kang, K. (W8-02) . . . 290
Kang, M. (N8-09) . . . 174
Kang, W. (Y7-06) . . . 308
Kang, Y. (F10-07) . . . 65
Kano, M. (Q6-03) . . . 207
Kanoda, K. (B16-02) . . . 23
Kanoda, K. (S9-02) . . . 231
Kanomata, T. (Q7-14) . . . 210
Kao, M. (U16-01) . . . 267
Kao, W. (N15-12) . . . 184
Kao, Y. (N15-12) . . . 184
Kaps, S. (Q7-10) . . . 209
Kapteyn, H. (H16-04) . . . 106
Kapteyn, H. (N17-04) . . . 187
Kapteyn, H. (S7-01) . . . 229
Kar, G. (V3-04) . . . 272
Kar, N.C. (S5-03) . . . 228
Karel, J. (E2-04) . . . 42
Karel, J. (N5-08) . . . 169
Karimi, M.A. (M3-01) . . . 154
Karis, O. (H11-07) . . . 100
Karlova, K. (L16-05) . . . 151
Karlova, K. (L16-14) . . . 152
Karlova, K. (N15-08) . . . 184
Karolus, M. (F5-02) . . . 57
Karube, S. (F13-06) . . . 71
Karube, S. (H11-03) . . . 99
Karube, S. (K4-05) . . . 121
Karwacki, L. (H11-09) . . . 100
Kasagi, T. (Q11-04) . . . 215
Kasagi, T. (Q11-06) . . . 215
Kasahara, S. (T8-02) . . . 241
Kasahara, S. (U13-10) . . . 263
Kasahara, Y. (J10-01) . . . 116
Kasahara, Y. (U14-05) . . . 265
Kase, N. (H7-04) . . . 94
Kase, N. (H14-01) . . . 103
Kase, N. (H14-03) . . . 103
Kasinathan, D. (G8-04) . . . 82
Kašpar, Z. (B1-09) . . . 2
Kašpar, Z. (T4-04) . . . 237
Kassem, M. (U1-01) . . . 244
Kastil, J. (S8-04) . . . 231
Kaštil, J. (U12-09) . . . 261
Katanin, A. (B11-04) . . . 17
Katayama, S. (W2-06) . . . 282
Kato, A. (P3-05) . . . 191

*Best student presentation award finalist

*Best student presentation award finalist

Kato, D. (W5-11) 287
Kato, H. (H4-01) 90
Kato, M. (F14-02) 73
Kato, R. (B10-12) 16
Kato, R. (Q3-02) 203
Kato, R. (W4-02) 284
Kato, Y. (G7-02) 80
Kato, Y. (Y7-03) 307
Katoch, R. (P7-04) 196
Katoh, K. (H5-01) 91
Katsnelson, M. (Q6-05) 208
Katsnelson, M. (S7-04) 230
Katsnelson, M. (W11-02) 294
Katukuri, V.M. (B15-05) 22
Kaul, S. (T2-02) 234
Kaur, H. (F10-09) 65
Kaushik, S.D. (F7-10) 61
Kawae, T. (L5-07) 135
Kawae, T. (W6-07) 288
Kawae, T. (W15-06) 302
Kawaguchi, S. (L12-06) 145
Kawaguchi, S. (W14-07) 300
Kawaguchi, S. (W14-12) 300
Kawai, S. (H7-03) 94
Kawakami, N. (F15-03) 73
Kawakami, N. (Q16-01) 222
Kawakami, R. (N14-13) 183
Kawamura, N. (U11-08) 260
Kawamura, N. (U14-03) 265
Kawamura, S. (W13-10) 298
Kawanaka, H. (Q3-04) 203
Kawano, T. (U11-08) 260
Kawasaki, I. (U12-03) 261
Kawashima, N. (C10-01) 30
Kawawa, E. (Q3-04) 203
Kayama, Y. (B3-05) 5
Kazakova, O. (E3-02) 43
Kazakova, O. (E3-04) 43
Kazakova, O. (Q1-05) 200
Kazakova, O. (W12-08) 296
KC, A. (U3-04) 248
KC, S. (K1-05) 117
Keatley, P.S. (J6-03) 113
Keavney, D.J. (V4-03) 272
Kee, H. (T10-03) 243
Keebaugh, S. (W15-04) 301
Keen, D. (V2-01) 270
Keen, H. (L5-01) 134
Keen, H. (L16-06) 151
Keen, H. (P8-01) 196
Keimer, B. (Q10-02) 213
Keimer, B. (Q12-06) 217
Keimer, B. (W13-03) 297
Keimer, B. (Z8-04) 317
Keller, L. (D4-04) 34
Keller, L. (L4-08) 134
Keller, L. (Q12-02) 216
Keller, M. (H16-04) 106
Keller, M. (S7-01) 229
Keller, S. (B4-03) 6
Keller, S. (P4-05) 192
Keller, S. (V7-02) 275
Keller, T. (G9-02) 82
Kenney, E. (N7-02) 172
Kent, A. (U16-11) 268
Kent, A.D. (H10-02) 98
Kent, N. (F11-10) 68
Kent, N. (Q14-04) 220
Kent, N. (Y4-03) 304
Kentzinger, E. (F11-03) 67
Kenzelmann, M. (E10-02) 50
Kepaptsoglou, D. (P6-02) 194
Kermarrec, E. (J3-01) 109
Kermarrec, E. (V10-05) 280
Kern, P.R. (U3-01) 247
Kestin, N. (H3-03) 88
Keswani, N. (F11-02) 66
Ketterson, J.B. (D4-05) 34
Ketterson, J.B. (K6-02) 122
Ketterson, J.B. (L8-09) 139
Keune, W.-. (G5-04) 79
Kevan, S. (F11-10) 68
Khalili Amiri, P. (D7-04) 37
Khalili Amiri, P. (L9-04) 140
Khalili Amiri, P. (N2-10) 165
Khalili Amiri, P. (Y7-03) 307
Khaliullin, G. (Q10-02) 213
Khalyavin, D. (B16-04) 23
Khalyavin, D. (F12-06) 69
Khalyavin, D. (G8-02) 81
Khalyavin, D. (L10-08) 143
Khalyavin, D. (T10-04) 244
Khalyavin, D. (U8-02) 255
Khan, A. (U2-01) 246
Khan, I. (H4-03) 90
Khan, M. (L3-01) 132
Khan, M. (M3-02) 154
Khan, M. (U6-08) 253
Khan, M. (U9-05) 256
Khan, M.U. (W2-09) 282
Khan, U. (L13-12) 147
Khanal, S. (Q2-02) 201
Khanal, S. (V5-06) 274
Khanov, L. (L7-02) 137
Khasanov, R. (F9-06) 63
Khasanov, R. (L12-03) 145
Khasanov, R. (N6-07) 171
Khasanov, R. (Q10-05) 213
Khasanov, R. (U13-09) 263
Khim, S. (Y9-01) 309
Khmelevskyi, S. (U1-12) 246
Khmelevskyi, S. (Z10-03) 319
Khodadadi, B. (K1-05) 117
Khomskii, D. (Z2-01) 312
Khosla, A.L. (V10-03) 279
Khovaylo, V. (L7-06) 138
Khovaylo, V. (V5-03) 273
Khuntia, P. (J3-01) 109
Kichin, G. (U9-04) 256
Kidane Dejene, F. (Q2-05) 202
Kihou, K. (W14-06) 299
Kikegawa, T. (W14-07) 300
Kikegawa, T. (W14-12) 300
Kikkawa, A. (Z1-02) 311
Kikuchi, H. (U5-01) 251
Kikuchi, S. (N3-04) 166
Kikugawa, N. (D8-04) 38
Kikugawa, N. (P8-03) 197
Kilic, U. (Q7-13) 210
Kim, B. (Q2-07) 202
Kim, C. (D3-02) 33
Kim, C. (F10-03) 64
Kim, C. (P3-02) 191
Kim, C. (Q12-01) 216
Kim, C. (Q13-09) 219
Kim, C. (U7-10) 254
Kim, C. (U7-11) 254
Kim, C. (U13-03) 262
Kim, C. (W4-07) 285
Kim, C. (W11-09) 295
Kim, D. (B9-11) 14
Kim, D. (F7-08) 61
Kim, D. (K9-02) 125
Kim, D. (M6-02) 157
Kim, D. (N3-03) 166
Kim, D. (N8-09) 174
Kim, D. (U1-09) 245
Kim, D. (U13-03) 262
Kim, D. (W15-03) 301
Kim, E. (C9-01) 30
Kim, G. (Q14-05) 220
Kim, G. (Q15-06) 221
Kim, H. (B13-02) 19
Kim, H. (H7-05) 94

*Best student presentation award finalist

Kim, H. (M1-03) 152
Kim, H. (M5-02) 156
Kim, H. (M8-02) 159
Kim, H. (N8-02) 173
Kim, H. (Q6-02) 207
Kim, H. (Q10-02) 213
Kim, H. (Q11-08) 215
Kim, H. (U3-02) 247
Kim, H. (W6-06) 288
Kim, H. (W12-03) 296
Kim, H. (Z10-02) 319
Kim, J. (B9-04) 13
Kim, J. (B13-04) 19
Kim, J. (E3-05) 43
Kim, J. (F4-09) 57
Kim, J. (F10-03) 64
Kim, J. (H14-09) 104
Kim, J. (K4-05) 121
Kim, J. (L15-01) 149
Kim, J. (N15-01) 183
Kim, J. (Q1-05) 200
Kim, J. (Q2-07) 202
Kim, J. (Q9-06) 212
Kim, J. (Q11-08) 215
Kim, J. (S6-01) 228
Kim, J. (T4-03) 236
Kim, J. (U14-08) 265
Kim, J. (U14-09) 265
Kim, J. (W8-06) 291
Kim, J. (W11-04) 294
Kim, K. (B16-06) 24
Kim, K. (D3-02) 33
Kim, K. (E1-04) 41
Kim, K. (H7-05) 94
Kim, K. (M6-01) 157
Kim, K. (M6-02) 157
Kim, K. (N3-02) 165
Kim, K. (N10-03) 176
Kim, K. (Q6-02) 207
Kim, K. (Q16-03) 222
Kim, K. (T4-02) 236
Kim, K. (T4-03) 236
Kim, K. (T8-05) 241
Kim, K. (U1-09) 245
Kim, K. (U13-03) 262
Kim, K. (U14-09) 265
Kim, K. (Y1-02) 303
Kim, M. (B9-04) 13
Kim, M. (D10-04) 40
Kim, M. (L3-07) 132
Kim, M. (N12-10) 179
Kim, M. (Q12-07) 217
Kim, M. (U7-11) 254
Kim, N. (J6-01) 112
Kim, N. (Q15-03) 221
Kim, N. (U1-04) 245
Kim, S. (D1-03) 32
Kim, S. (E9-04) 49
Kim, S. (G3-01) 76
Kim, S. (L15-01) 149
Kim, S. (M6-01) 157
Kim, S. (M6-02) 157
Kim, S. (M8-02) 159
Kim, S. (N10-03) 176
Kim, S. (N12-10) 179
Kim, S. (N16-03) 185
Kim, S. (Q2-07) 202
Kim, S. (Q12-01) 216
Kim, S. (Q13-04) 218
Kim, S. (Q13-05) 218
Kim, S. (S5-03) 228
Kim, S. (T4-02) 236
Kim, S. (T4-03) 236
Kim, T. (F1-08) 52
Kim, T. (K4-04) 121
Kim, T. (P2-05) 190
Kim, T. (T8-01) 241
Kim, T. (U4-05) 249
Kim, T. (U13-13) 264
Kim, T. (Y1-02) 303
Kim, W. (B9-11) 14
Kim, W. (N2-11) 165
Kim, W. (V3-04) 272
Kim, Y. (C6-01) 28
Kim, Y. (Q14-05) 220
Kim, Y. (U4-05) 249
Kimel, A. (C5-03) 27
Kimel, A. (H16-06) 106
Kimel, A. (H16-09) 107
Kimel, A. (H16-11) 107
Kimura, K. (N6-11) 172
Kimura, K. (Q16-01) 222
Kimura, M. (H5-04) 92
Kimura, S. (P9-03) 198
Kimura, S. (Q5-07) 206
Kimura, S. (V2-04) 270
Kimura, S. (V2-05) 271
Kimura, S. (W7-01) 288
Kinane, C. (P7-02) 195
Kinane, C. (U15-02) 266
Kindervater, J. (B16-08) 24
Kindervater, J. (M10-04) 161
Kindo, K. (F12-05) 69
Kindo, K. (H3-07) 89
Kindo, K. (N3-04) 166
Kindo, K. (N11-01) 177
Kindo, K. (Q3-04) 203
Kindo, K. (Q16-04) 222
Kino, H. (W13-11) 298
Kinoshita, T. (S5-02) 227
Kioussis, N. (G7-02) 80
Kioussis, N. (H11-10) 100
Kioussis, N. (N12-07) 179
Kioussis, N. (U5-08) 251
Kioussis, N. (Y7-03) 307
Kirby, B.J. (K2-04) 119
Kirby, B.J. (N7-02) 172
Kirby, B.J. (P7-01) 195
Kirby, B.J. (S4-04) 227
Kirby, B.J. (T7-01) 239
Kirby, B.J. (V4-03) 272
Kirby, B.J. (W12-10) 296
Kirby, B.J. (W13-02) 297
Kirby, B.J. (Z6-01) 314
Kirchmann, P. (C8-02) 29
Kirchner, S. (C9-02) 30
Kirchner, S. (T9-02) 242
Kirilyuk, A. (H16-06) 106
Kirilyuk, A. (H16-09) 107
Kirilyuk, A. (W11-02) 294
Kirk, E. (L2-04) 130
Kirk, E. (P1-05) 189
Kirschner, F. (U13-04) 262
Kiselev, N.S. (L11-04) 143
Kiselev, N.S. (P1-03) 189
Kiselev, N.S. (Z1-03) 311
Kishimoto, H. (P3-05) 191
Kishimoto, M. (J4-04) 111
Kishimoto, M. (U11-03) 259
Kishimoto, S. (W14-07) 300
Kishimoto, S. (W14-12) 300
Kiss, T. (U14-06) 265
Kißlinger, T. (N14-10) 182
Kita, E. (D5-01) 35
Kita, E. (H5-10) 92
Kita, E. (J4-04) 111
Kitagawa, J. (F3-06) 55
Kitagawa, S. (H13-01) 102
Kitagawa, S. (K9-04) 125
Kitagawa, S. (U14-01) 264
Kitagawa, S. (U14-05) 265
Kitai, T. (W6-07) 288
Kitakami, O. (D5-03) 35
Kitamoto, Y. (B2-04) 3

*Best student presentation award finalist

Kitamoto, Y. (W15-02) 301
Kitamura, S. (V8-04) 276
Kitamura, T. (W12-07) 296
Kittaka, S. (D8-04) 38
Kittaka, S. (G9-04) 83
Kittaka, S. (H3-02) 88
Kittaka, S. (U12-03) 261
Kittaka, S. (V10-01) 279
Kittilstved, K. (B10-09) 16
Kittler, W. (F12-01) 69
Kittmann, A. (M3-03) 154
Kiwi, M. (P6-01) 194
Kiyanagi, Y. (F4-04) 56
Kjærnes, K. (S4-04) 227
Klanjsek, M. (C10-03) 31
Klapetek, P. (E3-02) 43
Kläui, M. (J6-02) 112
Kläui, M. (Q7-09) 209
Kläui, M. (Q8-01) 210
Kläui, M. (Y6-05) 306
Klauss, H. (J9-03) 116
Klauss, H. (L16-01) 150
Klauss, H. (W14-06) 299
Klavins, P. (P8-04) 197
Kleibert, A. (V4-02) 272
Klein, D.R. (N14-03) 181
Klein, O. (B8-03) 11
Klein, O. (E4-04) 44
Klein, O. (G1-02) 75
Klemmer, T.J. (C3-01) 26
Kletečka, V. (F4-05) 56
Klewe, C. (F1-06) 52
Klewe, C. (M3-05) 154
Klewe, C. (W11-06) 295
Kliava, J. (J4-01) 110
Kliava, J. (W4-11) 285
Klicpera, M. (F3-05) 55
Kliemt, K. (E9-02) 49
Kliemt, K. (H5-03) 91
Kliemt, K. (H5-11) 92
Kliemt, K. (L12-02) 145
Kliemt, K. (T9-03) 242
Kliemt, K. (U12-02) 260
Klingler, S. (Q2-03) 201
Klos, J.W. (LB-13) 140
Kluyver, T. (B6-04) 8
Kluyver, T. (K7-05) 124
Klyatskaya, S. (J2-01) 108
Klyukhin, V. (B5-03) 7
Knafo, W. (J8-02) 114
Knebel, G. (G9-01) 82
Knebel, G. (J8-02) 114
Knebel, G. (T9-01) 242
Knöchel, R. (M3-03) 154
Knolle, J. (L10-04) 142
Ko, H. (N9-08) 176
Ko, J. (N2-02) 164
Ko, K. (G8-04) 82
Ko, M. (C6-01) 28
Kobayashi, A. (S9-02) 231
Kobayashi, H. (W14-07) 300
Kobayashi, H. (W14-12) 300
Kobayashi, K. (V8-01) 276
Kobayashi, R. (B5-05) 7
Kobayashi, R. (B13-08) 20
Kobayashi, R. (L5-04) 135
Kobayashi, S. (L12-08) 145
Kobayashi, S. (Q5-05) 206
Kobayashi, S. (V6-03) 274
Kobayashi, Y. (H7-03) 94
Kobayashi, Y. (W14-10) 300
Kobe, S. (K5-03) 121
Koc, A. (H16-07) 106
Kocharian, A.N. (E2-05) 42
Kocharian, A.N. (H1-12) 85
Kochkov, D. (B12-05) 18
Kochkov, D. (J3-03) 110
Kocjan, A. (K5-03) 121
Kodam, U. (H2-09) 87
Kodama, K. (Q6-03) 207
Koga, M. (W6-07) 288
Koganezawa, T. (H2-05) 86
Kogiso, K. (B4-04) 6
Kohama, Y. (F7-03) 60
Kohama, Y. (T9-02) 242
Kohda, M. (F13-06) 71
Kohda, M. (H11-03) 99
Kohda, M. (J7-05) 114
Kohda, M. (W8-06) 291
Kohlbrecher, J. (F4-08) 57
Kohlbrecher, J. (P5-04) 193
Kohlrautz, J. (K10-03) 127
Kohmoto, O. (Q2-01) 201
Kohno, A. (L1-01) 127
Kohno, M. (Q10-04) 213
Koi, K. (G7-02) 80
Koike, K. (H4-01) 90
Koike, M. (H14-03) 103
Koike, Y. (K10-02) 126
Kokanovic, I. (N16-05) 185
Koledov, V. (L7-02) 137
Kolesnikov, A.G. (U4-04) 249
Kolis, J. (E10-06) 50
Kollar, P. (F10-01) 64
Kollar, P. (F10-06) 65
Kollar, P. (N9-06) 176
Kollar, P. (Q11-07) 215
Kollar, P. (W10-01) 292
Komarek, A.C. (L12-11) 146
Komijani, D. (J2-01) 108
Komori, F. (H2-05) 86
Komori, S. (H11-08) 100
Konczykowski, M. (K9-05) 126
Kondo, A. (F12-05) 69
Kondo, A. (N3-04) 166
Kondo, A. (N11-01) 177
Kondo, A. (Q3-04) 203
Kondo, A. (Q16-04) 222
Kondo, K. (H7-04) 94
Kondo, K. (H14-01) 103
Kondo, K. (H14-03) 103
Kondo, M. (H4-01) 90
Kondou, K. (F1-01) 51
Kondou, K. (K4-05) 121
Kondou, K. (P4-02) 192
Kong, H. (B9-11) 14
König, M. (K9-01) 125
König, M. (U14-04) 265
Konishi, K. (G2-03) 75
Kono, J. (S2-05) 225
Kono, K. (Q11-04) 215
Kono, K. (Q11-06) 215
Kono, T. (W8-03) 290
Kono, Y. (G9-04) 83
Kono, Y. (H3-02) 88
Kono, Y. (V10-01) 279
Konopelnyk, Y. (E5-04) 45
Konstantin, G. (Q10-03) 213
Kontos, S. (Y5-04) 305
Koo, H. (F13-14) 72
Koo, H. (M1-03) 152
Koo, H. (P1-04) 189
Koo, H. (W12-03) 296
Koo, J. (S3-04) 226
Koo, J. (W11-03) 294
Koohpayeh, S. (M10-04) 161
Kopecký, V. (P2-04) 190
Körber, L. (T1-01) 233
Korecki, J. (S4-03) 227
Korecki, J. (U15-04) 266
Korecki, J. (U3-06) 248
Koren, G. (F14-05) 73
Koretsune, T. (F1-04) 51
Koretsune, T. (H14-06) 104
Koretsune, T. (W11-07) 295
Korman, C.E. (B6-05) 8
Korosec, L. (Q3-05) 203
Kosaka, M. (Q3-03) 203
Kosaka, M. (W6-03) 287
Kosel, J. (B2-08) 4
Kosel, J. (E6-02) 46
Kosel, J. (L3-01) 132
Kosel, J. (M3-01) 154
Kosel, J. (M3-02) 154
Kosel, J. (N1-03) 162
Kosel, J. (Q8-01) 210
Kosel, J. (U6-08) 253
Kosel, J. (U9-05) 256
Koshkid'ko, Y. (J5-05) 112
Kostylev, M. (N4-08) 168
Kostyuchenko, N. (Q9-05) 212
Kosub, T. (B1-10) 2
Kota, Y. (H2-01) 86
Kotani, A. (H2-02) 86
Kotani, T. (W13-11) 298
Kotegawa, H. (G9-01) 82
Kotegawa, H. (H13-02) 102
Kotegawa, H. (U12-05) 261
Kotetes, P. (M9-04) 160
Kotsugi, M. (F4-06) 57
Kotsugi, M. (H2-05) 86
Koumpouras, K. (B6-02) 8
Kousaka, Y. (Q2-11) 202
Kovac, F. (N9-06) 176
Kovacevic, I. (N6-02) 171
Kovacs, A. (D5-04) 35
Kovacs, A. (Z1-03) 311
Kovalev, S. (N17-07) 187
Kovalev, S. (N17-08) 188
Kovalev, S. (V7-03) 275
Kowacz, M. (Q1-08) 200
Kowalik, P. (B2-05) 4
Koyama, K. (B5-05) 7
Koyama, K. (B13-08) 20
Koyama, K. (Q3-06) 203
Koyama, K. (Q3-07) 204
Koyama, K. (U7-04) 253
Koyama, T. (C1-01) 24
Koyama, T. (N2-07) 165
Koyama, T. (Q13-02) 218
Koyama, T. (T4-02) 236
Kozelj, P. (F7-01) 60
Kozimor, S. (Y8-02) 308
Krafft, C. (F13-01) 70
Krafft, C. (N10-01) 176
Kraimia, M. (Q2-09) 202
Krajewska, A. (Q12-06) 217
Kral, D. (L13-02) 146
Kral, D. (N5-01) 168
Kramer, M.J. (M5-03) 156
Kramer, M.J. (W1-02) 280
Krämer, S. (V10-05) 280
Krasnikova, Y. (H3-08) 89
Krause, S. (M7-04) 158
Krautz, M. (G5-04) 79
Krawczyk, M. (L11-06) 144
Krawczyk, M. (T1-02) 233
Krawczyk, M. (T1-03) 233
Kreisel, A. (L8-09) 139
Krellner, C. (E9-02) 49
Krellner, C. (H5-03) 91
Krellner, C. (H5-11) 92
Krellner, C. (L12-02) 145
Krellner, C. (T9-03) 242
Krellner, C. (U12-02) 260
Krellner, C. (U14-02) 264
Krieft, J. (H10-04) 98
Kriener, M. (H14-06) 104
Krishnaswamy, G. (M6-04) 158
Krivorotov, I. (D1-01) 31
Krivorotov, I. (E1-02) 41
Krivorotov, I. (L8-01) 138
Krivorotov, I. (L9-01) 140
Krivorotov, I. (L9-10) 141
Krivorotov, I. (U2-01) 246
Krivoruchko, V. (L11-05) 144
Krizakova, V. (B8-06) 12
Krizakova, V. (L2-09) 131
Krizakova, V. (Q1-01) 199
Krizakova, V. (T7-04) 240
Krogstad, M.J. (W14-08) 300
Kronast, F. (N14-07) 182
Kronast, F. (Q1-04) 200
Kruger, F. (F15-05) 74
Kruger, F. (K10-01) 126
Kruglyak, V. (B8-09) 12
Kruglyak, V. (B8-10) 12
Kruglyak, V. (L11-05) 144
Kruglyak, V. (U1-07) 245
Krupko, Y. (K9-03) 125
Krycka, K.L. (D2-04) 32
Krycka, K.L. (G4-01) 77
Krycka, K.L. (G4-05) 78
Krycka, K.L. (M4-01) 155
Kubetzka, A. (N12-03) 178
Kubo, K. (H13-10) 103
Kubo, T. (H13-02) 102
Kubo, Y. (L4-08) 134
Kubota, H. (L9-08) 141
Kubota, H. (L9-12) 141
Kubota, H. (Z4-02) 313
Kubota, K. (F1-03) 51
Kubota, T. (B3-04) 5
Kubota, T. (E3-05) 43
Kubota, T. (V1-03) 269
Kubota, Y. (C3-01) 26
Kubota, Y. (L12-06) 145
Kuchko, A.N. (U1-07) 245
Kucuk, I. (L7-01) 137
Kucuk, I. (W10-09) 293
Kucuk, N. (L7-01) 137
Kudo, K. (K10-02) 126
Kuehne, H. (K10-03) 127
Kuepferling, M. (M7-03) 158
Kuerbanjiang, B. (P6-02) 194
Kuga, K. (U14-06) 265
Kukharev, A.V. (J4-03) 111
Kukla, C. (P5-03) 193
Kulkarni, R. (U11-08) 260
Kumagai, R. (W13-04) 297
Kumano, S. (H5-01) 91
Kumano, S. (U11-04) 259
Kumar, A. (B16-05) 23
Kumar, A. (U7-08) 254
Kumar, D. (Q1-07) 200
Kumar, K. (J3-03) 110
Kumar, N. (F6-02) 59
Kumar, P. (F6-02) 59
Kumar, R. (B15-06) 22
Kumar, R. (F6-02) 59
Kumar, R. (W14-02) 299
Kumar, S. (Y5-05) 305
Kumar, V. (N6-01) 170
Kumari, M. (S2-02) 225
Kumigashira, H. (P9-03) 198
Kummer, K. (N3-03) 166
Kummer, K. (U14-02) 264
Kummer, K. (W13-03) 297
Kummer, K. (Z9-02) 318
Kundu, S. (V3-04) 272
Kunii, S. (W6-01) 287
Kunkemöller, S. (D8-03) 38
Kunkemöller, S. (U7-01) 253
Kuntz, S. (S1-03) 224
Kuo, C. (G8-04) 82
Kuo, P. (H4-07) 90
Küpers, M. (L16-12) 151
Kuppan, M. (U8-03) 255

*Best student presentation award finalist

*Best student presentation award finalist

Kuppan, M. (U8-05) 255
Kura, H. (D5-01) 35
Kurdi, S. (S3-04) 226
Kurebayashi, H. (H11-08) 100
Kurebayashi, H. (K1-03) 117
Kurek, P. (F10-01) 64
Kurek, P. (F10-06) 65
Kurenkov, A. (M6-04) 158
Kurenkov, A. (Y6-03) 306
Kurij, G. (T5-03) 238
Kurita, N. (B12-02) 18
Kurita, N. (H8-04) 96
Kurita, N. (N6-05) 171
Kurita, N. (Q10-05) 213
Kurita, N. (V10-06) 280
Kurmaev, E. (Q3-08) 204
Kurniawan, B. (W2-10) 282
Kurnosov, A. (Q10-03) 213
Kurobe, A. (G7-02) 80
Kuroda, F. (L12-07) 145
Kuroda, F. (Z5-02) 314
Kuroda, K. (Q12-08) 217
Kuroe, H. (F9-02) 63
Kuroe, H. (G2-04) 76
Kuroe, H. (W15-02) 301
Kuroiwa, K. (F3-06) 55
Kurokawa, Y. (B4-04) 6
Kurokawa, Y. (M7-02) 158
Kuroki, K. (V8-04) 276
Kuroki, K. (W13-11) 298
Kurosawa, T. (V9-05) 278
Kuroshima, H. (F3-11) 55
Kurtz, K.C. (W1-08) 281
Kuschel, T. (H10-04) 98
Kushvaha, S. (F6-02) 59
Kushwaha, V. (Q5-02) 205
Kushwaha, V.K. (N5-09) 169
Kuswik, P. (H11-09) 100
Kuswik, P. (Q1-08) 200
Kuswik, P. (T1-03) 233
Kusz, J. (F5-01) 57
Kusz, J. (Z5-01) 313
Kuszewski, P. (D6-01) 36
Kuszewski, P. (Q2-09) 202
Kuwahara, H. (F9-02) 63
Kuwahara, H. (G2-04) 76
Kuwahara, H. (H7-07) 95
Kuwai, T. (L5-05) 135
Kuwai, T. (N5-07) 169
Kuwai, T. (U11-05) 259
Kuwata-Gonokami, M. (G2-03) 75
Kuwata, Y. (U12-05) 261
Kuwayama, T. (U13-02) 262
Kuwayama, T. (U13-10) 263
Kuzma, D. (N4-02) 167
Kvashnin, Y. (H16-10) 107
Kvashnin, Y. (Q6-05) 208
Kwak, Y. (H14-09) 104
Kwo, J. (H11-13) 100
Kwo, J. (Q13-07) 218
Kwok, W. (T10-02) 243
Kwon, H. (N8-09) 174
Kwon, H. (W9-05) 292
Kwon, S. (G7-02) 80
Kwon, S. (Y7-03) 307
Kycia, J. (L10-09) 143

- L -

Labarta, A. (E7-04) 47
Labarta, A. (J4-02) 110
Labarta, A. (K2-02) 118
Labarta, A. (L1-02) 127
Labarta, A. (N14-07) 182
Lacatusu, M. (V9-02) 277
Lacatusu, M. (V9-03) 277
Lachman, E. (W14-09) 300
Lachman, E. (Y10-02) 310
Lacour, D. (S3-03) 226
Laflorencie, N. (V10-05) 280
Lafuerza, S. (Q3-08) 204
Lägel, B. (B4-03) 6
Lägel, B. (B8-08) 12
Laha, A. (W14-01) 299
Lähderanta, E. (J5-05) 112
Lähderanta, E. (W2-05) 282
Lai, C. (F13-05) 71
Lai, C. (H11-01) 99
Lai, H. (K8-01) 124
Lai, H. (Q16-02) 222
Lai, H. (W6-02) 287
Lai, J. (G5-02) 78
Lai, M. (N9-01) 175
lake, B. (G8-02) 81
Lakhani, A. (T2-02) 234
LAL, S. (Q5-09) 206
Laliberté, F. (W13-07) 298
Laliena, V. (Y2-02) 303
Lalis, D.D. (W13-08) 298
Lamard, N. (L9-06) 141
Lamb, R. (K2-05) 119
Lamb, R. (N14-01) 181
Lambert, C. (Y4-03) 304
Lambert, C. (Y7-02) 307
Lambert, C.A. (Q14-04) 220
Lamichhane, T.N. (Z10-05) 319
Lampen-Kelley, P. (J10-03) 116
Lampronti, G.I. (Q12-05) 216
Lancaster, T. (K7-05) 124
Lançon, D. (F5-05) 58
Lançon, D. (F7-05) 60
Lançon, D. (P10-02) 198
Lançon, D. (Z2-02) 312
Lander, G.H. (Z9-03) 318
Landeros, P. (Q1-11) 201
Landers, J. (G5-04) 79
Lang, F. (U13-04) 262
Lang, P. (E7-03) 47
Langer, J. (L9-06) 141
Langner, T. (Q2-04) 201
Langridge, S. (F11-09) 68
Lanzara, A. (W11-05) 294
Lapertot, G. (D9-04) 39
Lapertot, G. (J8-02) 114
Lapidus, S. (H3-06) 89
Lapidus, S. (W14-08) 300
Larkin, T. (Q12-06) 217
Lascano, L. (H1-07) 85
Lass, J. (W5-01) 285
Lathiya, P. (F10-05) 65
Latiff, H. (J4-04) 111
Latka, K. (F10-08) 65
Lau, D.K. (U1-02) 244
Laubschat, C. (T7-05) 240
Laubschat, C. (U14-02) 264
Lauer, V. (B4-03) 6
Laurenson, A. (L11-05) 144
Laureti, S. (H1-04) 84
Laussmann, A.C. (H5-02) 91
Lauter, V. (H4-02) 90
Lauter, V. (K2-01) 118
Lavagna, M. (W7-05) 289
Lavagna, M. (W7-06) 289
Law, J. (E5-01) 45
Law, J. (L7-04) 137
Law, J. (N15-06) 184
Law, M. (U15-03) 266
Lawrence, J. (Z9-01) 317
Lawrence, J. (Z9-02) 318
Lazarov, V. (N12-06) 179
Lazarov, V. (P6-02) 194
Lazarski, S. (Q13-03) 218
Lazcano-Ortiz, Z. (N4-04) 167
le Guyader, L. (N17-04) 187
Le Normand, F. (J4-03) 111

*Best student presentation award finalist

Le Tacon, M. (Q10-02) 213
Le Tacon, M. (W13-03) 297
Le Tacon, M. (Z8-04) 317
Le, D. (V2-01) 270
Lebrun, R. (Y6-05) 306
Lechtenberg, B. (U14-10) 266
Lechtenberg, B. (V8-03) 276
Leckron, K. (N17-05) 187
LeClair, P.R. (K1-05) 117
Lecoeur, P. (T5-03) 238
Lederman, D. (U3-04) 248
Lederman, D. (U15-05) 266
Lee, B. (B13-02) 19
Lee, B. (Q11-08) 215
Lee, B. (T8-05) 241
Lee, C. (N14-13) 183
Lee, C. (W6-06) 288
Lee, C. (W14-06) 299
Lee, D. (F13-14) 72
Lee, D. (W11-01) 294
Lee, D. (Z2-05) 312
Lee, D.S. (L2-01) 130
Lee, E. (Q16-03) 222
Lee, E. (W11-04) 294
Lee, G. (E1-04) 41
Lee, G. (F4-09) 57
Lee, H. (C10-01) 30
Lee, H. (D1-01) 31
Lee, H. (F2-01) 53
Lee, H. (N9-07) 176
Lee, H. (Q4-02) 204
Lee, H. (Q4-03) 204
Lee, H. (Q13-09) 219
Lee, H. (T9-02) 242
Lee, H. (T10-02) 243
Lee, H. (U2-01) 246
Lee, H. (U4-06) 250
Lee, H. (U6-09) 253
Lee, H. (W7-02) 288
Lee, H. (W13-01) 297
Lee, J. (F4-09) 57
Lee, J. (L3-07) 132
Lee, J. (M1-03) 152
Lee, J. (N8-09) 174
Lee, J. (N12-10) 179
Lee, J. (N14-08) 182
Lee, J. (N17-07) 187
Lee, J. (T4-03) 236
Lee, J. (U10-06) 257
Lee, J. (Y1-02) 303
Lee, J. (Z8-06) 317
Lee, K. (B9-04) 13
Lee, K. (E1-04) 41
Lee, K. (F13-14) 72
Lee, K. (J6-01) 112
Lee, K. (M1-03) 152
Lee, K. (M6-01) 157
Lee, K. (M6-02) 157
Lee, K. (P1-04) 189
Lee, K. (Q15-03) 221
Lee, K. (U1-04) 245
Lee, K. (U3-05) 248
Lee, K. (U15-06) 267
Lee, M. (M5-02) 156
Lee, M.S. (F11-08) 67
Lee, N. (T4-03) 236
Lee, O. (F13-14) 72
Lee, S. (B9-11) 14
Lee, S. (D6-03) 36
Lee, S. (E1-04) 41
Lee, S. (F15-04) 74
Lee, S. (F15-06) 74
Lee, S. (H11-13) 100
Lee, S. (J6-01) 112
Lee, S. (J7-03) 114
Lee, S. (L6-03) 136
Lee, S. (L6-04) 136
Lee, S. (L6-06) 136
Lee, S. (L14-03) 148
Lee, S. (L15-01) 149
Lee, S. (M5-02) 156
Lee, S. (N15-07) 184
Lee, S. (Q11-08) 215
Lee, S. (Q13-07) 218
Lee, S. (T4-02) 236
Lee, S. (T4-03) 236
Lee, S. (U1-04) 245
Lee, S. (U16-01) 267
Lee, S. (V6-01) 274
Lee, S. (W8-01) 290
Lee, S. (Y1-02) 303
Lee, S.R. (Y7-01) 307
Lee, T. (B10-12) 16
Lee, T. (Q4-09) 205
Lee, T. (U6-03) 252
Lee, W. (M8-05) 160
Lee, Y. (U2-03) 246
Leerberg, H.K. (W5-01) 285
Leermakers, I. (M8-01) 159
Lees, M.R. (Y5-05) 305
Lefmann, K. (B10-03) 15
Lefmann, K. (D10-03) 40
Lefmann, K. (L10-03) 142
Lefmann, K. (V9-02) 277
Lefmann, K. (V9-03) 277
Lefmann, K. (V9-04) 277
Lefmann, K. (W5-01) 285
Lefrancois, E. (M10-02) 161
Lefrancois, E. (W13-03) 297
Legrand, W. (K4-02) 120
Legrand, W. (P1-02) 188
Legrand, W. (U9-06) 256
Legros, A. (W13-05) 298
Legut, D. (H15-06) 105
Legut, D. (S7-02) 230
Legut, D. (V2-06) 271
Lehmann, J. (K2-06) 119
Lei, C. (C1-02) 25
Lei, N. (Y7-06) 308
LEI, Z. (N9-05) 175
Leighton, C. (K2-04) 119
Leighton, C. (M1-02) 152
Leighton, C. (P7-01) 195
Leiner, J.C. (P2-05) 190
Leite, E.R. (H2-03) 86
Leitenberger, W. (H16-07) 106
Leithe-Jasper, A. (L5-11) 135
Leithe-Jasper, A. (L5-12) 135
Leithe-Jasper, A. (L14-07) 148
Lejay, P. (D10-01) 40
Lejay, P. (F9-08) 64
Lejay, P. (M10-02) 161
Lemaître, A. (D6-01) 36
Lemaître, A. (Q2-09) 202
Lemaître, A. (U2-08) 247
Lemesh, I. (W9-06) 292
Lemeshko, M. (S7-04) 230
Lenardi, C. (Z7-04) 316
Lendinez, S. (U16-02) 267
Leng, H. (S9-04) 232
Lenz, K. (B8-01) 11
Lenz, K. (D1-01) 31
Lenz, M. (B8-01) 11
Lenzner, J. (N5-11) 169
Leo, N. (K2-06) 119
Leo, N. (T10-04) 244
Leon, A. (G7-03) 81
León, C. (T7-02) 240
Lequeux, S. (V3-01) 271
Leridon, B. (N1-06) 163
Lesne, E. (G6-02) 79
Lev, B. (K3-03) 120
Lew, W. (Q1-07) 200
Lew, W. (Q8-05) 211

*Best student presentation award finalist

Lewin, S.K. (W14-09) 300
Lhotel, E. (M10-02) 161
Lhotel, E. (M10-05) 162
Li, B. (L14-01) 148
Li, C. (Y8-01) 308
Li, D. (F12-02) 69
Li, D. (L5-09) 135
Li, F. (N12-02) 178
Li, G. (H9-06) 97
Li, H. (M7-02) 158
Li, J. (B9-05) 13
Li, J. (F1-06) 52
Li, J. (M7-05) 159
Li, J. (N5-05) 169
Li, J. (N8-04) 174
Li, J. (Q4-06) 205
Li, J. (Q13-04) 218
Li, J. (S5-05) 228
Li, J. (W11-06) 295
Li, J. (Y8-04)* 309
Li, K. (Y8-01) 308
Li, L. (K1-01) 117
Li, L. (N9-03) 175
Li, L. (P9-02) 198
Li, P. (F12-03) 69
Li, P. (Q8-02) 210
Li, P. (U9-01) 256
Li, Q. (B1-05) 2
Li, Q. (F1-06) 52
Li, Q. (H9-07) 97
Li, Q. (W7-07) 289
Li, Q. (W11-06) 295
Li, S. (H7-03) 94
Li, S. (J2-03) 109
Li, S. (Q8-05) 211
Li, S. (W7-07) 289
Li, T. (N10-03) 176
Li, T. (T4-02) 236
Li, W. (L13-12) 147
Li, X. (L6-04) 136
Li, X. (S2-05) 225
Li, X. (W7-07) 289
Li, X. (Y7-03) 307
Li, X. (Y10-05) 311
Li, Y. (B5-06) 7
Li, Y. (B8-13) 13
Li, Y. (C10-03) 31
Li, Y. (F1-04) 51
Li, Y. (H14-02) 103
Li, Y. (K9-01) 125
Li, Y. (L3-03) 132
Li, Y. (L3-04) 132
Li, Y. (L3-06) 132
Li, Y. (N4-05) 167
Li, Y. (N8-10) 174
Li, Y. (Q4-06) 205
Li, Y. (Q8-05) 211
Li, Y. (Q11-01) 214
Li, Y. (Q11-02) 214
Li, Y. (U10-07) 258
Li, Y. (U10-08) 258
Li, Y. (U10-09) 258
Li, Y. (U16-06) 268
Li, Y. (Y8-01) 308
Li, Y. (Z5-04) 314
Li, Z. (Z1-03) 311
Liang, J. (U16-01) 267
Liang, K. (W5-08) 286
Liang, R. (W13-07) 298
Liang, X. (U2-07) 247
Liang, Z. (Q6-08) 208
Liao, J. (T4-05) 237
Liao, S. (L12-11) 146
Liccardo, A. (N9-09) 176
Lichtenstein, A. (Q6-05) 208
Lightfoot, P. (L10-01) 142
Lim, B. (D3-02) 33
Lim, J. (F10-03) 64
Lim, J. (L8-09) 139
Lim, S. (L2-02) 130
Lim, S. (Y1-02) 303
Lin, C. (F13-10) 72
Lin, C. (W11-05) 294
Lin, H. (B9-02) 13
Lin, H. (B16-03) 23
Lin, H. (F13-09) 71
Lin, H. (L10-06) 142
Lin, H. (Q4-08) 205
Lin, H. (S5-06) 228
Lin, H. (U2-07) 247
Lin, H. (W6-06) 288
Lin, H. (Y8-05) 309
Lin, J. (H11-13) 100
Lin, K. (F12-02) 69
Lin, K. (H2-10) 87
Lin, K. (N14-09) 182
Lin, M. (N2-03) 164
Lin, P. (H11-01) 99
Lin, S. (K9-02) 125
Lin, S. (N6-08) 171
Lin, W. (N2-06) 164
Lindfors-Vrejoiu, I. (T7-03) 240
Lindner, J. (B8-01) 11
Lindner, J. (D1-01) 31
Lindner, J. (N17-08) 188
Linfield, E. (F11-09) 68
Linfield, E. (U9-02) 256
Ling, C. (L16-01) 150
Ling, C. (L16-04) 151
Liou, F. (Q6-02) 207
Liou, S. (F5-07) 58
Lisenkov, I. (E4-05) 45
Lisfi, A. (H4-10) 91
Lisfi, A. (L13-04) 146
Lisiecki, F. (T1-03) 233
Little, M. (W8-02) 290
Litvinov, D. (F11-13) 68
Litvinov, D. (L1-14) 129
Litvinova, A. (H9-10) 97
Litzius, K. (J6-02) 112
Liu, B. (T3-05) 235
Liu, C. (J1-01) 108
Liu, C. (N4-01) 167
Liu, C. (N7-01) 172
Liu, C. (Q12-05) 216
Liu, C. (T9-05) 242
Liu, C. (V9-06) 278
Liu, C. (W6-05) 287
Liu, D. (B16-02) 23
Liu, D. (Y8-05) 309
Liu, F. (N8-10) 174
Liu, F. (W1-06) 281
Liu, H. (L13-11) 147
Liu, H. (P9-01) 197
Liu, H. (Q5-03) 206
Liu, H. (U6-09) 253
Liu, H. (V3-03) 271
Liu, H. (Z8-04) 317
Liu, I. (N15-03) 184
Liu, I. (S9-03) 232
Liu, J. (B16-03) 23
Liu, J. (F8-04) 62
Liu, J. (F8-05) 62
Liu, J. (L1-10) 129
Liu, K. (Q14-10) 220
Liu, K. (U15-08) 267
Liu, K. (W13-02) 297
Liu, K. (Z6-01) 314
Liu, L. (E1-01) 41
Liu, L. (H7-11) 95
Liu, M. (Q7-03) 209
Liu, M. (S5-05) 228
Liu, P. (D5-02) 35
Liu, P. (N8-01) 173
Liu, P. (U3-10) 248
Liu, S. (H9-06) 97
Liu, S. (Q11-05) 215
Liu, T. (B9-06) 13
Liu, T. (N4-01) 167
Liu, T. (N17-04) 187
Liu, T. (Y10-03) 310
Liu, W. (H6-08) 94
Liu, X. (D6-03) 36
Liu, X. (L6-03) 136
Liu, X. (L6-04) 136
Liu, X. (L6-06) 136
Liu, X. (Q4-10) 205
Liu, X. (W5-03) 286
Liu, Y. (F8-04) 62
Liu, Y. (F8-05) 62
Liu, Y. (H6-01) 93
Liu, Y. (H11-13) 100
Liu, Y. (H12-02) 101
Liu, Y. (K8-02) 124
Liu, Y. (L12-01) 144
Liu, Y. (L15-06) 150
Liu, Y. (N8-10) 174
Liu, Y. (Q13-04) 218
Liu, Y. (Q13-07) 218
Liu, Y. (V7-05) 275
Liu, Y. (W7-02) 288
Liu, Y. (W12-10) 296
Liu, Y. (Y7-06) 308
Liu, Z. (B12-03) 18
Liu, Z. (B12-04) 18
Llanos, A.R. (P10-04) 199
Lo Conte, R. (Y7-02) 307
Lo, W. (W1-04) 280
Löber, T. (B4-03) 6
Lobo-Checa, J. (B10-04) 15
Lobo-Checa, J. (G4-03) 77
Locatelli, A. (Z7-04) 316
Lochner, F. (U13-08) 263
Loew, T. (Z8-04) 317
Löffler, J. (S6-04) 229
Löffler, J. (U16-06) 268
Logemann, R. (W11-02) 294
Logvenov, G. (Q10-02) 213
Lohmann, M. (M7-05) 159
Loidl, A. (F7-04) 60
Lomakin, V. (U1-11) 246
Lombardi, F. (B6-06) 9
Long, J. (B10-05) 15
Long, J. (C2-02) 25
Long, Y. (L13-11) 147
Long, Y. (Q5-03) 206
Lonsky, M. (D6-04) 36
Lonzarich, G. (P9-01) 197
Lonzarich, G. (Z8-04) 317
Lopadczak, P. (F8-06) 62
Lopadczak, P. (N8-03) 174
Lopera, W. (F1-09) 52
Lopez Dominguez, V. (N2-10) 165
Lopez-Diaz, L. (C4-02) 27
López-García, J. (G5-06) 79
López-García, J. (S2-04) 225
López-Luke, T. (H1-03) 84
López-Moreno, E. (N14-06) 182
López-Ortega, A. (B7-06) 10
Lopez-Ortega, A. (E7-01) 47
López-Ortega, A. (G4-04) 78
López-Tabares, J. (F7-11) 61
López-Tabares, J. (H9-11) 97
Lopez, G. (B12-07) 18
Lopez, G. (B16-07) 24
Lopez, G. (Y10-02) 310
Lorenz, B. (W5-08) 286
Lorenz, T. (D10-01) 40
Lorenz, T. (U7-01) 253
Lorenz, V. (F13-11) 72
Louie, A. (B7-02) 10
Lounis, S. (N4-03) 167
Loveless, R. (B5-03) 7
Lovesey, S. (T10-04) 244
Loving, M. (W15-04) 301
Lu, C. (H2-10) 87
Lu, C. (N9-01) 175
Lu, C. (W1-04) 280
Lu, D. (T8-04) 241
Lu, D. (V4-04) 272
Lu, J. (B6-11) 9
Lu, J. (F6-06) 59
Lu, J. (U10-01) 257
Lu, J. (W3-06) 283
Lu, K. (N8-04) 174
Lu, K. (N14-08) 182
Lu, P. (Y7-01) 307
Lu, Q. (B13-11) 20
Lu, Q. (H6-08) 94
Lu, Q. (Q8-05) 211
Lu, X. (V9-05) 278
Lu, Y. (Q10-02) 213
Lu, Z. (W5-01) 285
Luan, Z. (U15-03) 266
Luber, S. (U16-03) 268
Luca, S. (P5-02) 193
Luecders, M. (Z10-01) 318
Luedtke, U. (L3-08) 133
Luetkens, H. (B12-08) 18
Luetkens, H. (G10-02) 83
Luetkens, H. (J9-03) 116
Luetkens, H. (L12-03) 145
Luetkens, H. (Q10-05) 213
Luetkens, H. (U13-09) 263
Luetkens, H. (W14-06) 299
Lumsden, M. (J10-03) 116
Lumsden, M. (N15-03) 184
Luo, B. (P7-01) 195
Luo, H. (L1-10) 129
Luo, K. (B6-11) 9
Luo, Y. (D8-02) 38
Luo, Y. (N14-13) 183
Luo, Z. (H10-07) 98
Luo, Z. (U5-09) 251
Lupo, P. (N5-08) 169
Lux, F.R. (D2-05) 32
Luzar, J. (F7-01) 60
Luznik, J. (F7-01) 60
Lv, B. (N3-01) 165
Lv, Y. (H4-08) 91
Lv, Y. (V1-02) 269
Lynn, J.W. (P8-02) 196
Lynn, J.W. (Q12-10) 217
Lyu, S. (B9-02) 13
Lyu, S. (Q4-08) 205
Lyu, S. (S5-06) 228

- M -

Ma, B. (H4-02) 90
Ma, C.T. (W9-07) 292
Ma, C.T. (W9-08) 292
Ma, F. (N4-05) 167
Ma, F. (Q8-05) 211
Ma, F. (Z5-04) 314
Ma, G. (S2-05) 225
Ma, J. (H14-02) 103
Ma, J. (L6-07) 137
Ma, J. (W9-07) 292
Ma, J. (W9-08) 292
Ma, J. (W12-09) 296
Ma, L. (L8-07) 139
Ma, Q. (L10-09) 143
Ma, Q. (N8-10) 174
Ma, S. (U15-08) 267
Ma, S. (V7-05) 275
Ma, T. (N7-10) 173
Ma, Y. (F12-07) 70
Ma, Y. (H9-06) 97

*Best student presentation award finalist

*Best student presentation award finalist

Maan, J. (U4-07) 250
Macan, B. (W10-09) 293
Maccariello, D. (K4-02) 120
Maccariello, D. (N10-04) 177
Maccariello, D. (P1-02) 188
Maccariello, D. (P6-04) 194
Maccariello, D. (U9-06) 256
Maccherozzi, F. (M6-04) 158
MacDonald, A. (W11-01) 294
MacDonald, A. (Z2-05) 312
MacDonald, A.H. (B11-09) 17
MacDonald, A.H. (C1-02) 25
MacDonald, A.H. (T2-03) 234
MacDonald, A.H. (U2-09) 247
MacDonald, A.H. (Y10-04) 310
Macdougal, D. (V10-02) 279
Macedo, M.A. (F2-04) 53
Macedo, M.A. (F10-02) 64
Macedo, M.A. (H9-09) 97
Macedo, R. (F11-09) 68
Macedo, W. (H2-06) 86
Machado, F.L. (Z4-04) 313
Machida, H. (P5-05) 193
Machida, K. (D8-04) 38
Machida, M. (W14-07) 300
Machida, M. (W14-12) 300
Macià, F. (L2-07) 131
Macià, F. (Q2-10) 202
Macià, F. (U16-11) 268
Mackenzie, A. (D8-02) 38
Mackenzie, A. (D8-04) 38
Mackenzie, A. (K9-01) 125
Mackenzie, A. (T8-03) 241
Mackenzie, A. (U12-08) 261
Mackenzie, A. (U14-04) 265
MacLaughlin, D.E. (H13-09) 103
MacNeill, D. (N14-03) 181
Maeda, Y. (B10-02) 15
Maehira, T. (F3-11) 55
Maeno, Y. (V8-04) 276
Maenosono, S. (B7-06) 10
Maeta, K. (F3-07) 55
Maeta, K. (L13-08) 147
Magalhaes, S.G. (H5-02) 91
Magalhaes, S.G. (W13-08) 298
Magalhaes, S.G. (Y2-04) 303
Magen, C. (L11-08) 144
Magen, C. (W2-08) 282
Magnani, N. (Z9-03) 318
Magnano, E. (P7-03) 195
Magnus, F. (Q8-03) 211
Magnus, F. (Q14-06) 220
Magrez, A. (B12-08) 18
Magrez, A. (F5-05) 58
Mahajan, A. (N6-01) 170
Mahendiran, R. (S2-02) 225
Mahendiran, R. (U8-07) 255
Mahendra, D. (H10-05) 98
Mahfouzi, F. (H11-10) 100
Mahfouzi, F. (U5-08) 251
Mahmoud, A. (B13-03) 19
Mai, D. (C6-03) 28
Mai, T.K. (Q15-01) 221
Maior, D.S. (Z4-04) 313
Maisuradze, A. (L12-03) 145
Maitra, T. (W5-10) 286
Majetich, S. (G4-05) 78
Majetich, S. (J4-05) 111
Majetich, S. (N12-06) 179
Majetich, S. (U5-02) 251
Majetich, S. (W10-06) 293
Majid, S. (Q12-04) 216
Majid, S. (W5-02) 285
Majumdar, P. (N7-08) 173
Majumdar, S. (L1-05) 128
Makarov, D. (B1-10) 2
Makarov, V. (Q11-09) 215
Makarov, V. (Q11-10) 215
Makino, A. (D5-03) 35
Makino, A. (H9-08) 97
Makino, K. (L4-05) 134
Maksimov, P. (B14-05) 21
Maksimovic, N. (E9-03) 49
Maksimovic, N. (Z8-02) 317
Malavi, P. (T10-03) 243
Maldonado, P. (H16-10) 107
Maldonado, P. (N17-03) 186
Maldonado, P. (S7-03) 230
Maletinsky, P. (B1-10) 2
Malicka, E. (F5-02) 57
Malik, P. (Q15-02) 221
Malik, S.K. (F7-10) 61
Malik, S.K. (T5-02) 237
Malik, V.K. (V4-02) 272
Malinowski, G. (S7-05) 230
Malinowski, G. (U9-04) 256
Malliakas, C. (F5-04) 58
Mamiya, H. (F4-01) 56
Man, H. (F1-04) 51
Manago, M. (H13-01) 102
Manaka, H. (W4-02) 284
Manchec, A. (Q2-05) 202
Mancilla-Almonacid, D. (L9-03) . . . 140
Mancilla-Almonacid, D. (W9-01) . . . 291
Mandil, F. (P5-01) 193
Mandru, A. (P6-03) 194
Mandru, A. (S6-05) 229
Mandru, A. (Z6-02) 315
Mandrus, D. (T2-05) 235
Mandrus, D. (U7-09) 254
Mandziak, A. (Y4-01) 304
Manfrini, M. (U5-05) 251
Manfrini, M. (U5-07) 251
Mangin, S. (S7-05) 230
Mangin, S. (U1-11) 246
Mangin, S. (U9-04) 256
Manhas, A.K. (F10-04) 64
Manikandan, D. (L6-01) 136
Manipatruni, S. (F13-10) 72
Maniv, E. (J9-04) 116
Mankey, G. (K1-05) 117
Mann, M. (C1-03) 25
Mann, M. (M6-03) 157
Manna, P. (N14-09) 182
Manni, S. (H5-05) 92
Mannig, A. (L4-04) 133
Mannini, M. (B7-03) 10
Mansell, R. (F2-09) 54
Manson, J.L. (H3-06) 89
Mansour, M. (L1-13) 129
Månsson, M. (D10-01) 40
Månsson, M. (F9-06) 63
Månsson, M. (F9-08) 64
Månsson, M. (H3-01) 88
Månsson, M. (L14-08) 149
Månsson, M. (L16-03) 150
Månsson, M. (N6-02) 171
Månsson, M. (N6-07) 171
Månsson, M. (P10-03) 199
Månsson, M. (Q12-11) 217
Manuel, P. (B16-04) 23
Manuel, P. (E10-01) 49
Manuel, P. (F12-06) 69
Manuel, P. (G8-02) 81
Manuel, P. (L5-01) 134
Manuel, P. (L10-08) 143
Manuel, P. (P8-01) 196
Manuel, P. (U8-02) 255
Manukyan, A. (H1-12) 85
Manzin, A. (E3-02) 43
Manzin, A. (E3-04) 43
Mao, Z. (U7-07) 254
Maple, M.B. (D9-03) 39
Maple, M.B. (D9-05) 39
Maple, M.B. (H13-08) 103
Maple, M.B. (H13-09) 103
Maple, M.B. (J8-03) 115
Maple, M.B. (P8-02) 196
Maple, M.B. (Q10-07) 214
Maranville, B.B. (D2-04) 32
Maranville, B.B. (G4-01) 77
Maranville, B.B. (Z6-01) 314
Marcano Prieto, L. (F11-04) 67
Marcano Prieto, L. (L1-11)* 129
Marcano Prieto, L. (L1-12) 129
Marchenko, A. (L11-05) 144
Marcus, C. (M6-03) 157
Mardegan, J. (T10-03) 243
Marioni, M.A. (P6-03) 194
Marioni, M.A. (S6-05) 229
Marioni, M.A. (U4-01) 249
Marioni, M.A. (Z6-02) 315
Markandeyulu, G. (G5-03) 78
Markandeyulu, G. (H2-09) 87
Markandeyulu, G. (L2-10) 131
Markó, D. (N14-09) 182
Markou, A. (F1-05) 51
Markou, A. (G6-02) 79
Markou, A. (N5-08) 169
Markou, A. (Q2-03) 201
Marmorini, G. (W4-04) 284
Maroutian, T. (T5-03) 238
Marquez, H. (U3-04) 248
Marrows, C.H. (F11-09) 68
Marrows, C.H. (K2-05) 119
Marrows, C.H. (N14-01) 181
Marrows, C.H. (U9-02) 256
Marshall, P. (N7-02) 172
Marshall, P. (T7-01) 239
Martien, D. (F4-07) 57
Martín Rodríguez, R. (L1-11) 129
Martín-Cid, A. (Q9-08) 212
Martín-García, L. (Y4-01) 304
Martin, F. (Z7-03) 316
Martin, J. (E3-03) 43
Martin, J. (K6-03) 123
Martin, J. (Q1-04) 200
Martin, M. (J7-02) 113
Martin, N. (B16-08) 24
Martin, S.Y. (S6-03) 229
Martinez Muñoz, J.E. (W2-07) 282
Martínez-Banderas, A.I. (B2-08) 4
Martínez-Banderas, A.I. (E6-02) 46
Martínez-Criado, G. (N5-13) 170
Martínez-García, J.C. (B2-02) 3
Martínez, B. (W2-08) 282
Martinez, E. (M6-05) 158
Martinez, J. (H7-06) 95
Martinez, W. (H9-02) 96
Martins, M.D. (H2-06) 86
Martonak, R. (N12-09) 179
Martra, G. (L1-04) 128
Maruo, K. (H13-05) 102
Marwaha, A. (F10-09) 65
Mascaraque, A. (H11-02) 99
Mascaraque, A. (N1-04) 162
Mascaraque, A. (U4-02) 249
Mascaraque, A. (Y4-01) 304
Maschek, M. (J5-04) 112
Mashiko, H. (N11-01) 177
Mashkovich, E. (H16-11) 107
Maska, M.M. (H13-04) 102
Massey, J. (K2-05) 119
Massey, J. (N14-01) 181
Massey, J. (U9-02) 256
Masuda, T. (V10-06) 280
Masuda, T. (W5-11) 287
Masumitsu, H. (Q3-06) 203
Masumitsu, H. (Q3-07) 204
Matan, K. (S2-03) 225
Matczak, M. (Q1-08) 200
Materne, P. (J9-03) 116
Materne, P. (W14-06) 299
Mathaudhu, S. (P3-04) 191
Mathews, S.A. (Q8-08) 211
Matho, K. (U14-02) 264
Matlak, B. (S4-03) 227
Matlak, B. (U3-06) 248
Matlak, K. (S4-03) 227
Matlak, K. (U3-06) 248
Matlak, K. (U15-04) 266
Matsuda, M. (W5-03) 286
Matsuda, T. (L15-02) 149
Matsuda, T. (L15-03) 149
Matsuda, T. (U11-03) 259
Matsuda, T. (U11-07) 260
Matsuda, Y. (F7-03) 60
Matsuda, Y. (Q3-04) 203
Matsuda, Y. (T8-02) 241
Matsuda, Y. (U13-10) 263
Matsuda, Y. (U14-01) 264
Matsuda, Y. (U14-05) 265
Matsuhira, K. (M10-05) 162
Matsuhra, W. (N3-04) 166
Matsuhra, W. (Q16-04) 222
Matsui, K. (B12-06) 18
Matsui, K. (N6-04) 171
Matsui, K. (W15-02) 301
Matsuishi, S. (U13-02) 262
Matsukawa, M. (L12-08) 145
Matsukawa, M. (L13-10) 147
Matsukawa, M. (Q5-05) 206
Matsukawa, M. (W13-04) 297
Matsumoto, K. (B11-05) 17
Matsumoto, K. (F1-01) 51
Matsumoto, K. (F3-10) 55
Matsumoto, K. (U11-02) 259
Matsumoto, K. (U11-04) 259
Matsumoto, K. (Y9-02) 309
Matsumoto, M. (H3-07) 89
Matsumoto, M. (H5-07) 92
Matsumoto, M. (V10-06) 280
Matsumoto, N. (B5-01) 7
Matsumoto, N. (F2-10) 54
Matsumoto, N. (N8-06) 174
Matsumoto, R. (U2-04) 247
Matsumoto, Y. (N6-02) 171
Matsumoto, Y. (U11-01) 259
Matsumoto, Y. (U11-05) 259
Matsumura, D. (Q3-03) 203
Matsumura, T. (Z9-04) 318
Matsuno, G. (S9-02) 231
Matsuno, M. (B16-02) 23
Matsuo, A. (H3-07) 89
Matsushima, Y. (Q2-01) 201
Matsushita, A. (L13-10) 147
Matsushita, T. (Y10-03) 310
Matsuura, K. (U13-10) 263
Matsuura, M. (F13-06) 71
Matsuura, M. (W2-03) 281
Matsuura, Y. (Q12-08) 217
Matsuyama, K. (N9-05) 175
Matsuyama, K. (U5-03) 251
Mattana, R. (J7-02) 113
Mattauch, S. (F11-03) 67
Mattauch, S. (W3-08) 283
Matutes-Aquino, J. (B9-10) 14
Matutes-Aquino, J. (H9-01) 96
Matutes-Aquino, J. (W10-11) 293
Maurya, A. (L5-09) 135
Mawass, M. (F11-04) 67
May, A.F. (F7-12) 61
May, A.F. (N15-03) 184
May, D. (N3-05) 166
May, S. (L13-07) 147
Maya, C.E. (N5-03) 168
Mayaffre, H. (V10-05) 280
Mayekar, J. (F2-06) 53

*Best student presentation award finalist

*Best student presentation award finalist

Mayergoyz, I. (B6-05) 8
Mayergoyz, I. (F13-01) 70
Mayergoyz, I. (L8-10) 139
Mayergoyz, I. (L8-11) 139
Mayergoyz, I. (N10-01) 176
Mazin, I. (D8-03) 38
Mazin, I. (K2-01) 118
Mazumdar, C. (B13-05) 19
Mazumdar, D. (F2-05) 53
Mazumdar, D. (Q8-04) 211
Mazumdar, D. (W2-05) 282
Mazumdar, D. (Z10-05) 319
Mazurenko, V. (Q6-05) 208
Mazzoli, C. (Y8-04) 309
Mazzone, D.G. (N3-08) 166
Mboukam, J.J. (B15-06) 22
McClarty, P.A. (K10-01) 126
McClarty, P.A. (M10-03) 161
McClellan, C. (G3-01) 76
McCollam, A. (E9-02) 49
McCollam, A. (K9-03) 125
McCollam, A. (M8-01) 159
McCollam, A. (U4-07) 250
McComb, D. (N14-13) 183
McCord, J. (S3-01) 225
McCourt, E. (U7-06) 254
McCulloch, I. (W8-02) 290
McCullough-Hunter, T. (H13-08) . . . 103
McCullough-Hunter, T. (H13-09) . . . 103
Mcdonald, R.D. (K9-01) 125
Mcdonald, R.D. (T10-05) 244
Mcdonald, R.D. (V9-06) 278
Mcdonald, R.D. (Z8-02) 317
McFadden, A.P. (J1-01) 108
McGrouther, D. (N14-01) 181
McGuire, M. (E10-06) 50
McGuire, M. (N14-03) 181
McLamore, E. (C6-04) 28
McMorrow, D.F. (B16-04) 23
McMorrow, D.F. (M8-04) 160
McMorrow, D.F. (N7-06) 173
McMorrow, D.F. (P8-05) 197
McNally, D.E. (V9-05) 278
McNellis, E. (W8-02) 290
McVitie, S. (K2-05) 119
McVitie, S. (N14-01) 181
Méasson, M. (D9-04) 39
Méchin, L. (Q7-12) 210
Meckenstock, R. (B8-02) 11
Meckenstock, R. (E4-03) 44
Medapalli, R. (U1-11) 246
Medarde, M. (Q3-05) 203
Meden, A. (F7-01) 60
Meertens, D. (B8-11) 12
Mehdi, M. (S5-03) 228
Meier, D. (H10-04) 98
Meier, G. (V1-04) 269
Meier, J. (M4-02) 155
Meier, Q.N. (B6-01) 8
Meinert, M. (L13-05) 147
Meisel, M.W. (B10-10) 16
Meisel, M.W. (H3-06) 89
Mekonnen, A. (B7-03) 10
Melcher, C. (P1-03) 189
Melnikov, N.B. (H15-02) 105
Melnikov, N.B. (H15-03) 105
Melo Costa, L. (S4-05) 227
Menarini, M. (U1-11) 246
Mendels, P. (C10-03) 31
Mendels, P. (J3-01) 109
Mendels, P. (L10-01) 142
Mendonça, A.A. (J5-01) 111
Mendoza, F. (Q11-09) 215
Menezes, J.C. (F2-04) 53
Meng, F. (W1-02) 280
Meng, K. (Q13-08) 219
Meng, K. (S6-05) 229
Meng, K. (U2-02) 246
Meng, L. (U10-01) 257
Meng, T. (K9-01) 125
Meng, Z. (E9-01) 49
Mentes, O.T. (Z7-04) 316
Mentink, J. (C5-03) 27
Mentink, J. (S7-04) 230
Mentink, J. (U16-04) 268
Mény, C. (J4-03) 111
Menzel, D. (F12-04) 69
Meo, A. (N12-06) 179
Merbouche, H. (E4-04) 44
Mercaldo, M. (L14-04) 148
Mercaldo, M. (M9-04) 160
Mercone, S. (N1-06) 163
Mercone, S. (Q15-01) 221
Merino, J. (V10-03) 279
Mertig, I. (D2-03) 32
Mertig, I. (L11-03) 143
Merzaban, J. (B2-08) 4
Mesot, J. (Q3-05) 203
Messing, M.E. (L1-06) 128
Metz, T. (S9-03) 232
Metzner, W. (E8-03) 48
Mewes, T. (K1-05) 117
Meyer, T. (B4-03) 6
Meyners, D. (S3-01) 225
Mi, W. (E2-02) 42
Miao, B. (L11-07) 144
Miao, B. (W7-07) 289
Miao, J. (E8-04) 48
Miao, J. (Q13-08) 219
Miao, J. (U2-02) 246
Mibu, K. (V5-02) 273
Michea, S. (W12-11) 297
Michel, E.G. (U4-02) 249
Michels, A. (L1-03) 128
Michimura, S. (W6-03) 287
Michishita, Y. (L5-03) 135
Michor, H. (T9-04) 242
Migliorini, A. (P6-02) 194
Mihalceanu, L. (Q2-04) 201
Mikhaylovskiy, R. (H16-11) 107
Mila, F. (G8-01) 81
Mila, F. (H8-07) 96
Mila, F. (V10-02) 279
Miller, D. (W15-04) 301
Milton, F. (U8-08) 255
Mimura, K. (U14-03) 265
Min, B. (B16-06) 24
Min, B. (F13-14) 72
Min, B. (H7-05) 94
Min, B. (N3-02) 165
Min, B. (P1-04) 189
Min, B. (Q6-02) 207
Min, B. (Q16-03) 222
Min, B. (U13-03) 262
Min, B. (U14-09) 265
Min, B. (W9-05) 292
Min, K. (N2-11) 165
Ming, Y. (B13-11) 20
Ming, Y. (H6-08) 94
Mingee, C. (B12-08) 18
Miniatura, C. (N13-05) 180
Minola, M. (Q10-02) 213
Minola, M. (W13-03) 297
Miranda, R. (H2-11) 87
Miranda, R. (L2-06) 131
Miranda, R. (L2-12) 131
Miranda, R. (N10-02) 176
Miranda, R. (N10-04) 177
Miranda, R. (P6-04) 194
Miranda, R. (Q7-06) 209
Miranda, R. (Q7-12) 210
Miranda, R. (S4-05) 227
Miranda, R. (Z7-03) 316
Miron, I. (Q13-10) 219
Miron, I. (U1-10) 246
Misawa, T. (H11-04) 99
Mišek, M. (S8-04) 231
Mišek, M. (U12-06) 261
Mišek, M. (U12-07) 261
Mišek, M. (U12-09) 261
Mishra, A. (F15-04) 74
Mishra, A. (Q14-02) 220
Mishra, A. (U9-08) 257
Mishra, H. (S3-03) 226
Mishra, S. (F10-10) 66
Mishra, S. (F10-11) 66
Mishra, S. (Q12-02) 216
Mishra, S.N. (B15-03) 22
Mishra, S.N. (B15-08) 22
Mishra, Y.K. (Q7-10) 209
Misumi, Y. (B10-06) 15
Mito, M. (L1-01) 127
Mitsui, Y. (B5-05) 7
Mitsui, Y. (B13-08) 20
Mitsui, Y. (Q3-06) 203
Mitsui, Y. (Q3-07) 204
Mitsui, Y. (U7-04) 253
Mitsumata, C. (F4-06) 57
Mitsumata, C. (G3-02) 76
Mitsumata, C. (M5-04) 156
Mitsumata, C. (P5-04) 193
Mitteramskogler, T. (B2-01) 3
Miura, N. (H13-06) 102
Miura, S. (H15-07) 105
Miura, Y. (B3-03) 5
Miwa, K. (C1-01) 24
Miyagawa, K. (B16-02) 23
Miyagawa, K. (S9-02) 231
Miyahara, J. (F3-06) 55
Miyakawa, N. (H7-04) 94
Miyakawa, N. (H14-01) 103
Miyakawa, N. (H14-03) 103
Miyake, A. (L15-02) 149
Miyake, A. (V2-04) 270
Miyake, A. (V2-05) 271
Miyake, K. (Y9-04) 310
Miyake, T. (Y5-03) 305
Miyamoto, K. (P9-03) 198
Miyazaki, D. (B5-05) 7
Mizoguchi, T. (H8-05) 96
Mizuguchi, M. (B13-08) 20
Mizuguchi, M. (D5-01) 35
Mizuguchi, M. (H2-05) 86
Mizuguchi, M. (U4-08) 250
Mizuguchi, M. (V5-01) 273
Mizukami, S. (B3-03) 5
Mizukami, S. (B8-05) 12
Mizukami, S. (D7-02) 37
Mizukami, S. (N17-02) 186
Mizukami, Y. (U13-10) 263
Mizumaki, M. (U11-07) 260
Mizumaki, M. (U11-08) 260
Mizumaki, M. (U14-03) 265
Mizuno, A. (B10-07) 15
Mizuno, H. (B1-02) 2
Mizuno, H. (C1-01) 24
Mizuno, H. (N10-03) 176
Mizuno, T. (H5-01) 91
Mizuno, T. (U5-10) 252
Mizuno, T. (U11-04) 259
Mizushima, T. (H2-05) 86
Mizushima, T. (N5-07) 169
Mizushima, T. (Y10-03) 310
Mizuta, K. (W7-03) 289
Mjahed, H. (S3-03) 226
Mkhoyan, A. (K2-04) 119
Mkhoyan, A. (M1-02) 152
Mkhoyan, A. (V1-02) 269
Mo, J. (Q4-09) 205
Mo, S. (Q6-02) 207
Mochihara, K. (W15-05) 301
Mochizuki, M. (U16-07) 268
Mocuta, D. (U5-05) 251
Modi, M. (U4-09) 250
Modic, K. (K9-01) 125
Modic, K. (L15-05) 150
Modic, K. (U14-04) 265
Modic, K.A. (T10-05) 244
Modin, K. (H15-09) 105
Moessner, R. (J3-02) 110
Mograbi, M. (J9-04) 116
Mohammed, H. (N1-03) 162
Mohammed, H. (Q8-01) 210
Mohanta, S.K. (B15-03) 22
Mohanta, S.K. (B15-08) 22
Mohanty, J.R. (W2-02) 281
Mohanty, T. (U9-08) 257
Mohapatra, J. (U3-10) 248
Moharana, G.P. (L6-02) 136
Mohseni, F. (L7-03) 137
Mohseni, F. (U3-07) 248
Mohseni, M. (E4-02) 44
Mokrousov, Y. (D2-05) 32
Mokrousov, Y. (P4-03) 192
Mokrousov, Y. (V7-01) 275
Mole, R. (L16-04) 151
Moll, P.J. (K9-01) 125
Moll, P.J. (L15-05) 150
Moll, P.J. (T10-05) 244
Moll, P.J. (U14-04) 265
Mollaeian, A. (S5-03) 228
Möller, J. (L4-04) 133
Mombetsu, S. (J8-03) 115
Momono, N. (L5-05) 135
Momono, N. (V9-05) 278
Mompean, F.J. (N14-02) 181
Moncada, M.E. (N5-03) 168
Mondal, P. (L1-08) 128
Mondal, R. (T5-02) 237
Monflier, R. (W8-09) 291
Monney, C. (V9-05) 278
Monsivais, G. (N4-04) 167
Montaigne, F. (S3-03) 226
Montiel, H. (N14-06) 182
Montiel, X. (D9-04) 39
Montiel, X. (K1-03) 117
Monton, C. (N1-10) 163
Montoncello, F. (D4-05) 34
Montoncello, F. (N4-02) 167
Montoncello, F. (N4-09) 168
Montoya Martinez, J.A. (N13-03) . . . 180
Montoya, E.A. (E1-02) 41
Montoya, E.A. (L8-01) 138
Montoya, E.A. (L9-01) 140
Montoya, S. (U15-06) 267
Mook, A. (D2-03) 32
Mook, A. (L11-03) 143
Moon, C. (W11-03) 294
Moon, S.R. (N9-02) 175
Moore, J. (J3-04) 110
Moore, S. (S10-03) 232
Moore, T.A. (K2-05) 119
Moore, T.A. (U9-02) 256
Moorsom, T. (L14-03) 148
Moorsom, T. (W8-01) 290
Mora-Hernandez, A. (P7-02) 195
Mora, C. (V8-02) 276
Morais, C.A. (Y2-04) 303
Morais, P.C. (B2-05) 4
Morais, P.C. (Q15-04) 221
Morais, P.C. (Q15-10) 222
Morales, R. (P6-01) 194
Moran, K.A. (M1-01) 152
Moran, K.A. (W12-04) 296
Moran, K.A. (W12-08) 296
Morán, O. (H7-06) 95
Morán, O. (N5-03) 168
Morán, O. (W5-07) 286

*Best student presentation award finalist

*Best student presentation award finalist

Morawe, C. (W13-03) 297
Morell, G. (Q11-09) 215
Morell, G. (Q11-10) 215
Moreno Crespo, C.E. (Q5-01) 205
Moreno Ortega, R. (K7-03) 123
Moreno Ortega, R. (N12-06) 179
Moreno Ortega, R. (U1-12) 246
Moreno Pineda, E. (J2-01) 108
Moreno-Bondi, M. (H1-06) 85
Moreno-Ramírez, L.M. (L7-04) 137
Moreno, J.A. (N1-03) 162
Morenzoni, E. (L12-03) 145
Morenzoni, E. (U13-09) 263
Moretti, M. (N7-06) 173
Moretti, M. (W13-03) 297
Morgan, W. (H4-10) 91
Mori, S. (H2-02) 86
Mori, S. (L12-06) 145
Mori, S. (N5-10) 169
Mori, S. (T3-01) 235
Morimoto, T. (W11-05) 294
Morimoto, Y. (N8-06) 174
Morioka, N. (F3-10) 55
Morishima, M. (F3-11) 55
Morita, H. (P5-04) 193
Morita, K. (G10-03) 83
Morita, K. (L16-07) 151
Morita, Y. (F7-07) 60
Moriyama, T. (B1-02) 2
Moriyama, T. (C1-01) 24
Moriyama, T. (H10-03) 98
Moriyama, T. (M6-01) 157
Moriyama, T. (M6-02) 157
Moriyama, T. (N2-07) 165
Moriyama, T. (N10-03) 176
Moriyama, T. (Q13-05) 218
Moriyama, T. (T4-02) 236
Moriyama, T. (Y6-01) 306
Morley, S.A. (F11-09) 68
Morley, S.A. (K2-05) 119
Morley, S.A. (U3-04) 248
Moroño, A. (U6-06) 252
Morosan, E. (B15-01) 21
Morosan, E. (F3-09) 55
Morosan, E. (T9-03) 242
Morozkin, A. (F7-10) 61
Morozkin, A. (T5-02) 237
Morozov, I. (T8-01) 241
Morris, R.E. (L10-01) 142
Morrison, K. (B4-07) 6
Morrison, K. (P7-02) 195
Moscon, P.S. (N5-06) 169
Mosiniewicz-Szablewska, E. (B2-05) . . . 4
Moskaltsova, A. (H10-04) 98
Mostovoy, M. (E10-04) 50
Motome, Y. (D2-01) 32
Motruk, J. (J3-04) 110
Motti, F. (C1-04) 25
Mougin, A. (K1-04) 117
Mougin, A. (Y7-02) 307
Mounkachi, O. (B13-03) 19
Moutafis, C. (U16-06) 268
Moutaouekkil, M. (S3-03) 226
Movsesyan, R.M. (E2-05) 42
Movshovich, R. (K9-02) 125
Movshovich, R. (V10-04) 279
Moya, C. (J4-02) 110
Moya, C. (L1-02) 127
Moyoshi, T. (V2-05) 271
Mrad, K. (N1-06) 163
Mruczkiewicz, M. (L11-06) 144
Mruczkiewicz, M. (P1-05) 189
Mu, X. (B9-05) 13
Mu, X. (N8-04) 174
Muduli, P. (F1-01) 51
Muehlbauer, S. (B16-08) 24
Muehlbauer, S. (L14-06) 148
Muehlbauer, S. (P10-03) 199
Muehlberger, M. (B2-01) 3
Muela, A. (F11-04) 67
Muela, A. (F2-09) 54
Muela, A. (L1-11) 129
Muela, A. (L1-12) 129
Mugarza, A. (B10-01) 14
Mugarza, A. (B10-04) 15
Mukherjee, K. (B15-07) 22
Mukherjee, K. (H7-01) 94
Mukherjee, K. (Q5-09) 206
Mukherjee, S. (B13-05) 19
Mukhuchev, A. (L7-02) 137
Mulders, M. (B5-03) 7
Müller, G.P. (L11-04) 143
Müller, G.P. (P1-03) 189
Müller, J. (D4-04) 34
Müller, J. (D6-04) 36
Müller, J.H. (L3-01) 132
Müller, T. (C10-04) 31
Mun, K. (F10-07) 65
Munazat, D.R. (W2-10) 282
Mundy, J. (M2-01) 153
Mundy, J. (P2-02) 190
Munekata, H. (H16-11) 107
Muniz, E.P. (N5-06) 169
Muñoz, C. (N14-11) 183
Muñoz, C. (T7-02) 240
Muñoz, D. (F2-09) 54
Muñoz, D. (L1-11) 129
Muñoz, D. (L1-12) 129
Muñoz, M. (B8-03) 11
Muñoz, M. (C4-02) 27
Muñoz, M. (H11-02) 99
Muñoz, M. (N10-04) 177
Muñoz, M. (P6-02) 194
Muñoz, P. (U6-06) 252
Muñoz, V. (Q7-06) 209
Muñoz, V. (Q7-12) 210
Munsie, T. (L10-09) 143
Munuera, C. (Y4-01) 304
Muraca, D. (B7-02) 10
Muralidharan, B. (F6-05) 59
Muramatsu, T. (H5-03) 91
Muramatsu, T. (H5-11) 92
Muraoka, Y. (Q12-08) 217
Murapaka, C. (L9-06) 141
Murata, K. (P10-04) 199
Murata, K. (U13-03) 262
Murayama, S. (B11-05) 17
Murayama, S. (H5-10) 92
Murayama, S. (L5-05) 135
Murnane, M. (H16-04) 106
Murnane, M. (N17-04) 187
Murnane, M. (S7-01) 229
Murphy, K.J. (M9-03) 160
Murphy, K.J. (W14-13) 301
Murray, P. (W13-02) 297
Murray, P. (Z6-01) 314
Murugan, R. (L6-01) 136
Mushenok, F. (B8-09) 12
Mushenok, F. (B8-10) 12
Mushnikov, N.V. (Z10-04) 319
Musiienko-Shmarova, H. (B4-03) 6
Musiienko-Shmarova, H. (G1-01) . . . 74
Mutka, H. (B10-03) 15
Mydlarz, T. (F5-03) 58
Mydosh, J.A. (H5-08) 92
Myers, J. (N16-01) 185

- N -

N'Diaye, A.T. (B1-05) 2
N'Diaye, A.T. (F1-06) 52
N'Diaye, A.T. (F2-05) 53
N'Diaye, A.T. (Q8-04) 211
N'Diaye, A.T. (V4-05) 273
N'Diaye, A.T. (W11-06) 295
N'Diaye, A.T. (Y4-03) 304
N'Diaye, A.T. (Z6-04) 315
N'Diaye, A.T. (Z10-05) 319
Naaman, O. (W15-04) 301
Naaman, R. (Z7-05) 316
Naber, J.F. (W1-08) 281
Nagarajan, V. (W14-09) 300
Nagasawa, F. (J7-05) 114
Nagasawa, N. (W14-07) 300
Nagasawa, N. (W14-12) 300
Nagayama, T. (Q12-08) 217
Nagel, P. (H4-05) 90
Nagler, S.E. (J10-03) 116
Nagy, G. (B16-08) 24
Nahai-Williamson, P. (Q12-05) 216
Nair, H.S. (N15-03) 184
Nair, S. (W14-02) 299
Naito, T. (Q6-06) 208
Naito, T. (Q6-07) 208
Nakagawa, H. (H1-01) 84
Nakagawa, H. (U10-10) 258
Nakagawa, M. (W7-03) 289
Nakagawa, S. (U13-02) 262
Nakahara, K. (L5-04) 135
Nakahara, S. (W15-05) 301
Nakajima, K. (W13-10) 298
Nakama, T. (F3-11) 55
Nakamine, G. (K9-04) 125
Nakamine, G. (U14-05) 265
Nakamura, A. (F3-11) 55
Nakamura, A. (G9-01) 82
Nakamura, A. (H13-02) 102
Nakamura, A. (L5-09) 135
Nakamura, A. (N11-01) 177
Nakamura, F. (V8-04) 276
Nakamura, H. (U1-01) 244
Nakamura, H. (W14-07) 300
Nakamura, H. (W14-12) 300
Nakamura, K. (L2-11) 131
Nakamura, M. (U11-06) 259
Nakamura, S. (D8-04) 38
Nakamura, S. (G9-04) 83
Nakamura, S. (H3-02) 88
Nakamura, S. (N11-01) 177
Nakamura, S. (U11-01) 259
Nakamura, S. (U12-03) 261
Nakamura, Y. (E4-01) 44
Nakamura, Y. (L2-05) 130
Nakamura, Y. (N11-05) 178
Nakane, R. (B6-10) 9
Nakane, R. (J7-04) 114
Nakanishi, Y. (U11-06) 259
Nakano, H. (B10-02) 15
Nakano, H. (E10-05) 50
Nakano, H. (L16-11) 151
Nakao, A. (Q1-10) 200
Nakao, A. (U4-10) 250
Nakao, A. (V2-05) 271
Nakao, H. (W6-08) 288
Nakao, H. (Z9-04) 318
Nakao, W. (L13-14) 147
Nakao, W. (Q7-11) 210
Nakashima, M. (N11-05) 178
Nakata, F. (M7-02) 158
Nakatani, R. (N2-08) 165
Nakatani, Y. (B3-02) 5
Nakatani, Y. (F1-03) 51
Nakatani, Y. (U16-05) 268
Nakatsuji, S. (F1-01) 51
Nakatsuji, S. (F1-04) 51
Nakatsuji, S. (N6-02) 171
Nakatsuji, S. (R1-01) 223
Nakatsuji, S. (U11-01) 259
Nakatsuji, S. (U14-06) 265
Nakayama, H. (N3-04) 166
Nakayama, H. (Q16-04) 222
Naletov, V. (B8-03) 11
Naletov, V. (G1-02) 75
Nam, T. (N3-02) 165
Nam, T. (Q16-03) 222
Nam, W. (T8-05) 241
Namai, A. (P3-01) 191
Nambu, A. (Q9-07) 212
Nambu, Y. (L4-05) 134
Nan, C. (M2-03) 153
Nandy, S. (W5-10) 286
Narang, S. (F10-10) 66
Narang, S. (F10-11) 66
Narayanan, H. (L6-02) 136
Naritsuka, M. (U14-05) 265
Narkowicz, R. (B8-01) 11
Naruse, K. (V5-02) 273
Nasi, L. (N5-08) 169
Nasi, L. (Z5-03) 314
Nateprov, A. (N16-04) 185
Nateprov, A. (N16-06) 186
Nath, J. (Q13-10) 219
Nath, J. (U1-10) 246
Nath, R. (N6-01) 170
Naumann, M. (L5-12) 135
Naumann, M. (L15-05) 150
Navabi, A. (Q13-04) 218
Navarro Chavez, O. (B5-04) 7
Navarro Chavez, O. (B11-03) 17
Navarro Chavez, O. (N13-03) 180
Navarro-Moratalla, E. (N14-03) . . . 181
Navarro, E. (N5-13) 170
Navarro, E. (W2-08) 282
Navío, C. (N14-02) 181
Nechiporuk, A.Y. (Q2-04) 201
Need, R. (N7-02) 172
Need, R. (T7-01) 239
Neenu Lekshmi, P. (U7-02) 253
Neenu Lekshmi, P. (W3-07) 283
Neeraj, K. (V7-03) 275
Neese, F. (C2-02) 25
Nefedev, K. (N13-02) 180
Nehruji, V. (K7-05) 124
Nekrashevich, I. (F11-13) 68
Nekrashevich, I. (L1-14) 129
Nelson, C. (L12-01) 144
Nemati, Z. (L1-15) 130
Nembach, H. (H11-07) 100
Nembach, H. (N17-04) 187
Nembach, H. (Q14-10) 220
Neto, M.B. (N11-06) 178
Neu, V. (E3-02) 43
Neu, V. (E3-04) 43
Neubauer, A. (B16-08) 24
Neugebauer, J. (U13-08) 263
Neves, P. (D2-04) 32
Nevidomskyy, A. (K8-04) 124
Nevidomskyy, A. (Y2-03) 303
Ney, A. (B8-02) 11
Ney, A. (E4-03) 44
Nguyen, K.D. (V2-05) 271
Nguyen, Q. (K4-04) 121
Nguyen, T. (L2-11) 131
Nguyen, V. (V3-01) 271
Niarchos, D. (D5-04) 35
Nica, E. (W6-05) 287
Nichols, J. (U4-06) 250
Nicholson, B. (P7-02) 195
Nicklas, M. (K9-01) 125
Nicklas, M. (L5-11) 135
Nie, T. (V6-05) 274
Nie, Y. (B8-13) 13
Nie, Y. (L1-10) 129
Niedermayer, C. (E10-02) 50
Niedermayer, C. (W5-01) 285
Niesen, A. (H2-08) 87
Nigam, A.K. (F7-06) 60
Nigam, A.K. (F7-10) 61
Nigam, A.K. (T5-02) 237

*Best student presentation award finalist

*Best student presentation award finalist

Niibori, T. (L2-05) . . . 130
Niimura, T. (M7-02) . . . 158
Niki, H. (F3-11) . . . 55
Niki, K. (F3-11) . . . 55
Nikitin, A.M. (Q10-05) . . . 213
Nikitov, S. (Q14-05) . . . 220
Nikitov, S. (U4-04) . . . 249
Nikonov, D.E. (F13-10) . . . 72
Nilsen, G.J. (F5-05) . . . 58
Nilsen, G.J. (L4-08) . . . 134
Ning, S. (F2-08) . . . 54
Nirmala, R. (F7-10) . . . 61
Nirmala, R. (T5-02) . . . 237
Nisbet, G. (M8-04) . . . 160
Nisbet, G. (Q6-05) . . . 208
Nisbet, G. (T10-04) . . . 244
Nishida, M. (H4-01) . . . 90
Nishida, N. (M1-05) . . . 153
Nishijima, M. (D5-03) . . . 35
Nishikawa, T. (F1-01) . . . 51
Nishikawa, U. (W6-03) . . . 287
Nishimoto, S. (B12-01) . . . 17
Nishimoto, S. (G10-01) . . . 83
Nishimoto, S. (L4-01) . . . 133
Nishimura, T. (M6-02) . . . 157
Nishimura, T. (U1-09) . . . 245
Nishio, K. (L8-04) . . . 138
Nitta, J. (F13-06) . . . 71
Nitta, J. (H11-03) . . . 99
Nitta, J. (J7-05) . . . 114
Nitta, J. (W8-06) . . . 291
Nitta, K. (U11-07) . . . 260
Niu, C. (P4-03) . . . 192
Niu, J. (Y10-05) . . . 311
Niu, Q. (D6-02) . . . 36
Niu, Q. (T2-03) . . . 234
Niu, Q. (U2-09) . . . 247
Nlebedim, C.I. (L7-08) . . . 138
Nlebedim, C.I. (M5-03) . . . 156
Nlebedim, C.I. (W1-02) . . . 280
Nóbrega, E.P. (H6-06) . . . 94
Noce, C. (L14-04) . . . 148
Nocerino, E. (H3-01) . . . 88
Nocerino, E. (L14-08) . . . 149
Nocerino, E. (L16-03) . . . 150
Nocerino, E. (N6-07) . . . 171
Nocerino, E. (Q12-11) . . . 217
Nockemann, P. (U7-06) . . . 254
Noda, M. (F9-02) . . . 63
Noda, M. (G2-04) . . . 76
Noda, M. (H7-07) . . . 95
Noguchi, K. (Q3-07) . . . 204
Noguchi, Y. (H5-01) . . . 91
Noh, H. (M8-02) . . . 159
Nojiri, H. (H8-04) . . . 96
Noma, Y. (H13-02) . . . 102
Nomura, K. (C1-02) . . . 25
Nomura, K. (F13-04) . . . 71
Nomura, K. (H11-04) . . . 99
Nomura, K. (V5-02) . . . 273
Nong, H.T. (N1-06) . . . 163
Nong, H.T. (Q15-01) . . . 221
Nonoyama, T. (Q3-02) . . . 203
Nonoyama, T. (W4-02) . . . 284
Norio, K. (W7-03) . . . 289
Noske, M. (G1-01) . . . 74
Novak, M. (N16-05) . . . 185
Novák, V. (B1-09) . . . 2
Novosad, V. (B8-13) . . . 13
Novosad, V. (K6-02) . . . 122
Novosad, V. (LB-13) . . . 140
Novosad, V. (U16-02) . . . 267
Nowak, L. (T5-04) . . . 238
Nozaki, H. (F9-06) . . . 63
Nozaki, H. (H3-01) . . . 88
Nozaki, H. (L14-08) . . . 149
Nozaki, H. (L16-03) . . . 150
Nozaki, H. (N6-07) . . . 171
Nozaki, T. (U2-04) . . . 247
Ntallis, N. (H1-02) . . . 84
Nugroho, A. (U7-01) . . . 253
Numakura, R. (W6-03) . . . 287
Nuñez, A. (W9-03) . . . 291
Nutter, P.W. (U15-02) . . . 266
Nwokoye, C. (N2-04) . . . 164

- O -

O'Brien, K.P. (M3-04) . . . 154
O'Brien, L. (M1-02) . . . 152
O'Brien, L. (T4-05) . . . 237
O'Grady, K. (L13-05) . . . 147
O'Grady, K. (Q1-05) . . . 200
O'Grady, K. (W3-01) . . . 283
O'Hara, D.J. (N14-13) . . . 183
O'Neill, C. (L5-01) . . . 134
O'Neill, C. (P8-01) . . . 196
O'Reilly, M. (G3-04) . . . 77
Oba, Y. (F4-01) . . . 56
Obara, G. (N8-07) . . . 174
Obata, M. (N2-01) . . . 164
Obata, M. (S10-02) . . . 232
Obata, M. (U4-03) . . . 249
Obayashi, I. (F4-06) . . . 57
Oberdick, S. (G4-05) . . . 78
Oboz, M. (F5-01) . . . 57
Oboz, M. (F5-02) . . . 57
Oboz, M. (F5-06) . . . 58
Oboz, M. (Z5-01) . . . 313
Ocaña, J. (L3-02) . . . 132
Oda, K. (B1-02) . . . 2
Oda, M. (C10-01) . . . 30
Oda, M. (V9-05) . . . 278
Oda, T. (N2-01) . . . 164
Oda, T. (S10-02) . . . 232
Oda, T. (U4-03) . . . 249
Odkhuu, D. (F12-11) . . . 70
Odkhuu, D. (N2-05) . . . 164
Oezelt, H. (D5-04) . . . 35
Ofer, O. (H3-01) . . . 88
Ogasawara, T. (Q1-10) . . . 200
Ogasawara, T. (Q7-01) . . . 208
Ogasawara, T. (U4-10) . . . 250
Ogata, M. (Q12-08) . . . 217
Ogawa, K. (B15-04) . . . 22
Ogawa, T. (N9-05) . . . 175
Ognev, A. (Q14-05) . . . 220
Ognev, A. (U4-04) . . . 249
Ognev, A. (U4-05) . . . 249
Ogrin, F.Y. (B8-10) . . . 12
Ogrin, F.Y. (G1-03) . . . 75
Ogrin, F.Y. (W1-05) . . . 281
Oguchi, A. (B14-04) . . . 20
Oguchi, T. (L12-07) . . . 145
Oguchi, T. (L2-11) . . . 131
Oguchi, T. (Z5-02) . . . 314
Oguri, A. (V8-01) . . . 276
Oguz, K. (F13-10) . . . 72
Oh, J. (P2-05) . . . 190
Oh, J. (Z10-02) . . . 319
Oh, S. (M6-02) . . . 157
Oh, Y. (E1-04) . . . 41
Oh, Y. (U6-09) . . . 253
Ohara, S. (Q10-06) . . . 213
Ohashi, K. (H4-01) . . . 90
Ohashi, M. (F3-07) . . . 55
Ohashi, M. (L13-08) . . . 147
Ohishi, Y. (W14-07) . . . 300
Ohishi, Y. (W14-12) . . . 300
Ohkoshi, S. (P3-01) . . . 191
Ohldag, H. (B8-02) . . . 11
Ohldag, H. (E4-03) . . . 44
Ohldag, H. (F13-11) . . . 72
Ohldag, H. (K3-01) . . . 119
Ohno, H. (B1-07) . . . 2
Ohno, H. (F6-01) . . . 59
Ohno, H. (F13-02) . . . 71
Ohno, H. (F13-03) . . . 71
Ohno, H. (M6-04) . . . 158
Ohno, H. (Y6-03) . . . 306
Ohnoutek, L. (F4-05) . . . 56
Ohodnicki, P. (N9-02) . . . 175
Ohoyama, K. (Q3-03) . . . 203
Ohsawa, T. (Q1-12) . . . 201
Ohsawa, Y. (G7-02) . . . 80
Ohshima, R. (J7-03) . . . 114
Ohta, H. (K10-02) . . . 126
Ohta, H. (U12-05) . . . 261
Ohta, H. (W4-08) . . . 285
Ohta, H. (W10-02) . . . 293
Ohta, T. (H5-10) . . . 92
Ohta, Y. (H7-02) . . . 94
Ohta, Y. (H14-04) . . . 104
Ohtsubo, Y. (P9-03) . . . 198
Ohuchi, M. (H1-01) . . . 84
Ohwada, K. (W3-04) . . . 283
Oikawa, K. (F4-01) . . . 56
Oikawa, K. (F4-04) . . . 56
Oikawa, M. (L2-05) . . . 130
Oikawa, S. (G7-02) . . . 80
Oike, H. (Z1-02) . . . 311
Ojha, A. (F6-02) . . . 59
Oka, K. (F9-02) . . . 63
Oka, T. (L1-07) . . . 128
Oka, T. (V8-04) . . . 276
Okabe, Y. (N13-02) . . . 180
Okada, A. (F13-02) . . . 71
Okada, A. (Y6-03) . . . 306
Okada, H. (Q7-14) . . . 210
Okamoto, K. (H3-05) . . . 89
Okamoto, M. (Q9-07) . . . 212
Okamoto, S. (D5-03) . . . 35
Okazaki, K. (T8-02) . . . 241
Okazaki, S. (N13-01) . . . 180
Okubo, S. (K10-02) . . . 126
Okubo, T. (Y2-01) . . . 303
Okubo, Y. (U7-04) . . . 253
Okuda, T. (H7-07) . . . 95
Okuda, T. (P9-03) . . . 198
Okunishi, K. (L16-09) . . . 151
Okuno, T. (M6-02) . . . 157
Okuno, T. (U1-09) . . . 245
Okuyama, D. (L4-05) . . . 134
Okuyama, H. (F12-04) . . . 69
Olamit, J. (Z6-01) . . . 314
Olejník, K. (B1-09) . . . 2
Oleksakova, D. (W10-01) . . . 292
Oles, A.M. (M8-03) . . . 159
Olicón Hernandez, O. (N15-02) . . . 183
Oliva, A. (N5-04) . . . 169
Olivari, S. (F11-14) . . . 68
Oliveira, G.M. (N1-05) . . . 163
Oliveira, N. (B15-09) . . . 23
Ollefs, K.J. (B8-02) . . . 11
Ollefs, K.J. (E4-03) . . . 44
Ollefs, K.J. (G5-04) . . . 79
Olleros, P. (H2-11) . . . 87
Olleros, P. (L2-12) . . . 131
Ollivier, J. (E10-02) . . . 50
Ollivier, J. (G10-05) . . . 84
Ollivier, J. (L4-04) . . . 133
Ollivier, J. (L4-08) . . . 134
Omi, T. (Q5-07) . . . 206
Omi, T. (V2-05) . . . 271
Omrani, A. (Q6-02) . . . 207
Onbasli, M.C. (Q15-07) . . . 221
Ong, C. (N13-05) . . . 180
Ong, P. (Y7-03) . . . 307
Onimaru, T. (P8-03) . . . 197
Onimaru, T. (U11-02) . . . 259
Onimaru, T. (U11-04) . . . 259
Onimaru, T. (U11-09) . . . 260
Onimaru, T. (Y9-02) . . . 309
Onishi, S. (L15-02) . . . 149
Onishi, S. (L15-03) . . . 149
Ono, A. (B3-03) . . . 5
Ono, K. (F4-06) . . . 57
Ono, K. (F4-08) . . . 57
Ono, K. (G3-02) . . . 76
Ono, K. (M5-04) . . . 156
Ono, K. (P5-04) . . . 193
Ono, K. (T3-06) . . . 236
Ono, K. (Z5-02) . . . 314
Ono, O. (N8-07) . . . 174
Ono, S. (C1-01) . . . 24
Ono, T. (B1-02) . . . 2
Ono, T. (C1-01) . . . 24
Ono, T. (H10-03) . . . 98
Ono, T. (M6-01) . . . 157
Ono, T. (M6-02) . . . 157
Ono, T. (N10-03) . . . 176
Ono, T. (N2-07) . . . 165
Ono, T. (Q13-05) . . . 218
Ono, T. (T4-02) . . . 236
Ono, T. (U1-09) . . . 245
Ono, T. (V5-02) . . . 273
Onoda, S. (B12-09) . . . 18
Onodera, K. (L13-10) . . . 147
Onodera, K. (P3-05) . . . 191
Onose, Y. (G2-01) . . . 75
Onozato, Y. (L16-09) . . . 151
Onuki, Y. (F3-11) . . . 55
Onuki, Y. (H13-02) . . . 102
Onuki, Y. (L5-07) . . . 135
Oogane, M. (Q7-01) . . . 208
Ooka, R. (Q3-02) . . . 203
Oomi, G. (W6-01) . . . 287
Opel, M. (W3-08) . . . 283
Opherden, L. (L16-01) . . . 150
Ophus, C. (Y4-03) . . . 304
Opletal, P. (S8-04) . . . 231
Opletal, P. (U12-07) . . . 261
Opletal, P. (U12-09) . . . 261
Oppeneer, P.M. (H16-04) . . . 106
Oppeneer, P.M. (N17-03) . . . 186
Oppeneer, P.M. (S7-01) . . . 229
Oppeneer, P.M. (S7-02) . . . 230
Oppeneer, P.M. (S7-03) . . . 230
Or, S. (B9-07) . . . 13
Or, S. (Q4-10) . . . 205
Orain, J. (J9-03) . . . 116
Orain, J. (L10-01) . . . 142
Orain, J. (L16-01) . . . 150
Orain, J. (N6-07) . . . 171
Orain, J. (U13-09) . . . 263
Oral, A. (Q7-02) . . . 209
Orbanić, F. (N16-05) . . . 185
Ordóñez-Romero, C.L. (N4-04) . . . 167
Ordoñez, J.E. (F1-09) . . . 52
Orendac, M. (B14-03) . . . 20
Orenstein, J. (F1-04) . . . 51
Orlandi, F. (F12-06) . . . 69
Orlandi, F. (U8-02) . . . 255
Orlita, M. (C2-02) . . . 25
Orlova, A. (V10-05) . . . 280
Ortega, E. (M4-01) . . . 155
Orth, P. (P7-01) . . . 195
Orue, I. (F11-04) . . . 67
Orue, I. (L1-11) . . . 129
Orue, I. (L1-15) . . . 130
Orue, I. (U10-11) . . . 258
Osadchuk, Y. (F10-01) . . . 64
Osadchuk, Y. (F10-06) . . . 65
Osawa, A. (N11-03) . . . 177
Osborn, R. (W14-08) . . . 300
Osborn, R. (Z9-01) . . . 317
Oshima, A. (L1-07) . . . 128
Oshima, Y. (B10-12) . . . 16
Oshima, Y. (N11-01) . . . 177

*Best student presentation award finalist

*Best student presentation award finalist

Oshima, Y. (N11-03) 177
Oshima, Y. (U12-03) 261
Osman, N.S. (H1-11) 85
Osofsky, M. (U7-09) 254
Ospina, C. (B7-02) 10
Osterhage, H. (M7-04) 158
Ostler, T.A. (K7-02) 123
Osuna Ruiz, D. (G1-03) 75
Ota, Y. (T8-02) 241
Otaki, T. (Q10-06) 213
Otani, Y. (F1-01) 51
Otani, Y. (K4-05) 121
Otani, Y. (P4-02) 192
Otsuka, H. (N13-02) 180
Otsuki, N. (L12-06) 145
Ott, H.R. (Q3-05) 203
Ott, R. (W1-02) 280
Otyepka, M. (N12-05) 179
Ou Yang, K. (N2-03) 164
Ou, Y. (H11-12) 100
Ouladdiaf, B. (G10-01) 83
Ouladdiaf, B. (Q12-03) 216
Ouyang, J. (L3-05) 132
Ovchinnikova, E. (Q6-05) 208
Overgaard, J. (C2-02) 25
Overman, N.R. (P3-04) 191
Oxford, E. (J4-05) 111
Oyarzún, S. (W12-11) 297
Ozaki, Y. (W5-03) 286

- P -

P S, A. (Q1-09) 200
P, R. (G5-03) 78
P, R. (L2-10) 131
Pablo-Navarro, J. (L11-08) 144
Padrón Hernandez, E. (N1-05) 163
Paduan-Filho, A. (V10-05) 280
Paglione, J. (S9-03) 232
Pagliuso, P. (F3-03) 56
Pagliuso, P. (F3-08) 55
Pagliuso, P. (Q16-06) 223
Pagliuso, P. (W14-03) 299
Pagliuso, P. (W14-04) 299
Pagliuso, P. (W14-05) 299
Paixão, L. (F8-08) 62
Pajerowski, D. (E10-06) 50
Pajerowski, D. (H3-06) 89
Pakhomova, A. (Q10-03) 213
Pakuszewski, K.R. (W14-05) 299
Pal, S.P. (H4-09) 91
Palacio, I. (Y4-01) 304
Palapati, N. (W10-10) 293
Palasyuk, A. (W1-02) 280
Palma, J.L. (C7-01) 29
Palma, J.L. (F11-06) 67
Palmero, E.M. (B13-07) 19
Palmero, E.M. (M4-02) 155
Palmero, E.M. (W1-03) 280
Palmstrom, C.J. (J1-01) 108
Palmstrom, J. (K3-03) 120
Palmstrom, J. (T8-04) 241
Palmstrom, J. (Y9-05) 310
Palomares, F. (N5-13) 170
Palomares, F. (W2-08) 282
Palotás, K. (N12-03) 178
Paltiel, Y. (Z7-05) 316
Pan, F. (Y6-04) 306
Pan, H. (G4-05) 78
Pan, L. (C6-01) 28
Pan, L. (F8-03) 62
Pan, L. (P10-04) 199
Pan, P. (N4-05) 167
Pan, P. (Q8-05) 211
Pan, P. (Z5-04) 314
Pan, S. (B6-03) 8
Pan, W. (Y7-01) 307
Panaccione, G. (C1-04) 25
Pancaldi, M. (E7-01) 47
Pandey, D. (U7-08) 254
Pandey, K.K. (Q14-02) 220
Pandey, S. (F2-05) 53
Pandey, S. (H6-05) 93
Pandey, S. (H6-07) 94
Pandey, S. (J5-05) 112
Pandey, S. (Q8-04) 211
Pandey, S. (U15-07) 267
Pandey, S. (W2-05) 282
Pandey, S. (Z10-05) 319
Pandya, S. (E5-02) 45
Panighel, M. (B10-01) 14
Panighel, M. (B10-04) 15
Pant, R. (H12-03) 101
Papaioannou, E. (E7-03) 47
Papaioannou, E. (P4-05) 192
Papaioannou, E. (V7-02) 275
Pappas, S.D. (E7-03) 47
Paradezhenko, G.V. (H15-02) 105
Paradezhenko, G.V. (H15-03) 105
Parakkat, V. (Q1-09) 200
Pardede, I. (N2-01) 164
Pardede, I. (U4-03) 249
Paris, E. (V9-05) 278
Park, B. (C6-01) 28
Park, B. (E1-04) 41
Park, B. (T4-03) 236
Park, B. (W11-04) 294
Park, C. (Q4-02) 204
Park, C. (Q4-03) 204
Park, C. (Y1-02) 303
Park, E. (K4-04) 121
Park, H. (Z9-01) 317
Park, J. (B13-04) 19
Park, J. (F1-08) 52
Park, J. (K4-04) 121
Park, J. (K6-02) 122
Park, J. (N2-11) 165
Park, J. (N9-07) 176
Park, J. (N9-08) 176
Park, J. (P2-05) 190
Park, J. (Q9-06) 212
Park, J. (Q12-01) 216
Park, J. (Y1-02) 303
Park, J. (Z10-02) 319
Park, J.H. (J9-04) 116
Park, K. (E10-02) 50
Park, K. (P2-05) 190
Park, K. (Y1-02) 303
Park, P. (Z10-02) 319
Park, S. (E9-04) 49
Park, S. (T4-03) 236
Park, S. (W11-09) 295
Park, T. (E9-04) 49
Park, T. (L15-01) 149
Park, W. (U5-04) 251
Park, Y. (F4-09) 57
Park, Y. (W11-01) 294
Park, Y. (W12-03) 296
Parker, J.D. (F4-04) 56
Parker, S.F. (K10-01) 126
Parker, T. (K10-01) 126
Parkes, D. (U1-03) 245
Parkin, S.S.P. (C4-01) 26
Parkin, S.S.P. (F1-05) 51
Parkin, S.S.P. (G6-02) 79
Parkin, S.S.P. (V7-03) 275
Parkin, S.S.P. (Z7-05) 316
Parks, B. (U5-02) 251
Parks, B. (W10-06) 293
Parpiiev, T. (T6-03) 239
Parra, C. (N5-03) 168
Parrella, A. (N9-09) 176
Parrett, B. (T8-01) 241
Parsa, N. (G2-05) 76
Parsons, R.R. (P3-05) 191
Parthasarathy, A. (H16-03) 106
Pasa, A.A. (W8-05) 290
Paschen, S. (K8-03) 124
Paschen, S. (N3-03) 166
Paschen, S. (Q16-02) 222
Paschen, S. (U12-01) 260
Paschen, S. (U14-07) 265
Paschen, S. (W6-05) 287
Pascotto Gastaldo, V. (U8-08) 255
Pasquale, M. (M7-03) 158
Passamani Caetano, E. (N15-13) . . . 185
Patankar, S. (F1-04) 51
Patel, A.K. (H1-08) 85
Patel, N. (H3-06) 89
Patel, S. (J1-01) 108
Patel, S.K. (N17-04) 187
Pathak, S. (H11-11) 100
Pati, S. (L8-03) 138
Patil, S.M. (L14-05) 148
Patrick, C.E. (Y5-05) 305
Pattabi, A. (H16-01) 106
Patterson, C. (U10-03) 257
Paukov, M. (Q9-05) 212
Paul, A. (K2-04) 119
Paul, A. (U15-03) 266
Paul, A. (W3-08) 283
Paul, S. (B9-08) 14
Paulose, P.L. (L14-05) 148
Paulsen, C. (M10-05) 162
Paulsen, C. (S9-04) 232
Paulus, W. (Q12-02) 216
Pawlikowska, M. (Z5-01) 313
Pearson, J.E. (B8-13) 13
Pearson, J.E. (K6-02) 122
Pearson, J.E. (N17-01) 186
Pearson, J.E. (T6-02) 239
Pearson, J.E. (U16-02) 267
Pecharsky, V. (B2-03) 3
Pecharsky, V. (F8-09) 62
Pecharsky, V. (H6-04) 93
Pecharsky, V. (W10-10) 293
Peddis, D. (H1-02) 84
Peddis, D. (H1-04) 84
Pedersen, K. (B10-03) 15
Pedersen, K. (C2-03) 26
Pedrueza de Villalmanzo, E. (B7-03) 10
Peláiz Barranco, A. (Q5-01) 205
Pelegrini, F. (N5-06) 169
Pelevin, I. (Q9-05) 212
Pellegren, J.P. (U1-02) 244
Pellegrin, E. (G8-04) 82
Pellegrin, E. (K4-03) 120
Pellegrin, E. (N14-10) 182
Pellegrin, E. (P7-03) 195
Pelliciari, J. (Y8-04) 309
Penedo, M. (S6-05) 229
Penedo, M. (U4-01) 249
Peng, F. (G2-05) 76
Peng, J. (T3-02) 235
Peng, Y. (C3-01) 26
Peng, Y. (W13-03) 297
Pentcheva, R. (L8-05) 139
Pentella, M. (N9-09) 176
Pépin, C. (D9-04) 39
Pepper, R.A. (B6-04) 8
Pepper, R.A. (K7-05) 124
Pepper, R.A. (L11-01) 143
Pepper, R.A. (S10-04) 233
Peprah, M. (H3-06) 89
Pereira, A. (C7-01) 29
Pereira, A. (N5-02) 168
Pereira, L. (W3-05) 283
Pereiro, E. (E3-03) 43
Pereiro, M. (B6-02) 8
Perevertov, A. (P2-04) 190
Perez del Real, R. (M4-02) 155
Perez del Real, R. (M4-03) 155
Perez del Real, R. (S6-02) 229
Pérez-Landazábal, I. (G5-06) 79
Pérez-Landazábal, I. (S2-04) 225
Perez-Murano, F. (E7-04) 47
Perez, J. (H3-06) 89
Perez, J. (U10-11) 258
Perez, J.E. (B2-08) 4
Perez, J.E. (E6-02) 46
Perez, L. (H1-06) 85
Perez, L. (H11-02) 99
Perez, L. (N1-04) 162
Perez, L. (Q7-06) 209
Perez, L. (Q7-12) 210
Perez, L. (U4-02) 249
Perez, L. (Y4-01) 304
Perfetti, M. (B10-03) 15
Perfetti, M. (C2-02) 25
Perkins, N. (J10-02) 116
Perkins, N. (L10-04) 142
Perna, P. (H2-11) 87
Perna, P. (L2-06) 131
Perna, P. (L2-12) 131
Perna, P. (N10-02) 176
Perna, P. (N10-04) 177
Perna, P. (P6-04) 194
Perna, P. (Q1-02) 199
Perna, P. (Q7-06) 209
Perna, P. (Q7-12) 210
Perna, P. (S4-05) 227
Perna, S. (L8-01) 138
Perna, S. (L8-10) 139
Perna, S. (L8-11) 139
Perna, S. (L9-05) 140
Perreault, B. (J10-02) 116
Perren, G. (L4-04) 133
Perrin, Y. (M10-01) 161
Perring, T. (J2-05) 109
Perring, T. (Z10-01) 318
Perrissin, N. (V3-01) 271
Perry, R. (L10-08) 143
Perry, R. (M8-04) 160
Perry, R. (N7-06) 173
Perry, R. (P9-04) 198
Perry, R. (U12-08) 261
Perumkunnil, M. (V3-04) 272
Perween, S. (H12-03) 101
Pesquera, D. (P7-03) 195
Pessoa, M. (N5-06) 169
Peters, L. (W11-02) 294
Peters, N. (N14-01) 181
Peters, R. (F15-03) 73
Peters, R. (L5-03) 135
Peters, T. (H10-04) 98
Peterson, T. (H4-08) 91
Peterson, T. (H10-05) 98
Peterson, T.A. (J1-01) 108
Petford-Long, A. (T6-02) 239
Petit-Watelot, S. (S3-03) 226
Petit, L. (Y5-05) 305
Petit, S. (D10-01) 40
Petit, S. (F9-08) 64
Petit, S. (V2-03) 270
Petitgirard, S. (L12-11) 146
Petracic, O. (F11-03) 67
Petrakovskaja, E. (J4-01) 110
Petrecca, M. (K5-03) 121
Petrenko, O. (E10-01) 49
Petrenko, O. (P10-02) 198
Petricek, V. (Q12-03) 216
Petroff, F. (J7-02) 113
Petrov, A. (C1-04) 25
Petrovic, C. (L12-01) 144
Petryshynets, I. (N9-06) 176
Pezeril, T. (T6-03) 239
Pfau, B. (M6-03) 157
Pfau, H. (C8-02) 29

*Best student presentation award finalist

*Best student presentation award finalist

Pfau, H. (T8-04) 241
Pfleiderer, C. (B15-02) 21
Pfleiderer, C. (B16-08) 24
Pfleiderer, C. (D2-02) 32
Pfleiderer, C. (F7-04) 60
Pfleiderer, C. (G9-02) 82
Pfleiderer, C. (H13-07) 102
Pfleiderer, C. (L3-10) 133
Pfleiderer, C. (L4-08) 134
Pfleiderer, C. (M10-04) 161
Pfleiderer, C. (T3-05) 235
Pham, T. (F1-08) 52
Pham, T. (K4-04) 121
Pham, T.V. (Q1-06) 200
Pham, V. (F13-10) 72
Pham, Y.D. (F7-08) 61
Phan, M. (B4-09) 6
Phan, M. (L1-15) 130
Phan, M. (U7-09) 254
Phan, T. (B13-02) 19
Phatak, C. (E3-03) 43
Phatak, C. (T6-02) 239
Philbin, T.G. (B8-09) 12
Philbin, T.G. (U1-07) 245
Phillips, A. (V2-01) 270
Phung, T. (C4-01) 26
Piamonteze, C. (J4-02) 110
Piamonteze, C. (T7-03) 240
Piantek, M. (B10-04) 15
Piantek, M. (G4-03) 77
Piao, H. (F8-03) 62
Pieper, J. (D4-04) 34
Pierce, D. (M2-03) 153
Pierobon, L. (U16-06) 268
Pierz, K. (D6-04) 36
Pikulski, M. (Q3-05) 203
Pile, S. (B8-02) 11
Pile, S. (E4-03) 44
Piligkos, S. (B10-03) 15
Pimentel, B. (F8-08) 62
Pincini, D. (M8-04) 160
Pincini, D. (N7-06) 173
Pincini, D. (Q6-05) 208
Pineider, F. (B7-03) 10
Pines, D.J. (Q7-04) 209
Piovano, A. (V9-04) 277
Pipich, V. (F4-08) 57
Pipich, V. (L14-06) 148
Piquemal, J. (N1-06) 163
Piquemal, M. (J7-02) 113
Piquero-Zulaica, I. (G4-03) 77
Piramanayagam, S. (Q1-07) 200
Pirro, P. (B4-03) 6
Pirro, P. (B8-08) 12
Pirro, P. (B8-12) 12
Pirro, P. (E4-02) 44
Piva, M.M. (F3-03) 56
Piva, M.M. (F3-08) 55
Piva, M.M. (W14-03) 299
Piva, M.M. (W14-04) 299
Piva, M.M. (W14-05) 299
Pixley, J. (L5-02) 135
Pixley, J. (Y2-03) 303
Pizzini, S. (H2-11) 87
Pizzini, S. (Q1-01) 199
Pizzini, S. (Q1-02) 199
Pizzini, S. (T7-04) 240
Plank, H. (D4-04) 34
Plazaola, F. (G5-06) 79
Plazaola, F. (L1-15) 130
Plazaola, F. (S2-04) 225
Plazaola, F. (U10-11) 258
Pleydell-Pearce, C. (G3-04) 77
Plimpton, S. (S10-03) 232
Podlesnyak, A. (D10-04) 40
Podlesnyak, A. (H3-06) 89
Podmiljsak, B. (P5-03) 193
Poggio, M. (M4-04) 155
Pogosyan, A.V. (E2-05) 42
Pogrebna, A. (H16-11) 107
Pohle, R. (H8-02) 95
Pohle, R. (L16-08) 151
Poimanov, V.D. (B8-10) 12
Pokharel, G. (U7-09) 254
Pokharel, S. (H4-10) 91
Pokharel, S. (L13-04) 146
Polakovic, T. (U16-02) 267
Polewczyk, V. (S3-03) 226
Polewczyk, V. (T6-03) 239
Polewczyk, V. (W2-01) 281
Polley, D. (V7-03) 275
Pollmann, F. (J3-02) 110
Pomaranski, D. (L10-09) 143
Pomjakushina, E. (L4-08) 134
Ponce, A. (M4-01) 155
Ponomaryov, A. (H3-08) 89
Poon, J. (W9-07) 292
Poon, J. (W9-08) 292
Pop, E. (G3-01) 76
Popescu, A. (Q13-13) 219
Popkov, A.F. (B3-01) 5
Popov, A.V. (B3-01) 5
Porras, J. (Z8-04) 317
Porro Azpiazu, J. (F11-09) 68
Porter, C. (N14-05) 182
Porto, P.S. (N5-06) 169
Pospisil, J. (S8-04) 231
Potapkin, V. (Q10-03) 213
Poteryaev, A. (Z2-01) 312
Poudel, N. (U8-06) 255
Poudel, N. (W5-08) 286
Pourret, A. (G9-01) 82
Pourret, A. (K9-03) 125
Pourret, A. (T9-01) 242
Pouse, N. (D9-05) 39
Povarov, K. (G10-05) 84
Povarov, K. (H3-03) 88
Povarov, K. (H3-08) 89
Povarov, K. (L4-04) 133
Powell, B.J. (V10-03) 279
Poyser, S. (N12-06) 179
Prabhakara, K.H. (H16-06) 106
Prabhakaran, D. (B16-04) 23
Prabhakaran, D. (K10-01) 126
Prabhakaran, D. (M10-03) 161
Prabhakaran, D. (P9-04) 198
Prabhakaran, D. (U8-02) 255
Prabhakaran, D. (W5-05) 286
Prabharakan, D. (V9-01) 277
Pradhan, B. (U13-05) 262
Pradhan, M. (U8-09) 255
Prasad, B. (Y7-04) 307
Prchal, J. (Q6-01) 207
Prchal, J. (S8-04) 231
Pregelj, M. (C10-03) 31
Pregelj, M. (G10-02) 83
Preger, C. (L1-06) 128
Prejbeanu, I.L. (L9-06) 141
Prejbeanu, I.L. (V3-01) 271
Prévost, B. (E10-02) 50
Prieto, J.L. (B8-03) 11
Prieto, J.L. (C4-02) 27
Prieto, J.L. (N10-04) 177
Prieto, J.L. (P6-02) 194
Prieto, P. (Y4-01) 304
Princep, A. (S2-01) 224
Princep, A. (W5-05) 286
Principe, R. (N9-09) 176
Priolkar, K. (F7-06) 60
Prischepa, S. (J4-03) 111
Pristas, G. (B14-03) 20
Pristas, G. (F3-04) 55
Pritchard Cairns, L. (P9-04) 198
Prochaska, L. (K8-03) 124
Prodius, D. (L7-08) 138
Prokes, K. (H5-08) 92
Prokhnenko, O. (W5-03) 286
Prokleska, J. (U12-06) 261
Prokleska, J. (U12-07) 261
Prokleska, J. (U12-09) 261
Prokofiev, A. (K8-03) 124
Prokofiev, A. (N3-03) 166
Prokofiev, A. (U12-01) 260
Prokopenko, O. (K7-04) 123
Proksha, T. (L14-03) 148
Proksha, T. (L14-08) 149
Proksha, T. (W8-01) 290
Pronin, A.V. (N15-06) 184
Proschek, P. (U12-06) 261
Proschek, P. (U12-07) 261
Proschek, P. (U12-09) 261
Proshin, Y. (N16-06) 186
Prost, D. (K3-04) 120
Proust, C. (W13-07) 298
Proveti, J.R. (N5-06) 169
Prsa, K. (H3-01) 88
Pruegl, K. (U16-03) 268
Prusik, K. (N8-03) 174
Przybylski, M. (F10-08) 65
Przybylski, M. (Q7-08) 209
Pudell, J. (H16-07) 106
Puebla, J. (P4-02) 192
Pufall, M. (L9-07) 141
Puliafito, V. (F1-10) 52
Puliafito, V. (J6-04) 113
Pullar, R. (U3-07) 248
Pulzara-Mora, A. (L6-05) 136
Pulzara-Mora, C.A. (L6-05) 136
Pumera, M. (N12-05) 179
Purnama, I. (B8-07) 12
Pushp, A. (C4-01) 26
Pustogow, A. (D8-02) 38
Puttock, R. (E3-02) 43
Puttock, R. (E3-04) 43
Putzke, C. (K9-01) 125
Putzke, C. (U14-04) 265

- Q -

Qaiumzadeh, A. (Y6-05) 306
Qi, J. (V7-05) 275
Qi, J. (W7-02) 288
Qi, Q. (N5-05) 169
Qian, K. (H9-07) 97
Qian, X. (W8-07) 291
Qiao, G. (Q11-05) 215
Qin, F. (Q11-03) 214
Qiu, J. (L13-11) 147
Qiu, J. (Q5-03) 206
Qiu, Y. (D10-04) 40
Qiu, Y. (U12-01) 260
Qiu, Z. (F1-06) 52
Qiu, Z. (W11-06) 295
Qu, A.Q. (C3-01) 26
Qu, B. (U10-07) 258
Qu, B. (U10-09) 258
Qu, D. (F1-01) 51
Qu, J. (N8-08) 174
Quan, Y. (B16-03) 23
Quan, Y. (Y8-05) 309
Quandt, E. (M3-03) 154
Quandt, E. (S3-01) 225
Quarterman, P. (H4-08) 91
Quercia, A. (L8-10) 139
Quercia, A. (L8-11) 139
Quercia, A. (L9-05) 140
Querlioz, D. (U16-08) 268
Quesada, A. (N1-04) 162
Quesada, A. (Y4-01) 304
Quesada, A. (Z6-05) 315
Quessab, Y. (U1-11) 246
Quetz, A. (U15-07) 267
Quezado, S. (T5-02) 237
Quindeau, A. (T5-04) 238
Quindeau, A. (W12-02) 295
Quintana, M. (B2-02) 3
Quintanilla, J. (J2-05) 109
Quintanilla, M. (E6-02) 46
Quintero, P. (H3-06) 89
Quiros, C. (E3-03) 43
Quiros, C. (K6-03) 123
Quivy, A.A. (N1-05) 163
Qureshi, N. (E10-01) 49
Qureshi, N. (L12-09) 145
Qureshi, N. (L4-08) 134
Qureshi, N. (N4-04) 167
Qureshi, N. (Q12-03) 216

- R -

R, P. (L10-07) 142
R. Mishra, S. (F10-09) 65
Raabe, J. (B1-06) 2
Raabe, J. (F4-03) 56
Raabe, J. (G1-01) 74
Raabe, J. (L2-04) 130
Raabe, J. (L11-06) 144
Raabe, J. (P1-05) 189
Raabe, J. (U9-02) 256
Raberg, W. (U16-03) 268
Rabideau, N.A. (M1-02) 152
Rabinovich, K. (Q12-06) 217
Rack, P.D. (S4-02) 226
Radelytskyi, I. (E5-04) 45
Radhakrishnan, A. (F13-11) 72
Rado, C. (P5-02) 193
Radu, I. (N17-07) 187
Radu, I.P. (T1-04) 234
Radu, I.P. (U5-05) 251
Radu, I.P. (U5-07) 251
Radulov, I.A. (G5-04) 79
Ragazzo, H. (K3-04) 120
Ragusa, C. (L7-05) 137
Rahal, H. (L1-13) 129
Rahman, F. (Q12-04) 216
Rahman, I.N. (W2-10) 282
Rahn, M.C. (Z9-02) 318
Rai, B.K. (F3-09) 55
Rai, B.K. (F7-12) 61
Rai, B.K. (T9-03) 242
Raja, M. (T2-02) 234
Rajan, S. (N14-13) 183
Raju, K. (F10-10) 66
Raju, K. (F10-11) 66
Rakala, G. (L16-10) 151
Rakheja, S. (H16-03) 106
Ralko, A. (H8-07) 96
Ralph, D. (E1-05) 41
Ralph, D. (H11-12) 100
Ramesh, R. (AA-02) 1
Ramesh, R. (M2-01) 153
Ramesh, R. (P2-02) 190
Ramesh, R. (Y7-04) 307
Ramírez Rosales, D. (Q5-01) 205
Ramirez, J. (N14-07) 182
Ramos Rodriguez, E. (F14-07) 73
Ramos Rodriguez, E. (Q16-05) 222
Ramos, P. (N9-09) 176
Ramshaw, B. (L8-05) 139
Ramshaw, B. (L15-05) 150
Ramshaw, B. (T10-05) 244
Ramshaw, B. (W13-05) 298
Ramshaw, B. (Z8-02) 317
Ramsteiner, M. (W12-05) 296
Ran, S. (D9-05) 39
Rana, B. (P4-02) 192
Rana, K. (B13-01) 19
Rancan, M. (B10-01) 14
Ranganathan, R. (B13-05) 19
Rani, J. (N5-09) 169

*Best student presentation award finalist

*Best student presentation award finalist

Rani, J. (Q5-02) 205
Ranjbar, M. (Q1-07) 200
Ranjbar, R. (B3-03) 5
Ranno, L. (J6-05) 113
Ranno, L. (S6-03) 229
Ranot, M. (Q9-06) 212
Rao MS, R. (T5-02) 237
Rao, S. (V3-04) 272
Raposo, V. (M6-05) 158
Rasing, T. (C5-03) 27
Rasing, T. (H16-06) 106
Rasing, T. (H16-09) 107
Rasing, T. (H16-11) 107
Rasing, T. (U16-04) 268
Ratcliff, W.D. (Q12-10) 217
Ratcliff, W.D. (S9-03) 232
Rathi, A. (H12-03) 101
Rau, J. (M10-03) 161
Rau, J.G. (N15-03) 184
Rausch, T. (C3-01) 26
Ravasi, T. (B2-08) 4
Ravasi, T. (E6-02) 46
Rawat, R. (T2-02) 234
Rayaprol, S. (F7-10) 61
Raymenants, E. (U5-05) 251
Raymenants, E. (U5-07) 251
Raymond, S. (C5-02) 27
Raymond, S. (D10-01) 40
Raymond, S. (V2-03) 270
Razavi, S. (Q13-04) 218
Rea, C.J. (C3-01) 26
Read, D. (F11-14) 68
Reardon, C. (U1-03) 245
Recarte, V. (G5-06) 79
Recarte, V. (S2-04) 225
Reddy, C. (B6-08) 9
Reddy, K. (M4-01) 155
Reddy, P. (B6-08) 9
Reddy, S.S. (B6-08) 9
Reddy, V. (B6-08) 9
Reddy, V.R. (Q14-02) 220
Redjai Sani, S. (J6-03) 113
Reed, E.J. (N14-05) 182
Reehuis, M. (G10-01) 83
Rees, D. (F1-04) 51
Refson, K. (K10-01) 126
Reginka, M. (T6-04) 239
Regnat, A. (L3-10) 133
Regnault, L. (D10-01) 40
Regnault, L. (F9-08) 64
Reid, A. (N17-04) 187
Reid, A. (S7-03) 230
Reid, J. (P9-04) 198
Reiffers, M. (F3-04) 55
Reim, J.D. (E10-04) 50
Reim, J.D. (L4-05) 134
Reimann, T. (L14-06) 148
Reinhardt, M. (H16-07) 106
Reis, M.S. (F8-08) 62
Reiss, G. (H2-08) 87
Reiss, G. (H10-04) 98
Reiss, G. (S3-04) 226
Reiss, P. (M8-01) 159
Remund, K. (L16-08) 151
Ren, B. (H1-10) 85
Ren, W. (S2-05) 225
Ren, X. (N9-05) 175
Reser, B.I. (H15-02) 105
Reser, B.I. (H15-03) 105
Ressouche, E. (V2-03) 270
Restrepo, J. (N1-02) 162
Restrepo, J. (N1-11) 163
Restrepo, J. (N1-12) 163
Retterer, S. (F11-08) 67
Rettori, C. (F3-02) 54
Rettori, C. (Q16-06) 223
Retuerto, M. (B10-03) 15
Retuerto, M. (V2-06) 271
Retuerto, M. (W5-01) 285
Reuther, J. (C10-04) 31
Reuther, J. (G8-02) 81
Rey-Martín, X. (G4-02) 77
Reyes Usuga, A.M. (N13-03) 180
Reynoso, A. (J7-05) 114
Reyren, N. (K4-02) 120
Reyren, N. (P1-02) 188
Reyren, N. (U9-06) 256
Rezende, S.M. (G1-04) 75
Rezende, S.M. (Z4-04) 313
Rhee, J. (L15-01) 149
Rhim, J. (W11-09) 295
Rhim, S. (F12-11) 70
Rhodes, L. (T8-01) 241
Rhodes, L. (U13-13) 264
Rhyee, J. (F7-08) 61
Rial, J. (B13-07) 19
Rial, J. (K5-04) 122
Rial, J. (W1-03) 280
Ribeiro, M. (F1-08) 52
Ribeiro, M. (K4-04) 121
Ribeiro, R.A. (L15-03) 149
Riberolles, S. (E10-01) 49
Ricco, S. (M8-04) 160
Riddiford, L. (L8-06) 139
Riedl, K. (B14-05) 21
Riggs, S.C. (V9-06) 278
Ripka, P. (N9-01) 175
Rippard, W. (L9-07) 141
Riseborough, P.S. (H12-04) 101
Riseborough, P.S. (H5-02) 91
Ritchie, D. (W8-06) 291
Ritter, C. (E10-01) 49
Ritter, C. (N6-02) 171
Rivas, M. (B2-02) 3
Rivoirard, S. (P5-01) 193
Rizzi, P. (N14-04) 182
Rizzi, P. (U10-04) 257
Rizzi, P. (U9-03) 256
Rizzo, N. (W15-04) 301
Ro, A. (Q4-05) 204
Robert, J. (E10-04) 50
Robert, J. (M10-02) 161
Robert, S. (W2-01) 281
Robinson, F. (G3-04) 77
Robinson, J. (H11-02) 99
Robinson, J. (H11-08) 100
Robinson, J. (K1-03) 117
Rocchino, L. (L7-05) 137
Rocco, D.L. (F8-08) 62
Rocco, D.L. (W2-04) 282
Rode, K. (N17-08) 188
Rodilla, B. (Q7-06) 209
Rodionova, V. (H9-10) 97
Rodionova, V. (W3-09) 284
Rodrigo Arrizabalaga, I. (L1-15) . . . 130
Rodrigo Arrizabalaga, I. (U10-11) . . . 258
Rodriguez Aseguinolaza, I. (N5-14) 170
Rodríguez Fernández, J. (L1-03) . . . 128
Rodriguez-Lopez, P. (Q13-13) 219
Rodriguez-Rivera, J. (D10-03) 40
Rodriguez-Rivera, J. (G8-02) 81
Rodriguez-Rivera, J. (U12-01) 260
Rodríguez-Velamazán, J. (G5-06) . . . 79
Rodríguez-Velamazán, J. (S2-04) . . 225
Rodriguez, I.P. (T5-01) 237
Rodriguez, R. (Z4-04) 313
Roehlsberger, R. (L2-08) 131
Roehlsberger, R. (T3-04) 235
Roehlsberger, R. (V1-04) 269
Roehlsberger, R. (Z6-03) 315
Roessli, B. (H3-01) 88
Roessli, B. (L12-03) 145
Rogalev, A. (C2-03) 26
Rogalev, A. (G5-04) 79
Rogalev, A. (M8-04) 160
Rogalev, A. (Z9-03) 318
Rogers, M.D. (L14-03) 148
Rogers, M.D. (W8-01) 290
Rogge, P.C. (L13-07) 147
Rohart, S. (L11-02) 143
Rohart, S. (Q1-01) 199
Rojas Pupo, D. (L1-03) 128
Rollano, V. (K6-03) 123
Rols, S. (B10-03) 15
Romano, A. (L14-04) 148
Romanova, T.A. (U13-11) 263
Romanova, T.A. (W14-11) 300
Romanyuk, V.F. (Q2-04) 201
Rømer, A.T. (V9-02) 277
Romero Martinez, M. (N15-02) 183
Romero, A. (L1-02) 127
Romhanyi, J. (E10-03) 50
Romhanyi, J. (K10-04) 127
Romhanyi, J. (L16-08) 151
Romitti, M.V. (Y2-04) 303
Ronning, F. (H5-09) 92
Ronning, F. (K9-01) 125
Ronning, F. (K9-02) 125
Ronning, F. (U14-04) 265
Ronning, F. (Y8-02) 308
Ronning, F. (Z9-02) 318
Ronnow, H.M. (B10-03) 15
Ronnow, H.M. (B12-08) 18
Ronnow, H.M. (B15-05) 22
Ronnow, H.M. (F5-05) 58
Ronnow, H.M. (F7-05) 60
Ronnow, H.M. (L16-02) 150
Ronnow, H.M. (N6-02) 171
Ronnow, H.M. (N6-11) 172
Ronnow, H.M. (N13-04) 180
Ronnow, H.M. (T2-01) 234
Ronnow, H.M. (V9-05) 278
Rortais, F. (J7-03) 114
Rosa, P. (H5-09) 92
Rosa, P. (J8-01) 114
Rosa, P. (K9-02) 125
Rosa, P. (Q16-06) 223
Rosa, P. (W14-03) 299
Rosa, P. (W14-05) 299
Rosales Rivera, A. (F7-11) 61
Rosales Rivera, A. (H9-11) 97
Rosales Rivera, A. (L6-05) 136
Rosamond, M. (F11-09) 68
Rosamond, M. (M1-01) 152
Rosamond, M. (U9-02) 256
Rosamond, M. (W12-04) 296
Rosamond, M. (W12-08) 296
Rosen, E. (E10-04) 50
Rosenberg, E. (Y9-05) 310
Rosenberg, E.R. (T5-04) 238
Rosenberg, E.R. (W10-03) 293
Rosenberg, E.R. (W12-02) 295
Rosenberg, J. (B2-03) 3
Rosenkranz, S. (U13-06) 263
Rosenkranz, S. (V4-03) 272
Rosenkranz, S. (W14-08) 300
Rosenkranz, S. (Z9-01) 317
Rosner, H. (D8-02) 38
Rosner, H. (V10-04) 279
Ross, A. (Y6-05) 306
Ross, C. (E4-01) 44
Ross, C. (Q7-13) 210
Ross, C. (T5-04) 238
Ross, C. (W10-03) 293
Ross, C. (W12-02) 295
Ross, K. (N15-03) 184
Ross, P. (E9-02) 49
Rossi, G. (C1-04) 25
Rotundu, C.R. (T8-04) 241
Rougemaille, N. (J6-05) 113
Rougemaille, N. (L11-02) 143
Rougemaille, N. (M10-01) 161
Rousochatzakis, I. (H8-07) 96
Roussigné, Y. (U4-05) 249
Rout, P. (H12-03) 101
Rout, P.K. (J9-04) 116
Rowan-Robinson, R.M. (U1-03) . . . 245
Rowlands, G. (K7-04) 123
Rowley, S.E. (N7-01) 172
Roy, B. (K8-04) 124
Roy, D. (H10-02) 98
Roy, S. (F2-05) 53
Roy, S. (P7-04) 196
Roy, S. (Q8-04) 211
Roy, S. (Z10-05) 319
Rózsa, L. (N12-03) 178
Ruben, M. (J2-01) 108
Rubi, K. (U8-07) 255
Rubio-Roy, M. (K1-04) 117
Rubiola, E. (L9-08) 141
Rucker, F. (L4-08) 134
Rücker, U. (F11-03) 67
Rudenko, A. (K9-05) 126
Rudenko, A. (L15-04) 149
Rudolph, J. (J5-06) 112
Rueff, J. (N3-08) 166
Rüegg, C. (D10-01) 40
Rüegg, C. (F9-08) 64
Rüegg, C. (L4-08) 134
Rüegg, C. (P10-02) 198
Rüegg, C. (Q10-05) 213
Rüegg, C. (Q12-11) 217
Rüegg, C. (Y10-01) 310
Ruff, J. (T10-02) 243
Rufo, S. (J8-04) 115
Ruiz-Gomez, S. (H11-02) 99
Ruiz-Gomez, S. (N1-04) 162
Ruiz-Gomez, S. (U4-02) 249
Ruiz-Gomez, S. (Y4-01) 304
Ruiz, A. (B12-07) 18
Ruiz, A. (B14-06)* 21
Ruiz, A. (N5-13) 170
Ruiz, A. (W2-08) 282
Rule, K. (G10-01) 83
Ruotolo, A. (F12-02) 69
Rus, S.F. (S4-02) 226
Rusek, P. (L4-06) 134
Rushforth, A. (U1-03) 245
Russek, S.E. (C6-02) 28
Russo, N. (B10-09) 16
Rusz, J. (Y5-04) 305
Ruth, M. (U16-12) 268
Ryan, D. (L16-04) 151
Rybakov, F. (L11-04) 143
Rybakov, F. (Z1-03) 311
Rychly, J.N. (LB-13) 140
Rydh, A. (T10-02) 243
Ryll, B. (G10-01) 83
Ryu, D. (B16-06) 24
Ryu, D. (N3-02) 165
Ryu, G. (H4-05) 90
Ryu, H. (Q6-02) 207
Ryu, J. (W8-06) 291

- S -

Saarikoski, H.M. (J7-05) 114
Saavedra, E. (F11-06) 67
Saccone, F. (F7-11) 61
Saccone, F. (H9-11) 97
Sackett, E. (G3-04) 77
Sacuto, A. (D9-04) 39
Sadakov, A.V. (U13-11) 263
Sadovnikov, A. (Q14-05) 220
Sadovnikov, A. (U4-04) 249
Sáenz-Hernandez, R. (B9-10) 14

*Best student presentation award finalist

*Best student presentation award finalist

Sáenz-Hernandez, R. (H9-01) 96
Sáenz-Hernandez, R. (W10-11) 293
Safranski, C.J. (D1-01) 31
Safranski, C.J. (E1-02) 41
Safranski, C.J. (L9-01) 140
Sagasta, E. (F13-10) 72
Sagayama, H. (B15-04) 22
Sagayama, H. (V2-04) 270
Sagayama, H. (W6-08) 288
Saha, S. (L11-06) 144
Sahakyan, A.S. (E2-05) 42
Sahbaz, F. (Q15-07) 221
Sahle, C.J. (L12-11) 146
Sahoo, J. (B12-05) 18
Sahoo, R. (N5-08) 169
Sahoo, S. (W7-05) 289
Sahu, P. (H10-05) 98
Sahu, P. (N16-01) 185
Saiki, T. (Q1-10) 200
Saiki, T. (U4-10) 250
Saini, A. (G4-01) 77
Sainz Garitaonandia, J. (G5-06) 79
Saito, H. (W6-08) 288
Saito, H. (Z9-04) 318
Saito, K. (F4-08) 57
Saito, K. (P5-04) 193
Saito, K. (Z5-02) 314
Saito, M. (H2-05) 86
Saito, T. (B9-03) 13
Saito, T. (Q9-01) 211
Saito, T. (W8-06) 291
Saitoh, E. (F1-06) 52
Saitovitch, E.B. (H7-11) 95
Saitovitch, E.B. (N15-13) 185
Saitovitch, E.B. (N16-07) 186
Sajjad, M. (Q11-09) 215
Sajjad, M. (Q11-10) 215
Sakai, A. (U11-01) 259
Sakai, K. (L1-01) 127
Sakai, T. (E10-05) 50
Sakai, T. (H3-05) 89
Sakai, T. (L16-11) 151
Sakai, T. (W6-01) 287
Sakakibara, H. (W13-11) 298
Sakakibara, T. (D8-04) 38
Sakakibara, T. (G9-04) 83
Sakakibara, T. (H3-02) 88
Sakakibara, T. (N11-01) 177
Sakakibara, T. (P9-01) 197
Sakakibara, T. (U11-01) 259
Sakakibara, T. (U12-03) 261
Sakakibara, T. (V10-01) 279
Sakamoto, M. (L2-05) 130
Sakano, R. (V8-01) 276
Sakuragi, S. (W15-05) 301
Sakurai, H. (N6-07) 171
Sakurai, T. (K10-02) 126
Sakurai, T. (N8-07) 174
Sakurai, T. (U12-05) 261
Sala, A. (Z7-04) 316
Sala, G. (L10-03) 142
Sala, G. (M6-04) 158
Salahuddin, S. (Y4-03) 304
Salahuddin, S. (Y7-02) 307
Salama, K. (M3-02) 154
Salamon, S. (G5-04) 79
Salazar-Henao, N. (F7-11) 61
Salazar-Henao, N. (H9-11) 97
Salazar-Mejia, C. (Q12-03) 216
Salazar, D. (Q9-08) 212
Salazar, J.B. (W3-05) 283
Salewski, A. (H16-11) 107
Salhi, Z. (U10-12) 258
Salinas, H.D. (N1-02) 162
Salinas, H.D. (N1-11) 163
Salinas, H.D. (N1-12) 163
Salluzzo, M. (W13-03) 297
Salman, Z. (L14-08) 149
Salvagnac, L. (W8-09) 291
Samant, M. (V7-03) 275
Samardak, A. (U4-04) 249
Samardak, A.S. (Q14-05) 220
Samardak, A.S. (U4-04) 249
Samardak, A.S. (U4-05) 249
Samarth, N. (T4-01) 236
Samassekou, H. (W2-05) 282
Sambi, M.S. (B10-01) 14
Sambi, M.S. (B10-04) 15
Samiepour, M. (E3-05) 43
Samiepour, M. (Q1-05) 200
Samiepour, M. (V1-01) 269
Samiepour, M. (W8-06) 291
Sampaio, J. (Q1-01) 199
Sampathkumaran, E. (H3-04) 88
Sampathkumaran, E. (U8-01) 254
Sampathkumaran, E. (W5-04) 286
Sanchez Candela, D. (N15-13) 185
Sanchez Llamazares, J.L. (U15-07) 267
Sánchez-Agudo, M. (N5-13) 170
Sánchez-Agudo, M. (W2-08) 282
Sánchez-Alarcos, V. (G5-06) 79
Sánchez-Alarcos, V. (S2-04) 225
Sánchez-Tejerina, L. (M6-05) 158
Sanchez-Valdes, C. (U15-07) 267
Sanchez, C.W. (F1-09) 52
Sanchez, F. (K4-03) 120
Sanchez, F. (L2-07) 131
Sanchez, F. (P7-03) 195
Sanchez, F.J. (U6-06) 252
Sandberg, L.ØRDUK. (L10-03) 142
Sandratski, L. (S8-04) 231
Sandvik, A.W. (S10-01) 232
Sangiorgio, B. (V9-06) 278
Sangregorio, C. (B7-03) 10
Sangregorio, C. (G4-04) 78
Sangregorio, C. (K5-03) 121
Sanjeewa, L.D. (E10-06) 50
Sannigrahi, J. (H3-04) 88
Sannigrahi, J. (L10-08) 143
Santamaria, J. (Q7-12) 210
Santamaria, J. (T7-02) 240
Santamaria, J. (V4-03) 272
Santhosh, P. (U7-02) 253
Santhosh, P. (W3-07) 283
Santillan-Rodriguez, C. (B9-10) 14
Santillan-Rodriguez, C. (H9-01) 96
Santillan-Rodriguez, C. (W10-11) . . 293
Santos, A.M. (F8-08) 62
Santos, B. (Z7-04) 316
Santos, J.M. (F10-02) 64
Santos, M.D. (F8-08) 62
Santos, O.R. (F9-03) 63
Saoudi, A. (Q8-01) 210
Sapkota, A. (K1-05) 117
Sapozhnik, A. (N17-06) 187
Sapozhnik, A. (Q7-09) 209
Sarachik, M.P. (J2-03) 109
Sarkar, P. (N9-01) 175
Sarkar, R. (J9-03) 116
Sarkar, R. (L16-01) 150
Sarkar, R. (L16-04) 151
Sarkar, R. (W14-06) 299
Sarkar, S. (B15-08) 22
Sarlar, K. (L7-01) 137
Sarlar, K. (W10-09) 293
Sasaki, I. (N9-05) 175
Sasaki, T. (W13-04) 297
Sasaki, T. (W15-02) 301
Sasaki, Y. (B3-03) 5
Sasaki, Y. (B8-05) 12
Sasaki, Y. (N17-02) 186
Saslow, W. (L9-11) 141
Sasmal, K. (Q10-07) 214
Sassa, Y. (F9-06) 63
Sassa, Y. (H3-01) 88
Sassa, Y. (L14-08) 149
Sassa, Y. (L16-03) 150
Sassa, Y. (N6-07) 171
Sassa, Y. (Q12-11) 217
Sassa, Y. (V9-03) 277
Sassi, M. (E6-03) 46
Sate, K. (B3-05) 5
Sato, H. (F13-02) 71
Sato, H. (F6-01) 59
Sato, H. (H7-02) 94
Sato, K. (D5-03) 35
Sato, K. (H5-10) 92
Sato, K. (W2-06) 282
Sato, M. (G7-04) 81
Sato, N. (H13-01) 102
Sato, N. (L5-06) 135
Sato, N.K. (W7-01) 288
Sato, O. (F14-02) 73
Sato, S. (J7-04) 114
Sato, T. (S5-02) 227
Sato, T. (V2-04) 270
Sato, T. (V2-05) 271
Sato, T. (W3-04) 283
Sato, T. (W15-05) 301
Sato, T. (Z1-02) 311
Sato, T.J. (E10-04) 50
Sato, T.J. (L4-05) 134
Sato, Y. (W6-07) 288
Sato, Y.J. (L5-09) 135
Satz, A. (U16-03) 268
Säubert, S. (G9-02) 82
Säubert, S. (M10-04) 161
Saura-Múzquiz, M. (Z6-05) 315
Sawada, M. (W15-05) 301
Sawada, R. (Y2-05) 303
Sawano, T. (L5-06) 135
Sawicki, B. (F5-01) 57
Sawicki, B. (F5-06) 58
Sawicki, B. (Z5-01) 313
Saxena, S.S. (N7-01) 172
Saxena, S.S. (Q12-05) 216
Sayed, S. (M1-03) 152
Scagnoli, V. (E2-01) 42
Scagnoli, V. (P10-02) 198
Scagnoli, V. (T10-04) 244
Scalera, V. (L8-10) 139
Scalera, V. (L9-05) 140
Schaefer, R. (F1-07) 52
Schaefer, R. (P2-04) 190
Schaefer, R. (U1-13) 246
Schaffers, T. (B8-02) 11
Schaffers, T. (E4-03) 44
Schefer, J. (Q12-02) 216
Scheid, P. (U1-11) 246
Scheie, A. (M10-04) 161
Scheifers, J. (L16-12) 151
Scheuer, L. (V7-02) 275
Scheuermann, R. (J9-03) 116
Scheuermann, R. (N6-04) 171
Scheuermann, R. (Q10-05) 213
Schiffer, P. (K6-02) 122
Schildknecht, D. (S10-05) 233
Schilling, J. (T10-03) 243
Schlage, K. (L2-08) 131
Schlage, K. (T3-04) 235
Schlage, K. (V1-04) 269
Schlage, K. (Z6-03) 315
Schlenhoff, A. (M7-04) 158
Schliep, K. (H4-08) 91
Schliep, K. (V1-02) 269
Schlom, D. (M2-01) 153
Schlotter, W. (N17-04) 187
Schmalhorst, J. (H10-04) 98
Schmalzl, K. (C5-02) 27
Schmehr, J. (L5-01) 134
Schmehr, J. (P8-01) 196
Schmid, A.K. (Q14-10) 220
Schmid, A.K. (U4-02) 249
Schmid, M. (L2-09) 131
Schmid, S. (L16-04) 151
Schmidiger, D. (H3-08) 89
Schmidt-Grund, R. (N5-11) 169
Schmidt, A. (B2-09) 4
Schmidt, H. (H16-08) 107
Schmidt, H. (T1-02) 233
Schmidt, J. (W3-05) 283
Schmidt, L. (N12-03) 178
Schmidt, M. (G8-04) 82
Schmidt, M. (L15-05) 150
Schmidt, M. (Q13-03) 218
Schmidt, M. (U3-08) 248
Schmidt, W.G. (H2-06) 86
Schmitt, T. (V9-05) 278
Schmool, D. (N14-09) 182
Schneider, G. (S5-04) 228
Schneider, H. (N17-05) 187
Schneider, J. (W3-05) 283
Schneider, M. (B4-03) 6
Schneider, M. (B8-08) 12
Schneider, M. (M6-03) 157
Schneider, M. (N14-10) 182
Schneider, T. (B8-01) 11
Schneider, T. (D1-01) 31
Schneidewind, A. (E5-04) 45
Schneidewind, A. (H13-07) 102
Schneidewind, A. (L4-08) 134
Schneidewind, A. (T3-05) 235
Schnelle, W. (L5-12) 135
Schnelle, W. (L14-07) 148
Schnyder, A. (F12-09) 70
Schöbitz, M. (S6-03) 229
Schoenstein, F. (N1-06) 163
Schoenstein, F. (Q15-01) 221
Scholl, A. (F11-08) 67
Scholl, A. (F11-10) 68
Scholl, A. (K2-02) 118
Scholl, A. (Y7-02) 307
Schotter, J. (B2-01) 3
Schrader, T. (D2-02) 32
Schrefl, T. (D5-04) 35
Schrittwieser, S. (B2-01) 3
Schroeder, C.H. (D4-04) 34
Schroeter, D. (F12-04) 69
Schuller, D. (S5-04) 228
Schuller, I.K. (K2-02) 118
Schuller, I.K. (N1-10) 163
Schuller, I.K. (N14-07) 182
Schuller, I.K. (P6-01) 194
Schuller, I.K. (V5-05) 273
Schultheiss, H. (M1-05) 153
Schultheiss, H. (T1-01) 233
Schultheiss, H. (U1-08) 245
Schultheiss, K. (T1-01) 233
Schulz, M. (F7-04) 60
Schulz, M. (G9-02) 82
Schulz, M. (L14-06) 148
Schulz, T. (L3-10) 133
Schumacher, H. (D6-04) 36
Schumacher, H. (E3-02) 43
Schumacher, H. (E3-04) 43
Schumacher, H. (F12-04) 69
Schuppler, S. (H4-05) 90
Schütz, G.A. (B1-06) 2
Schütz, G.A. (B8-11) 12
Schütz, G.A. (G1-01) 74
Schütz, G.A. (H4-05) 90
Schütz, G.A. (T1-03) 233
Schütz, G.A. (U3-08) 248
Schwarz, U. (L14-07) 148
Schwarzacher, W. (F2-03) 53
Schweichel, M. (Q7-10) 209
Schweicher, G. (W8-02) 290

*Best student presentation award finalist

*Best student presentation award finalist

Schweika, W. (E10-04) 50
Schweika, W. (L12-09) 145
Schweiss, P. (P8-02) 196
Schweizer, S.L. (S5-04) 228
Scivetti, I. (W8-01) 290
Scolfaro, L. (N5-04) 169
Sebastian, S. (P9-01) 197
Sebastian, S.E. (Z8-04) 317
Sechovský, V. (S8-04) 231
Sechovský, V. (U12-07) 261
Sechovský, V. (U12-09) 261
Sechovský, V. (Z10-02) 319
Sedona, F. (B10-01) 14
Sedona, F. (B10-04) 15
Seeger, R.L. (K1-04) 117
Seeger, R.L. (Q14-01) 219
Seeharaj, P. (F2-02) 53
Séguy, I. (W8-09) 291
Seifert, E.J. (T2-05) 235
Seifert, M. (G9-02) 82
Seigler, M.A. (C3-01) 26
Seiro, S. (C9-02) 30
Seiro, S. (K9-05) 126
Seki, K. (L16-09) 151
Seki, K. (L5-05) 135
Seki, S. (L4-05) 134
Seki, S. (T2-01) 234
Seki, S. (Z1-01) 311
Sekiguchi, K. (E4-01) 44
Sekine, A. (Y10-04) 310
Sekiyama, A. (U14-06) 265
Selbach, S.M. (B6-01) 8
Selezneva, N. (Q3-08) 204
Seleznyova, K. (W4-11) 285
Sellmyer, D.J. (F5-07) 58
Semeniuk, K. (M8-01) 159
Semeniuk, K. (M9-03) 160
Semisalova, A. (G1-01) 74
Semisalova, A. (V7-03) 275
Sen, S. (N5-12) 170
Sendek, A.D. (N14-05) 182
Seneor, P. (J7-02) 113
Senyshyn, A. (D2-02) 32
Senyshyn, A. (L12-09) 145
Senyshyn, A. (L4-08) 134
Seo, H. (L14-02) 148
Seo, J. (Q4-05) 204
Seo, J. (U7-10) 254
Seo, S. (H5-09) 92
Seoane, A. (K5-04) 122
Seong, S. (Q16-03) 222
Seong, S. (W11-04) 294
Sera, M. (Z9-04) 318
Serantes, D. (M4-03) 155
Seré, J. (Q1-04) 200
Seredina, M. (V5-03) 273
Sereni, J. (F3-04) 55
Serga, A.A. (B4-03) 6
Serga, A.A. (L8-08) 139
Serga, A.A. (Q2-04) 201
Sergeant, P. (S5-01) 227
Serpico, C. (L8-01) 138
Serpico, C. (L8-10) 139
Serpico, C. (L8-11) 139
Serpico, C. (L9-05) 140
Serrano Guisan, S. (V3-03) 271
Serrano, A. (L1-11) 129
Serrate, D. (B10-04) 15
Serrate, D. (G4-03) 77
Serri, M. (B7-03) 10
Servet, B. (J7-02) 113
Sessoli, R. (B7-03) 10
Setera, J. (W10-07) 293
Setina, J. (T5-04) 238
Setoguchi, Y. (F3-06) 55
Settai, R. (K9-03) 125
Settai, R. (U11-08) 260
Setzer, A. (N5-11) 169
Severing, A. (N3-03) 166
Seyfarth, G. (K9-03) 125
Seyler, K.L. (N14-03) 181
Sha, C. (L9-10) 141
Shabalin, A. (N17-04) 187
Shafer, P. (F1-06) 52
Shafer, P. (M3-05) 154
Shafer, P. (W11-06) 295
Shahbazi, K. (U9-02) 256
Shahzad, M. (B14-07) 21
Shaik, N. (N13-04) 180
Shaik, N. (V9-05) 278
Shalini, K. (Q5-08) 206
Shamim, A. (M3-01) 154
Shanigaram, M. (L1-08) 128
Shankhari, P. (H12-07) 101
Shannon, N. (E10-03) 50
Shannon, N. (H8-02) 95
Shannon, N. (L4-08) 134
Shannon, N. (L16-08) 151
Shannon, N. (N15-04) 184
Shao, Q. (Q13-04) 218
Shao, Q. (W12-10) 296
Shapaeva, T.B. (H16-06) 106
Shapiro, B. (Q15-02) 221
Sharath Chandra, L. (E5-02) 45
Sharma, G. (U4-09) 250
Sharma, M.K. (B15-07) 22
Sharma, P. (D5-03) 35
Sharma, P. (W3-03) 283
Sharma, S. (V7-04) 275
Sharma, S.K. (B7-02) 10
Sharma, S.K. (W5-02) 285
Sharmin, S. (W3-02) 283
Sharoyan, E. (H1-12) 85
Shavrov, V. (L7-02) 137
Shaw, J. (N17-04) 187
Shaw, J. (Q14-10) 220
Shaw, J. (Z5-05) 314
Sheikin, I. (K9-03) 125
Shekhter, A. (T10-05) 244
Shekhter, A. (Z8-01) 316
Shen, B. (F8-04) 62
Shen, B. (F8-05) 62
Shen, B. (U10-01) 257
Shen, J. (S4-02) 226
Shen, K.M. (V9-05) 278
Shen, S. (B1-08) 2
Shen, S.H. (L2-01) 130
Shen, W. (H1-10) 85
Shen, X. (Q2-06) 202
Shen, X. (S7-03) 230
Shen, Z. (C8-02) 29
Shen, Z. (Q6-02) 207
Shen, Z. (T8-04) 241
Shermadini, Z. (F9-06) 63
Shermadini, Z. (Q10-05) 213
Shermadini, Z. (U13-09) 263
Sherpa, P.N. (Q2-02) 201
Sherpa, P.N. (V5-06) 274
Shi, J. (M7-05) 159
Shi, J. (Q13-04) 218
Shi, J. (W12-10) 296
Shi, X. (H16-04) 106
Shi, X. (S7-01) 229
Shi, Z. (H4-04) 90
Shibauchi, T. (T8-02) 241
Shibauchi, T. (T8-03) 241
Shibauchi, T. (U13-10) 263
Shibauchi, T. (U14-01) 264
Shibauchi, T. (U14-05) 265
Shick, A.B. (Z9-03) 318
Shields, B. (B1-10) 2
Shiga, M. (L5-07) 135
Shiga, M. (W15-06) 302
Shigeoka, T. (H12-01) 101
Shigeta, I. (F12-05) 69
Shigeta, I. (Q3-02) 203
Shigeta, I. (W4-02) 284
Shihab, S. (Q2-09) 202
Shiina, R. (Y9-06) 310
Shiino, T. (L5-06) 135
Shikanai, N. (Z9-04) 318
Shikoh, E. (W8-03) 290
Shikoh, E. (W12-06) 296
Shikoh, E. (W12-07) 296
Shim, J. (Q6-02) 207
Shim, J. (U13-03) 262
Shim, J. (U14-08) 265
Shim, J. (W7-04) 289
Shim, J. (W11-09) 295
Shima, M. (B4-04) 6
Shima, T. (L13-06) 147
Shima, T. (W2-06) 282
Shima, T. (W3-04) 283
Shimada, A. (E10-05) 50
Shimada, Y. (D5-01) 35
Shimamoto, Y. (Q2-11) 202
Shimizu, M. (G7-02) 80
Shimizu, Y. (G9-04) 83
Shimizu, Y. (L5-09) 135
Shimizu, Y. (N11-01) 177
Shimoji, H. (S5-02) 227
Shimojima, T. (T8-02) 241
Shimokasa, R. (U14-03) 265
Shimomura, N. (G7-02) 80
Shimomura, T. (W10-08) 293
Shimono, S. (L12-06) 145
Shimozawa, M. (C10-01) 30
Shimozawa, M. (U14-01) 264
Shimura, Y. (U11-09) 260
Shin, S. (E9-04) 49
Shin, S. (Q12-08) 217
Shin, S. (T8-02) 241
Shin, Y. (B13-04) 19
Shinagawa, Y. (L5-06) 135
Shinde, K.P. (N8-02) 173
Shinde, K.P. (Q9-06) 212
Shinohara, T. (F4-01) 56
Shinohara, T. (F4-04) 56
Shintake, T. (N15-04) 184
Shiota, Y. (C1-01) 24
Shiota, Y. (M6-02) 157
Shiota, Y. (N2-07) 165
Shiota, Y. (N10-03) 176
Shiota, Y. (Q13-05) 218
Shiota, Y. (Z4-02) 313
Shiozaki, K. (M9-01) 160
Shirai, M. (D7-02) 37
Shirai, M. (U4-08) 250
Shiraishi, M. (J7-03) 114
Shirakawa, N. (F3-06) 55
Shirakawa, T. (C8-03) 30
Shiraki, S. (L14-08) 149
Shirasawa, K. (N6-05) 171
Shiratsuchi, Y. (H10-03) 98
Shiratsuchi, Y. (N2-08) 165
Shirer, K. (U14-04) 265
Shiroka, T. (Q3-05) 203
Shirotori, S. (G7-02) 80
Shishido, H. (U14-01) 264
Shitade, A. (V2-02) 270
Shitsevalova, N. (B14-03) 20
Shitsevalova, N. (P9-01) 197
Shivam, S. (L16-10) 151
Shklovskii, B. (P7-01) 195
Shoji, T. (F4-08) 57
Shoji, T. (P3-05) 191
Shoji, T. (P5-04) 193
Shon, W. (F7-08) 61
Shorikov, A. (Z2-01) 312
Shoshi, A. (B2-01) 3
Shrivastava, N. (B7-02) 10
Shu, G. (D2-04) 32
Shu, L. (H13-09) 103
Shukla, D. (Q12-04) 216
Shukla, D. (W5-02) 285
Shuku, Y. (B10-07) 15
Shull, R.D. (B5-01) 7
Shull, R.D. (F1-04) 51
Si, Q. (C9-02) 30
Si, Q. (K8-03) 124
Si, Q. (Q16-02) 222
Si, Q. (S1-03) 224
Si, Q. (T9-05) 242
Si, Q. (U12-01) 260
Si, Q. (W6-05) 287
Siao, C. (F13-05) 71
Sibille, R. (P10-02) 198
Sibley, T. (J4-05) 111
Sichelschmidt, J. (L12-02) 145
Sichelschmidt, J. (N6-01) 170
Sichelschmidt, J. (T9-03) 242
Siddiqi, I. (M3-04) 154
Siddique, A. (N2-04) 164
Sidis, Y. (D8-03) 38
Sidorenko, A. (K8-03) 124
Sidorenko, A. (U12-01) 260
Sidorov, V. (S8-01) 230
Sie, E. (C8-01) 29
Siegrist, T. (B15-01) 21
Siemens, A. (T3-04) 235
Siemensmeyer, K. (B14-03) 20
Sievers, S. (D6-04) 36
Sievers, S. (E3-04) 43
Siewierska, K. (F1-07) 52
Sigrist, M. (B16-01) 23
Sigrist, M. (S8-02) 231
Sikora, B. (B2-05) 4
Silva de Almeida, M.S. (Q15-10) 222
Silva Valencia, J. (F14-07) 73
Silva, D.J. (F8-07) 62
Silva, T. (H11-07) 100
Silva, T. (H16-09) 107
Silva, T. (N17-04) 187
Silva, T. (Q13-12) 219
Silva, W.S. (W14-05) 299
Sim, G. (N15-07) 184
Sim, H. (P2-05) 190
Sim, J. (N12-10) 179
Simeoni, G. (B10-03) 15
Simeth, W. (D2-02) 32
Simmons, F. (Y8-04) 309
Simon, C. (H16-01) 106
Simon, P. (L5-12) 135
Simonet, V. (D10-01) 40
Simonet, V. (F7-05) 60
Simonet, V. (F9-08) 64
Simonet, V. (M10-02) 161
Simonet, V. (V2-03) 270
Simutis, G. (N6-07) 171
Simutis, G. (Q10-05) 213
Sinclair, J. (L13-05) 147
Singh, A.V. (K1-05) 117
singh, C. (F10-09) 65
singh, C. (F10-10) 66
singh, C. (F10-11) 66
Singh, D. (F10-09) 65
Singh, D. (F10-10) 66
Singh, D. (F10-11) 66
Singh, J. (F10-10) 66
Singh, J. (F10-11) 66
Singh, K. (H7-01) 94
Singh, M. (F10-04) 64
Singh, R. (B15-05) 22
Singh, R. (F6-02) 59
Singh, R. (H12-03) 101
Singh, R. (U6-07) 252
Singh, R. (V5-04) 273
Singh, S. (H3-09) 89

*Best student presentation award finalist

*Best student presentation award finalist

Singh, S. (L6-02) 136
Singh, S. (W14-02) 299
Singleton, J. (D9-05) 39
Singleton, J. (H3-06) 89
Singleton, J. (Q10-07) 214
Singleton, J. (T9-02) 242
Sinova, J. (G6-01) 79
Sinova, J. (W8-02) 290
Sinusia, M. (C4-02) 27
Sirringhaus, H. (W8-02) 290
Siruguri, V. (F7-10) 61
Sitbon, G. (F2-03) 53
Siwak, N. (W15-04) 301
Skiadopoulou, S. (V2-06) 271
Skinner, S.F. (L16-13) 151
Skjaervoe, S.H. (B6-01) 8
Sklenar, J. (K6-02) 122
Skokov, K.P. (G5-04) 79
Skokov, K.P. (L7-02) 137
Skokov, K.P. (L7-06) 138
Skoropata, E. (U4-06) 250
Skoulatos, M. (L4-08) 134
Skourski, Y. (Q9-05) 212
Skourski, Y. (Q12-03) 216
Skovdal, B. (Q8-03) 211
Skowronski, M. (T2-05) 235
Skowronski, W. (H11-09) 100
Skowronski, W. (Q13-03) 218
Slavin, A.N. (B4-03) 6
Slavin, A.N. (E4-05) 45
Slavin, A.N. (F1-10) 52
Slavin, A.N. (G1-01) 74
Slavin, A.N. (K7-04) 123
Slavin, A.N. (T1-01) 233
Slebarski, A. (F3-12) 56
Slebarski, A. (F5-02) 57
Slebarski, A. (H13-04) 102
Slezak, M. (S4-03) 227
Slezak, M. (U3-06) 248
Slezak, M. (U15-04) 266
Slezak, T. (S4-03) 227
Slezak, T. (U3-06) 248
Slezak, T. (U15-04) 266
Slovensky, P. (W10-01) 292
Šmejkal, L. (G6-01)* 79
Šmejkal, L. (Q7-09) 209
Šmejkal, L. (T4-04) 237
Smerald, A. (L4-08) 134
Smetanina, E. (B7-03) 10
Smidman, M. (K8-02) 124
Smidman, M. (L15-06) 150
Smidman, M. (T9-02) 242
Smidman, M. (U13-04) 262
Smik, M. (F11-03) 67
Smink, S. (U4-07) 250
Smith, A. (D1-01) 31
Smith, A. (L9-01) 140
Smith, C.S. (C7-03) 29
Smith, R. (V2-01) 270
Smolentsev, G. (T10-04) 244
Snow, D. (F4-07) 57
Snow, R. (V4-05) 273
Snyder, M. (B7-01) 9
Sobieszczyk, P. (N4-02) 167
Soboleva, E. (W2-05) 282
Sobota, J. (C8-02) 29
Soda, M. (V10-06) 280
Sofer, Z. (N12-05) 179
Sogo, T. (Q2-11) 202
Sohn, C. (U4-06) 250
Söhnel, T. (L16-01) 150
Söhnel, T. (L16-04) 151
Sokalski, V.M. (U1-02) 244
Sokolov, A. (W3-09) 284
Sokolov, A.S. (F10-08) 65
Sokolov, A.S. (H9-07) 97
Sokolov, D.A. (D8-04) 38
Sokolov, D.A. (L5-01) 134
Sola, A. (M7-03) 158
Soldatov, I. (U1-13) 246
solórzano, I.G. (H7-11) 95
Sombra, S. (F10-09) 65
Sombra, S. (F10-10) 66
Son, K. (H4-05) 90
Sondezi, B.M. (B15-06) 22
Song, B. (N13-06) 180
Song, B. (U7-07) 254
Song, B. (W12-02) 295
Song, C. (Y6-04) 306
Song, D. (Z1-03) 311
Song, F. (U9-01) 256
Song, I. (W11-09) 295
Song, J. (H14-09) 104
Song, K. (P1-04) 189
Song, K. (W9-05) 292
Sonobe, Y. (B3-05) 5
Sorella, S. (C8-03) 30
Sørensen, M. (B10-03) 15
Soriano, D. (E2-03) 42
Sorrentino, A. (E3-03) 43
Soto Guzmán, T. (B5-04) 7
Soumah, L. (E4-04) 44
Souriau, L. (V3-04) 272
Sousa, R.C. (L9-06) 141
Sousa, R.C. (V3-01) 271
Souto Maior, D. (G1-04) 75
Souza Mendes Guimaraes, F. (N4-03) 167
Souza, J.C. (F3-03) 56
Souza, J.C. (F3-08) 55
Souza, J.C. (Q16-06) 223
Souza, R.T. (H12-06) 101
Sow, C. (V8-04) 276
Spagna, S. (F4-07) 57
Spagna, S. (H14-07) 104
Spaldin, N.A. (B6-01) 8
Spaldin, N.A. (V9-06) 278
Spaldin, N.A. (X1-01) 302
Spallek, J. (L3-10) 133
Spenato, D. (K1-04) 117
Spetzler, B. (M3-03) 154
Spieß, B. (B15-01) 21
Spinu, L. (Q2-02) 201
Spinu, L. (U3-01) 247
Spinu, L. (V5-06) 274
Spiridis, N. (S4-03) 227
Spoddig, D. (B8-02) 11
Spoddig, D. (E4-03) 44
Sprenger, P. (H11-06) 99
Srichandan, S. (F12-08) 70
Srihari, V. (Q14-02) 220
Srikanth, H. (B4-09) 6
Srikanth, H. (L1-15) 130
Srikanth, H. (U7-09) 254
Srikanti, K. (L1-08) 128
Srinath, S. (T2-02) 234
Srinivas, V. (L1-08) 128
Srinivas, V. (L1-09) 128
Srinivasan, R. (F2-06) 53
Srivastav, S.K. (W3-03) 283
Srivastava, S.K. (B15-03) 22
Stadler, B. (M4-01) 155
Stadler, S. (F2-05) 53
Stadler, S. (H6-05) 93
Stadler, S. (H6-07) 94
Stadler, S. (J5-05) 112
Stadler, S. (Q8-04) 211
Stadler, S. (U15-07) 267
Stadler, S. (W2-05) 282
Stadler, S. (Z10-05) 319
Stahl, J. (U13-09) 263
Stahn, J. (U4-09) 250
Stamatatos, T. (J2-03) 109
Stamm, C. (Z4-01) 312
Stamps, R. (F11-09) 68
Stancu, A. (T3-03) 235
Stancu, A. (U1-06) 245
Stancu, A. (U10-02) 257
Stashkevich, A. (U4-05) 249
Statuto, N. (L2-07) 131
Statuto, N. (Q2-10) 202
Statuto, N. (U16-11) 268
Staub, U. (P10-02) 198
Staub, U. (T10-04) 244
Staunton, J.B. (Y5-05) 305
Stavropoulos, P. (T10-03) 243
Steadman, P. (N14-01) 181
Stebliy, M.E. (U4-04) 249
Stefanou, G. (M1-01) 152
Stefanou, G. (W8-01) 290
Stefanou, G. (W12-04) 296
Stefanou, G. (W12-08) 296
Steffens, P. (D8-03) 38
Steffens, P. (G8-02) 81
Steffens, P. (V9-03) 277
Steglich, F. (C9-02) 30
Steglich, F. (J9-01) 115
Steglich, F. (K8-02) 124
Steglich, F. (K9-04) 125
Steglich, F. (T9-02) 242
Stein, C.R. (Q15-04) 221
Stein, C.R. (Q15-10) 222
Steinki, N. (F12-04) 69
Stemmer, S. (N7-02) 172
Stemmer, S. (T7-01) 239
Stenning, G. (U13-04) 262
Stepanov, A. (F9-04) 63
Steppke, A. (T8-03) 241
Stern, R. (K10-03) 127
Stevenson, N.J. (M3-04) 154
Stewart, R. (L14-03) 148
Stewart, R. (W8-01) 290
Stienen, S. (B8-01) 11
Stifano, M. (U16-04) 268
Stiles, M.D. (E1-04) 41
Stiles, M.D. (P4-04) 192
Stobiecki, F. (H11-09) 100
Stobiecki, F. (Q1-08) 200
Stobiecki, F. (Q13-03) 218
Stobiecki, T. (H11-09) 100
Stobiecki, T. (Q13-03) 218
Stockem, I. (D4-04) 34
Stockem, I. (F12-10) 70
Stockert, O. (N3-03) 166
Stockert, O. (S1-03) 224
Stockert, U. (Y9-01) 309
Stohr, J. (H16-09) 107
Stojanovic, N. (N17-07) 187
Stoklosa, Z. (F5-02) 57
Stoleriu, L. (T3-03) 235
Stoll, H. (B8-11) 12
Stoll, H. (G1-01) 74
Stool, J. (C6-02) 28
Stopfel, H. (Q8-03) 211
Stradi, D. (Z7-03) 316
Straka, L. (N5-01) 168
Straka, L. (P2-04) 190
Straquadine, J. (Y9-05) 310
Strauss, B. (W10-07) 293
Strecka, J. (L16-05) 151
Strecka, J. (L16-14) 152
Strecka, J. (N15-08) 184
Streckova, M. (F10-01) 64
Streckova, M. (F10-06) 65
Strelkov, N. (U5-10) 252
Streltsov, S. (Z2-01) 312
Strempfer, J. (V4-03) 272
Streubel, R. (F11-10) 68
Streubel, R. (Q14-04) 220
Streubel, R. (Y4-03) 304
Stride, E. (E6-04) 46
Stritzinger, L.E. (K9-01) 125
Stroud, J. (C6-02) 28
Strugatsky, M. (W4-11) 285
Strydom, A. (B15-06) 22
Strydom, A. (N3-03) 166
Studer, A. (G10-01) 83
Studniarek, M. (T7-03) 240
Stuhr, U. (E10-02) 50
Stuhr, U. (W5-01) 285
Stunault, A. (U7-01) 253
Stupakiewicz, A. (C3-02) 26
Stupic, K. (C6-02) 28
Sturm, C. (N5-11) 169
Sturza, M.I. (F5-04) 58
Sturza, M.I. (U13-06) 263
Su, T. (F12-07) 70
Su, Y. (N6-08) 171
Su, Z. (F10-08) 65
Subedi, P. (C3-01) 26
Subramanian, A. (H7-10) 95
Subramanian, A. (P7-04) 196
Suemasu, T. (V5-01) 273
Suess, D. (U16-03) 268
Suess, D. (W9-02) 291
Suess, R. (Q8-08) 211
Suetomi, Y. (U11-04) 259
Suga, S. (B14-08) 21
Suga, S. (G10-04) 84
Sugawara, A. (U1-01) 244
Sugawara, H. (U12-05) 261
Sugii, K. (C10-01) 30
Sugimoto, K. (H7-02) 94
Sugimoto, K. (H14-04) 104
Sugimoto, S. (F13-06) 71
Sugimoto, S. (W2-03) 281
Sugimoto, T. (G10-03) 83
Sugiyama, H. (G7-02) 80
Sugiyama, J. (F9-06) 63
Sugiyama, J. (H3-01) 88
Sugiyama, J. (L14-08) 149
Sugiyama, J. (L16-03) 150
Sugiyama, J. (N6-07) 171
Sugiyama, Y. (U11-03) 259
Sukegawa, H. (D7-01) 37
Süllow, S. (F12-04) 69
Süllow, S. (G10-01) 83
Sultan, M. (Q11-09) 215
Sultan, M. (Q11-10) 215
Sumi, S. (Q1-06) 200
Sumida, C. (U5-01) 251
Sumita, S. (M9-02) 160
Sun, C. (V1-02) 269
Sun, D. (U12-08) 261
Sun, F. (T10-03) 243
Sun, H. (B5-06) 7
Sun, H. (L13-01) 146
Sun, H. (L13-03) 146
Sun, L. (L11-07) 144
Sun, L. (S8-01) 230
Sun, L. (W7-07) 289
Sun, M. (E3-05) 43
Sun, N. (M3-06) 155
Sun, N. (U2-07) 247
Sun, N.X. (Q4-07) 205
Sun, P. (S8-01) 230
Sun, Q. (N12-07) 179
Sun, Q. (Y7-03) 307
Sun, X. (L9-09) 141
Sun, Y. (J9-03) 116
Sun, Y. (K1-01) 117
Sun, Y. (T2-04) 234
Sun, Z. (H10-06) 98
Sun, Z. (N12-02) 178
Sunagawa, M. (Q12-08) 217
Sundar, V. (V3-03) 271
Supelano, I. (N5-03) 168
Sur, Y. (U13-03) 262

*Best student presentation award finalist

*Best student presentation award finalist

Suresh, K. (H1-08) . . . 85
Sürgers, C. (F12-01) . . . 69
Sürgers, C. (F12-08) . . . 70
Suryanarayanan, R. (L12-08) . . . 145
Suryanarayanan, R. (Q5-05) . . . 206
Surzhenko, O. (B8-08) . . . 12
Süß, V. (L15-05) . . . 150
Suszka, A. (L11-06) . . . 144
Suter, A. (L14-08) . . . 149
Suter, A. (N7-02) . . . 172
Sutherland, M. (J9-02) . . . 115
Sutherland, M. (P9-01) . . . 197
Sutherland, M. (W14-13) . . . 301
Sutradhar, P. (Y7-05) . . . 308
Suzuki, C. (N6-06) . . . 171
Suzuki, D. (Q9-03) . . . 212
Suzuki, H. (Q9-07) . . . 212
Suzuki, H. (Q10-02) . . . 213
Suzuki, H. (W13-03) . . . 297
Suzuki, H.S. (W6-07) . . . 288
Suzuki, H.S. (W7-01) . . . 288
Suzuki, K. (B3-03) . . . 5
Suzuki, K. (D7-02) . . . 37
Suzuki, K. (D8-04) . . . 38
Suzuki, K. (N11-01) . . . 177
Suzuki, K. (N11-03) . . . 177
Suzuki, K. (N17-02) . . . 186
Suzuki, K. (P3-05) . . . 191
Suzuki, K. (U12-03) . . . 261
Suzuki, K. (W13-10) . . . 298
Suzuki, M. (F1-04) . . . 51
Suzuki, M. (W11-07) . . . 295
Suzuki, S. (F4-06) . . . 57
Suzuki, T. (B14-08) . . . 21
Suzuki, T. (G10-04) . . . 84
Suzuki, T. (H4-01) . . . 90
Suzuki, T. (H5-01) . . . 91
Suzuki, T. (H9-08) . . . 97
Suzuki, T. (N6-04) . . . 171
Suzuki, T. (U11-04) . . . 259
Suzuki, Y. (F4-06) . . . 57
Suzuki, Y. (K1-06) . . . 118
Suzuki, Y. (L8-05) . . . 139
Suzuki, Y. (L8-06) . . . 139
Suzuki, Y. (L13-09) . . . 147
Suzuki, Y. (T8-02) . . . 241
Suzuki, Y. (U11-08) . . . 260
Suzuki, Y. (Z4-02) . . . 313
Svagera, R. (K8-03) . . . 124
Svanidze, E. (L5-11) . . . 135
Svanidze, E. (L5-12) . . . 135
Švec Sr., P. (B13-07) . . . 19
Švec, P. (B13-07) . . . 19
Svedlindh, P. (B16-05) . . . 23
Svedlindh, P. (Y5-04) . . . 305
Svyazhin, A. (Q3-08) . . . 204
Swain, N. (N7-08) . . . 173
Swanepoel, L. (L3-01) . . . 132
Swartz, A.G. (L8-04) . . . 138
Swartz, A.G. (Z8-05) . . . 317
Swekis, P. (Q2-03) . . . 201
Swerts, J. (U5-05) . . . 251
Swerts, J. (V3-04) . . . 272
Syed, M. (U10-03) . . . 257
Sykora, J. (E8-03) . . . 48
Syljuaasen, O.F. (D10-03) . . . 40
Szasz, A. (J3-04) . . . 110
Szuba-Jablonski, K. (Q1-08) . . . 200
Szunyogh, L. (N12-03) . . . 178
Szunyogh, L. (Z10-02) . . . 319

- T -

Tabata, C. (W6-08) . . . 288
Tabata, C. (Z9-04) . . . 318
Tabata, M. (W4-04) . . . 284
Tabata, Y. (U1-01) . . . 244
Tabis, W. (W13-07) . . . 298
Tada, Y. (H8-03) . . . 95
Taddei, K. (U13-06) . . . 263
Taddei, K. (W14-08) . . . 300
Taguchi, Y. (H14-06) . . . 104
Taguchi, Y. (Z1-02) . . . 311
Taillefer, L. (W13-05) . . . 298
Taillefer, L. (W13-07) . . . 298
Tajiri, T. (L1-01) . . . 127
Takabatake, T. (P8-03) . . . 197
Takabatake, T. (Q10-06) . . . 213
Takabatake, T. (Q16-03) . . . 222
Takabatake, T. (U11-02) . . . 259
Takabatake, T. (U11-04) . . . 259
Takabatake, T. (U11-09) . . . 260
Takabatake, T. (Y9-02) . . . 309
Takada, S. (W4-08) . . . 285
Takagi, H. (F9-06) . . . 63
Takagi, H. (Q12-06) . . . 217
Takagi, H. (T10-03) . . . 243
Takagi, H. (V10-02) . . . 279
Takagi, R. (T2-01) . . . 234
Takahashi, H. (Q5-05) . . . 206
Takahashi, K. (B5-05) . . . 7
Takahashi, M. (B7-06) . . . 10
Takahashi, K. (B13-08) . . . 20
Takahashi, S. (K4-05) . . . 121
Takahashi, Y. (F13-02) . . . 71
Takahashi, Y. (F13-03) . . . 71
Takahashi, Y. (S7-03) . . . 230
Takahashi, Y. (U5-10) . . . 252
Takahashi, Y. (W2-06) . . . 282
Takaki, A. (B13-08) . . . 20
Takamatsu, S. (B3-02) . . . 5
Takamura, Y. (F11-08) . . . 67
Takamura, Y. (V4-01) . . . 272
Takamura, Y. (W13-02) . . . 297
Takamura, Y. (Z6-04) . . . 315
Takanaga, Y. (B13-08) . . . 20
Takanashi, K. (B3-04) . . . 5
Takanashi, K. (D5-01) . . . 35
Takanashi, K. (E3-05) . . . 43
Takanashi, K. (H2-05) . . . 86
Takanashi, K. (V1-03) . . . 269
Takanashi, K. (V5-01) . . . 273
Takano, H. (H5-10) . . . 92
Takano, H. (L5-05) . . . 135
Takano, Y. (F7-07) . . . 60
Takano, Y. (J9-03) . . . 116
Takano, Y. (P9-01) . . . 197
Takano, Y. (Q6-03) . . . 207
Takano, Y. (W10-08) . . . 293
Takasan, K. (G7-04) . . . 81
Takasan, K. (W7-03) . . . 289
Takase, K. (F7-07) . . . 60
Takase, K. (Q6-03) . . . 207
Takase, K. (W10-08) . . . 293
Takata, F. (V5-01) . . . 273
Takata, H. (L5-07) . . . 135
Takata, H. (W15-06) . . . 302
Takayama, T. (Q12-06) . . . 217
Takayama, T. (T10-03) . . . 243
Takayoshi, S. (D10-01) . . . 40
Takayoshi, S. (F9-08) . . . 64
Takeda, H. (U11-01) . . . 259
Takeda, R. (H8-04) . . . 96
Takei, S. (F12-09) . . . 70
Takemasa, Y. (L2-05) . . . 130
Takeuchi, A. (U16-07) . . . 268
Takeuchi, M. (U13-02) . . . 262
Takeuchi, Y. (B1-07) . . . 2
Takeuchi, Y. (F13-02) . . . 71
Takeuchi, Y. (F13-03) . . . 71
Takezawa, M. (N8-06) . . . 174
Takezawa, M. (N9-05) . . . 175
Takezawa, M. (P5-05) . . . 193
Takhsha Ghahfarokhi, M. (Z5-03) . . . 314
Takigawa, M. (U11-01) . . . 259
Talbert, J. (N5-04) . . . 169
Talbi, A. (S3-03) . . . 226
Talbo, V. (W7-06) . . . 289
Talham, D.R. (B10-10) . . . 16
Talmelli, G. (T1-04) . . . 234
Talukder, M. (Q7-07) . . . 209
Tamasaku, K. (U14-06) . . . 265
Tamegai, T. (J9-03) . . . 116
Tamura, M. (B14-04) . . . 20
Tamura, M. (B16-02) . . . 23
Tamura, M. (S9-02) . . . 231
Tan, A. (C1-03) . . . 25
Tan, C. (H13-09) . . . 103
Tan, F. (Q1-07) . . . 200
Tan, H. (M8-01) . . . 159
Tan, Y. (W9-07) . . . 292
Tan, Y. (W9-08) . . . 292
Tanaka, A. (F13-09) . . . 71
Tanaka, A. (G8-04) . . . 82
Tanaka, A. (W13-06) . . . 298
Tanaka, G. (B6-10) . . . 9
Tanaka, H. (B12-02) . . . 18
Tanaka, H. (B12-06) . . . 18
Tanaka, H. (H8-04) . . . 96
Tanaka, H. (N6-04) . . . 171
Tanaka, H. (N6-05) . . . 171
Tanaka, H. (Q10-05) . . . 213
Tanaka, H. (V10-06) . . . 280
Tanaka, J. (P5-05) . . . 193
Tanaka, M. (J7-04) . . . 114
Tanaka, M. (V5-02) . . . 273
Tanaka, T. (U5-03) . . . 251
Tanaka, Y. (F13-09) . . . 71
Tanaka, Y. (H7-02) . . . 94
Tanaka, Y. (W8-03) . . . 290
Tang, C. (Q13-04) . . . 218
Tang, C. (W12-10) . . . 296
Tang, L. (U4-07) . . . 250
Tang, S. (Q6-02) . . . 207
Tangi, L. (U8-09) . . . 255
Tanida, H. (Z9-04) . . . 318
Taniguchi, H. (L10-05) . . . 142
Taniguchi, H. (L12-08) . . . 145
Taniguchi, H. (L13-10) . . . 147
Taniguchi, H. (Q5-05) . . . 206
Taniguchi, H. (W13-04) . . . 297
Taniguchi, M. (U11-06) . . . 259
Taniguchi, T. (B16-02) . . . 23
Taniguchi, T. (L9-02) . . . 140
Taniguchi, T. (L9-12) . . . 141
Taniguchi, T. (U11-01) . . . 259
Taniguchi, T. (V5-02) . . . 273
Taniguchi, T. (Z4-02) . . . 313
Tao, Q. (H14-02) . . . 103
Tao, Z. (H16-04) . . . 106
Tao, Z. (S7-01) . . . 229
Tapping, R.C. (H11-12) . . . 100
Taraphder, A. (W5-10) . . . 286
Tartakovskaya, E. (M4-01) . . . 155
Taskaev, S.V. (L7-06) . . . 138
Taskaev, S.V. (V5-03) . . . 273
Tatara, G. (K4-05) . . . 121
Tateiwa, N. (G9-03) . . . 83
Tatetsu, Y. (Y5-03) . . . 305
Taufour, V. (P8-04) . . . 197
Taufour, V. (W13-02) . . . 297
Tay, D. (N13-05) . . . 180
Tay, Z. (D3-03) . . . 33
Tay, Z. (E6-01) . . . 46
Taylor, A.E. (N15-03) . . . 184
Taylor, J.M. (F1-05) . . . 51
Taylor, J.M. (G6-02) . . . 79
Taylor, S. (K3-03) . . . 120
Taylor, S. (Z8-04) . . . 317
Taz, H. (Y7-04) . . . 307
Tazaki, Y. (N10-05) . . . 177
Tchernyshyov, O. (M10-04) . . . 161
Tchoula Tchokonte, M.B. (B15-06) . . . 22
te Velthuis, S. (T6-02) . . . 239
te Velthuis, S. (V4-03) . . . 272
Teague, M. (N14-12) . . . 183
Teague, M. (P10-04) . . . 199
Tejo, F.S. (N5-02) . . . 168
Tejsner, T.B. (V9-03) . . . 277
Tejsner, T.B. (V9-04) . . . 277
Teki, Y. (W8-03) . . . 290
Teki, Y. (W12-06) . . . 296
Teki, Y. (W12-07) . . . 296
Telling, M. (P8-01) . . . 196
Temnov, V.V. (T6-03) . . . 239
Temple, R.C. (K2-05) . . . 119
Temple, R.C. (N14-01) . . . 181
Teng, X. (Q4-04) . . . 204
Tengdin, P. (H16-04) . . . 106
Tengdin, P. (N17-04) . . . 187
Tengdin, P. (S7-01) . . . 229
Tenya, K. (N11-01) . . . 177
Tenya, K. (N11-03) . . . 177
Tenya, K. (U12-03) . . . 261
Teobaldi, G. (W8-01) . . . 290
Ter Haar, L.W. (L16-13) . . . 151
Terada, N. (F4-01) . . . 56
Terada, N. (W4-02) . . . 284
Terasaki, I. (L10-05) . . . 142
Terashima, K. (Q12-08) . . . 217
Terashima, T. (D8-04) . . . 38
Terashima, T. (P8-03) . . . 197
Terashima, T. (U14-01) . . . 264
Terashima, T. (U14-05) . . . 265
Tereshina-Chitrova, E. (Q9-05) . . . 212
Tereshina, I. (Q9-05) . . . 212
Terki, F. (D3-04) . . . 33
Terui, A. (L12-08) . . . 145
Terui, A. (Q5-05) . . . 206
Terwey, A. (G5-04) . . . 79
Teschabai-Oglu, J. (D6-04) . . . 36
Testa, L. (N6-11) . . . 172
Tezuka, N. (F13-06) . . . 71
Tezuka, N. (W2-03) . . . 281
Thakare, V. (Y7-04) . . . 307
Thakur, A. (B13-01) . . . 19
Thakur, P. (B13-01) . . . 19
Thamizhavel, A. (B15-03) . . . 22
Thamizhavel, A. (H5-05) . . . 92
Thamizhavel, A. (U11-08) . . . 260
Thanh, T. (F7-08) . . . 61
Thasirisap, E. (F2-02) . . . 53
Theis-Bröhl, K. (G4-01) . . . 77
Theisen, E. (P3-03) . . . 191
Thevenard, L. (D6-01) . . . 36
Thevenard, L. (Q2-09) . . . 202
Thevenard, L. (U2-08) . . . 247
Thiaville, A. (Q1-01) . . . 199
Thibaudeau, P. (S10-03) . . . 232
Thiele, J. (C3-01) . . . 26
Thiery, N. (G1-02) . . . 75
Thirion, C. (S6-03) . . . 229
Thirumurugan, A. (N6-01) . . . 170
Thiyagarajah, N. (N17-08) . . . 188
Thomale, R. (C10-04) . . . 31
Thomale, R. (G8-02) . . . 81
Thomas, L. (V3-03) . . . 271
Thomas, S.M. (H5-09) . . . 92
Thomas, S.M. (Y8-02) . . . 308
Thomasen, A. (E10-03) . . . 50
Thompson, A. (S10-03) . . . 232
Thompson, J. (G9-02) . . . 82
Thompson, J. (H5-09) . . . 92
Thompson, J. (K9-02) . . . 125
Thompson, J. (T9-02) . . . 242
Thompson, J. (Y8-02) . . . 308
Thompson, J.D. (S8-01) . . . 230
Thomson, T. (K7-02) . . . 123
Thomson, T. (L2-04) . . . 130

*Best student presentation award finalist

*Best student presentation award finalist

Thomson, T. (U15-02) 266
Thonig, D. (H15-09) 105
Thorarinsdottir, K.A. (Q14-06) 220
Tian, C. (N9-03) 175
Tian, M. (Z1-03) 311
Tian, W. (N15-01) 183
Tian, Y. (N2-09) 165
Tiberto, P. (E6-03) 46
Tiberto, P. (L1-04) 128
Tiberto, P. (N14-04) 182
Tiberto, P. (U9-03) 256
Tiberto, P. (U10-04) 257
Tiberto, P. (Z5-03) 314
Tien, M.V. (F7-08) 61
Tiercelin, N. (S3-03) 226
Tierno, D. (T1-04) 234
Tikoo, S. (W10-07) 293
Tille, L. (V3-01) 271
Timco, G. (B10-09) 16
Titov, M. (G6-04) 80
Tivakornsasithorn, K. (L6-06) 136
Tiwari, A. (G7-02) 80
Tiwari, J. (P10-05) 199
Tjeng, L. (G8-04) 82
Tjeng, L. (N3-03) 166
Tjong, J. (S5-03) 228
Tobik, J. (N12-09) 179
Todaka, T. (S5-02) 227
Toews, W. (P9-01) 197
Toft-Petersen, R. (N6-02) 171
Toft-Petersen, R. (Q12-11) 217
Toft-Petersen, R. (V9-02) 277
Toft-Petersen, R. (W5-01) 285
Togawa, Y. (F14-02) 73
Togawa, Y. (H10-01) 98
Togawa, Y. (Q2-11) 202
Tohyama, T. (G10-03) 83
Tohyama, T. (L16-07) 151
Tokunaga, M. (L15-02) 149
Tokunaga, M. (V2-04) 270
Tokunaga, M. (V2-05) 271
Tokunaga, Y. (Q5-07) 206
Tokunaga, Y. (V2-04) 270
Tokunaga, Y. (V2-05) 271
Tokura, Y. (H14-06) 104
Tokura, Y. (L4-05) 134
Tokura, Y. (T2-01) 234
Tokura, Y. (Y4-02) 304
Tokura, Y. (Z1-02) 311
Tomaki, T. (H5-04) 92
Tomasello, R. (J6-04) 113
Tomasello, R. (L9-04) 140
Tomaszewicz, E. (F5-01) 57
Tomaszewicz, E. (Z5-01) 313
Tomczak, J. (V9-05) 278
Tomita, A.I. (T6-04) 239
Tompsett, D. (J9-02) 115
Tomy, C. (N5-09) 169
Tomy, C. (Q5-02) 205
Tonegawa, T. (H3-05) 89
Tong, B. (L3-05) 132
Tong, R. (V3-03) 271
Tong, X. (H9-08) 97
Toonen, R.C. (G2-05) 76
Torelli, P. (C1-04) 25
Tornos, J. (T7-02) 240
Tornos, J. (V4-03) 272
Torosyan, G. (V7-02) 275
Torrão, R. (F8-08) 62
Torres Sevilla, G. (Q8-01) 210
Torres, F. (P6-01) 194
Torres, W.S. (W2-04) 282
Tosoni, O. (P5-02) 193
Tosun, O. (Q9-08) 212
Toth, S. (H15-01) 104
Toth, S. (S2-01) 224
Toth, S. (W5-01) 285
Toth, S. (W5-05) 286
Tou, H. (H13-02) 102
Tou, H. (U12-05) 261
Toyoda, M. (W14-10) 300
Toyoda, S. (G2-02) 75
Toyoda, S. (G2-03) 75
Tozer, S. (M8-01) 159
Träger, N. (T1-03) 233
Tran, N. (B13-02) 19
Tran, N.T. (L3-08) 133
Tran, Q. (D3-04) 33
Tranchida, J. (S10-03) 232
Tretiakov, O. (G6-04) 80
Tridech, C. (F2-02) 53
Trifu, A. (Q13-10) 219
Tripathi, R. (U12-04) 261
Tripathi, S. (H4-05) 90
Triscone, J. (Y8-04) 309
Trohidou, K.N. (H1-02) 84
Troper, A. (B15-09) 23
Troper, A. (J5-03) 112
Troper, A. (W13-08) 298
Trossman, J.S. (L8-09) 139
Trout, A.H. (N14-13) 183
Truong, A. (U5-10) 252
Tsai, C.C. (L8-09) 139
Tsai, H. (Q6-02) 207
Tsai, L. (U16-01) 267
Tsai, M. (H2-10) 87
Tseng, C. (H11-13) 100
Tseng, Y. (V9-05) 278
Tserkovnyak, Y. (D1-01) 31
Tserkovnyak, Y. (M6-01) 157
Tserkovnyak, Y. (M6-02) 157
Tserkovnyak, Y. (Q13-04) 218
Tserkovnyak, Y. (T6-02) 239
Tsirlin, A.A. (V10-04) 279
Tsoi, M. (B1-08) 2
Tsubota, M. (F3-06) 55
Tsuchiura, H. (D7-02) 37
Tsuchiura, H. (Q9-02) 212
Tsuchiura, H. (Q9-03) 212
Tsuchiura, H. (Y5-02) 305
Tsuda, S. (P8-03) 197
Tsuei, K. (N3-08) 166
Tsui, M. (F8-10) 62
Tsujikawa, M. (D7-02) 37
Tsujikawa, M. (U4-08) 250
Tsujimoto, H. (W12-06) 296
Tsujimoto, M. (U11-01) 259
Tsukahara, H. (G3-02) 76
Tsukahara, H. (M5-04) 156
Tsukamoto, A. (M6-01) 157
Tsukamoto, A. (M6-02) 157
Tsukamoto, A. (U1-09) 245
Tsunegi, S. (L9-08) 141
Tsunegi, S. (Z4-02) 313
Tsunoda, M. (Q7-01) 208
Tsunoda, R. (K9-03) 125
Tsurkan, V. (F7-04) 60
Tsurubayashi, M. (Q6-03) 207
Tsuruta, A. (Y9-04) 310
Tsutaoka, T. (Q11-04) 215
Tsutaoka, T. (Q11-06) 215
Tsutaoka, T. (Q3-01) 203
Tsutaoka, T. (W4-06) 284
Tsutsui, S. (U11-07) 260
Tsutsumi, Y. (D8-04) 38
Tsvelik, A. (D10-04) 40
Tsvelik, A. (E8-02) 48
Tsvetanova, D. (V3-04) 272
Tucek, J. (N12-05) 179
Tucker, G.S. (B15-02) 21
Tucker, G.S. (L16-02) 150
Tucker, G.S. (N6-11) 172
Tufaile, A. (B7-01) 9
Tufaile, A.P. (B7-01) 9

*Best student presentation award finalist

Tulapurkar, A. (F6-05) 59
Tulapurkar, A. (N5-09) 169
Tumelero, M.A. (W8-05) 290
Tumurbaatar, T. (N2-05) 164
Turchinovich, D. (N17-07) 187
Turchinovich, D. (S2-05) 225
Turek, I. (Q6-01) 207
Turek, I. (T4-04) 237
Turrin, B. (W10-07) 293
Tutueanu, A. (V9-03) 277
Tutueanu, A. (V9-04) 277
Tvrdy, K. (C6-02) 28
Twagirayezu, F. (N5-04) 169
Tybell, T. (S4-04) 227
Tyberkevych, V. (B4-03) 6
Tyberkevych, V. (E4-05) 45
Tyberkevych, V. (F1-10) 52
Tyberkevych, V. (G1-01) 74
Tyberkevych, V. (K7-04) 123
Tyberkevych, V. (T1-01) 233

- U -

Uchida, H. (E4-01) 44
Uchima, K. (H12-01) 101
Uchoa, B. (F15-05) 74
Uda, K. (U12-05) 261
Uda, S. (B5-05) 7
Udagawa, M. (H8-05) 96
Udby, L. (V9-04) 277
Udvardi, L. (N12-03) 178
Ueda, G. (W4-08) 285
Ueda, H. (T9-04) 242
Ueda, K. (M6-03) 157
Ueda, K. (Q3-01) 203
Ueda, K. (W4-06) 284
Ueda, S. (U4-08) 250
Ueda, Y. (F9-06) 63
Uehara, M. (H5-04) 92
Uehara, M. (U11-03) 259
Uematsu, N. (N3-04) 166
Ueno, S. (U10-10) 258
Ueno, T. (F4-06) 57
Ueno, T. (F4-08) 57
Ueno, T. (T3-06) 236
Ueno, W. (B12-06) 18
Ueta, D. (H12-02) 101
Ueta, D. (U13-01) 262
Uhlarz, M. (L16-01) 150
Uhlarz, M. (Q12-03) 216
Uhlemann, M. (N14-04) 182
Uhlir, V. (U7-05) 253
Uhlirova, K. (Z10-02) 319
Uhm, Y. (P3-02) 191
Uji, S. (D8-04) 38
Uji, S. (P8-03) 197
Umegaki, I. (F9-06) 63
Umegaki, I. (L14-08) 149
Umegaki, I. (L16-03) 150
Umegaki, I. (N6-07) 171
Umehara, I. (H5-04) 92
Umehara, I. (U11-03) 259
Umeo, K. (P8-03) 197
Umeo, K. (Q10-06) 213
Umeo, K. (U11-02) 259
Umeo, K. (U11-09) 260
Umeo, K. (Y9-02) 309
Umetsu, R.Y. (B13-08) 20
Umetsu, R.Y. (Q3-06) 203
Umetsu, R.Y. (Q3-07) 204
Umetsu, R.Y. (Z5-02) 314
Umezawa, N. (U13-01) 262
Unguris, J. (M2-03) 153
Unnikrishnan, A. (N6-01) 170
Unzueta Solozabal, I. (G5-06) 79
Unzueta Solozabal, I. (S2-04) 225
Upadhyay, S.K. (U8-01) 254
Upadhyay, S.K. (W5-04) 286
Upadhyaya, P. (Q13-04) 218
Upadhyaya, P. (T6-02) 239
Urazhdin, S. (E1-03) 41
Urazhdin, S. (L8-02) 138
Urban, C. (V5-05) 273
Urbanek, M. (B8-06) 12
Urbánek, M. (L2-09) 131
Urbano, R.R. (Q16-06) 223
Urbano, R.R. (W14-03) 299
Urbano, R.R. (W14-04) 299
Urbanowicz, P. (F5-06) 58
Urbanowicz, P. (Z5-01) 313
Urdiroz, U. (N5-13) 170
Urdiroz, U. (W2-08) 282
Uribe Chavira, J.S. (B9-10) 14
Uribe Chavira, J.S. (W10-11) 293
Urraca, J.L. (H1-06) 85
Uruga, T. (U11-07) 260
Usoltsev, A.S. (W14-11) 300
Utsumi, Y. (Q1-10) 200
Utsumi, Y. (U4-10) 250
Uwatoko, Y. (H5-04) 92
Uwatoko, Y. (H12-01) 101
Uwatoko, Y. (K10-02) 126
Uwatoko, Y. (N11-05) 178
Uwatoko, Y. (Q3-06) 203
Uwatoko, Y. (Q3-07) 204
Uwatoko, Y. (Q6-03) 207
Uwatoko, Y. (U11-03) 259
Uwatoko, Y. (U13-10) 263
Uwatoko, Y. (V10-06) 280
Uwatoko, Y. (W6-01) 287
Uyeda, C. (H1-13) 85
Uyeda, C. (L3-09) 133

- V -

V, S. (L10-07) 142
Vailionis, A. (V4-04) 272
Vakilitaleghani, H. (W9-07) 292
Vakilitaleghani, H. (W9-08) 292
Valdes-Bango, F. (K6-03) 123
Valdes-Bango, F. (Q1-04) 200
Valdivia, A. (W9-01) 291
Vale, J.G. (N7-06) 173
Vale, J.G. (N7-07) 173
Vale, J.G. (P8-05) 197
Valencia, S. (F11-04) 67
Valencia, S. (L1-11) 129
Valencia, S. (L1-12) 129
Valenta, J. (Q6-01) 207
Valenta, J. (S8-04) 231
Valenti, R. (B14-05) 21
Valenti, R. (S9-01) 231
Vališka, M. (S8-04) 231
Vališka, M. (U12-06) 261
Valldor, M. (E10-04) 50
Valldor, M. (L12-09) 145
Vallejo-Fernandez, G. (N12-06) . . . 179
Vallejo-Fernandez, G. (P6-02) 194
Vallejo-Fernandez, G. (W3-01) 283
Valloppilly, S. (F5-07) 58
Valmianski, I. (N14-07) 182
Valvidares, M. (G8-04) 82
Valvidares, M. (H2-11) 87
Valvidares, M. (K4-03) 120
Valvidares, M. (P7-03) 195
Valvidares, M. (S4-05) 227
Valvidares, M. (W8-01) 290
van't Erve, O. (F1-04) 51
van Bree, J. (K7-01) 123
van den Brink, J. (B12-01) 17
van den Brink, J. (J10-02) 116
van den Brink, J. (L4-01) 133
van den Brink, J. (P8-05) 197
Van der Sar, T. (M7-01) 158
van Djik, N. (G5-02) 78
van Djik, N. (H6-02) 93

*Best student presentation award finalist

van Djik, N. (J5-04) 112
van Dyke, J. (Y9-03) 309
van Heeringen, L. (U4-07) 250
van Lierop, J. (N14-09) 182
van Slageren, J. (B10-03) 15
van Slageren, J. (C2-02) 25
Van Tol, H. (F9-04) 63
van Veenendaal, M. (T10-03) 243
Vanatka, M. (B8-06) 12
Vanderelli, T. (B7-01) 9
Varela, M. (H2-11) 87
Varela, M. (T7-02) 240
Varga, P. (B8-06) 12
Varga, P. (L2-09) 131
Vargas, N.M. (N1-10) 163
Varvaro, G. (H1-04) 84
Varvaro, G. (Z5-03) 314
Vasilakaki, M. (H1-02) 84
Vasili, H.B. (G8-04) 82
Vasili, H.B. (K4-03) 120
Vasili, H.B. (P7-03) 195
Vasiljković, A. (N16-05) 185
Vasyuchka, V.I. (Q2-04) 201
Vaughan, M. (F14-01) 72
Vavassori, P. (B7-06) 10
Vavassori, P. (E7-01) 47
Vaysset, A. (U5-05) 251
Vaysset, A. (U5-07) 251
Vázquez de Parga, A.L. (Z7-03) . . . 316
Vazquez Zubiate, L. (N1-08) 163
Vázquez, M. (M4-02) 155
Vázquez, M. (M4-03) 155
Vázquez, M. (S6-02) 229
Vedmedenko, O. (N12-03) 178
Veiga, L.S. (M8-04) 160
Veiga, L.S. (N7-06) 173
Veiga, L.S. (T10-03) 243
Veis, M. (F4-05) 56
Veis, M. (L13-02) 146
Veis, M. (N5-01) 168
Veis, M. (T5-03) 238
Veis, M. (T5-04) 238
Veis, M. (W10-03) 293
Veis, M. (W12-02) 295
Veit, M.J. (L8-05) 139
Vekilova, O. (Q9-04) 212
Vekilova, O. (Y5-01) 305
Velásquez-Salazar, A. (F7-11) 61
Velásquez-Salazar, A. (H9-11) 97
Velasquez, J. (H13-08) 103
Velazquez, M. (J3-01) 109
Velez, M. (E3-03) 43
Velez, M. (K6-03) 123
Velez, M. (Q1-04) 200
Vemulkar, T. (T4-05) 237
Venkatesan, M. (N5-12) 170
Venkateshvaran, D. (W8-02) 290
Verba, R.V. (T1-01) 233
Verresen, R. (J3-02) 110
Vicent, J. (K6-03) 123
Vickers, M. (S3-04) 226
Vieira, J. (U3-07) 248
Vignale, G. (K4-01) 120
Vignolle, B. (W13-07) 298
Vignolles, D. (W13-07) 298
Vigo Cotrina, H. (U16-10) 268
Vila, L. (G1-02) 75
Vila, L. (L9-06) 141
Vila, L. (V3-01) 271
Vilela-Leão, L.H. (Z4-04) 313
Villamin, M.C. (B2-04) 3
Villanueva, M. (K5-04) 122
Villanueva, M. (N14-02) 181
Vinai, G. (C1-04) 25
Vinokur, V. (W4-05) 284
Virdian, A. (L1-06) 128
Viret, M. (G1-02) 75
Virpura, H.A. (K5-02) 121
Vishvakarma, S. (L1-09) 128
Vishwakarma, P. (U4-09) 250
Vittoria, C. (B6-06) 9
Vivas, R.J. (F8-08) 62
Vlasov, V.S. (T6-03) 239
Vogel, J. (H2-11) 87
Vogel, J. (L11-02) 143
Vogel, J. (Q1-01) 199
Vogel, J. (Q1-02) 199
Vogel, J. (T7-04) 240
Vogler, C. (W9-02) 291
Vojtko, M. (F10-01) 64
Vojtko, M. (F10-06) 65
Volmer, M. (L9-06) 141
Volny, J. (U12-06) 261
Volochaev, M. (W3-09) 284
von Bergmann, K. (N12-03) 178
von Klitzing, R. (B2-09) 4
von Löhneysen, H. (F12-01) 69
von Löhneysen, H. (P8-02) 196
von Löhneysen, H. (S1-03) 224
von Ranke, P. (H6-06) 94
von Ranke, P. (H15-05) 105
von Ranke, P. (J5-03) 112
von Reppert, A. (H16-07) 106
Voneshen, D. (M10-03) 161
Voneshen, D. (V2-01) 270
Voneshen, D. (V10-02) 279
Vopson, M.M. (M2-04) 153
Vousden, M. (B6-04) 8
Voyles, P. (V1-02) 269
Vranas, M. (B12-07) 18
Vreeland, E.C. (G4-01) 77
Vrtnik, S. (F7-01) 60
Vukadinovic, N. (Q2-05) 202
Vyalikh, D. (L12-02) 145
Vyalikh, D. (T7-05) 240
Vyalikh, D. (U14-02) 264

- W -

Waas, M. (K8-03) 124
Wadley, P. (G6-04) 80
Wagenknecht, D. (T4-04) 237
Wagner, K. (T1-01) 233
Wagner, K. (U1-08) 245
Wagner, T. (W8-02) 290
Waizner, J. (B15-02) 21
Waki, T. (U1-01) 244
Wakimoto, S. (W13-10) 298
Wakita, T. (Q12-08) 217
Wakiya, K. (H5-04) 92
Wakiya, K. (U11-03) 259
Wakiya, K. (Y9-02) 309
Waks, E. (D7-03) 37
Wal, A. (N4-02) 167
Walker, H. (V2-01) 270
Walker, H. (V10-02) 279
Walker, H. (Z10-02) 319
Walmsley, P. (V9-06) 278
Walter, J. (K2-04) 119
Walter, J. (P7-01) 195
Walton, A. (P5-03) 193
Wan, D. (U5-05) 251
Wan, W. (V9-05) 278
Wang, B. (H2-10) 87
Wang, B. (W7-07) 289
Wang, C. (L13-01) 146
Wang, C. (L13-03) 146
Wang, C. (Q11-05) 215
Wang, D. (B13-11) 20
Wang, D. (Q4-04) 204
Wang, D. (Q7-05) 209
Wang, G. (H6-01) 93
Wang, H. (D6-05) 36
Wang, H. (L6-07) 137
Wang, H. (P7-01) 195
Wang, H. (S8-01) 230
Wang, H. (W12-09) 296
Wang, J. (F9-01) 63
Wang, J. (F10-05) 65
Wang, J. (H4-02) 90
Wang, J. (H4-08) 91
Wang, J. (H10-05) 98
Wang, J. (N14-12) 183
Wang, J. (N16-01) 185
Wang, J. (U5-10) 252
Wang, J. (V1-02) 269
Wang, J. (W5-08) 286
Wang, J. (Y10-05) 311
Wang, J. (Z8-04) 317
Wang, K. (AA-03) 1
Wang, K. (B2-10) 4
Wang, K. (P2-01) 190
Wang, K.L. (G7-01) 80
Wang, K.L. (P10-04) 199
Wang, K.L. (Q13-04) 218
Wang, K.L. (T6-02) 239
Wang, K.L. (W12-10) 296
Wang, K.L. (Y7-03) 307
Wang, K.L. (Z7-01) 315
Wang, L. (Y8-01) 308
Wang, M. (H14-02) 103
Wang, M. (U2-02) 246
Wang, M. (W1-06) 281
Wang, P. (F13-09) 71
Wang, P. (V3-03) 271
Wang, Q. (B4-03) 6
Wang, Q. (B8-08) 12
Wang, Q. (B8-12) 12
Wang, Q. (B9-06) 13
Wang, Q. (E4-02) 44
Wang, Q. (H9-06) 97
Wang, Q. (T6-02) 239
Wang, Q. (U6-02) 252
Wang, R. (U16-09) 268
Wang, R. (W7-07) 289
Wang, S. (F2-08) 54
Wang, S. (F8-04) 62
Wang, S. (F8-05) 62
Wang, S. (H16-06) 106
Wang, S. (L7-07) 138
Wang, S. (L8-05) 139
Wang, S. (Q4-06) 205
Wang, S. (S5-05) 228
Wang, S. (W8-02) 290
Wang, S. (Z1-03) 311
Wang, T. (F13-11) 72
Wang, T. (T2-03) 234
Wang, T. (T5-05) 238
Wang, W. (B6-04) 8
Wang, W. (F13-11) 72
Wang, W. (H1-10) 85
Wang, W. (L3-05) 132
Wang, W. (T5-05) 238
Wang, W. (Y6-02) 306
Wang, X. (C4-03) 27
Wang, X. (L1-10) 129
Wang, X. (L6-07) 137
Wang, X. (M3-06) 155
Wang, X. (Q4-07) 205
Wang, X. (S7-03) 230
Wang, X. (T6-02) 239
Wang, X. (U2-07) 247
Wang, X. (V4-03) 272
Wang, X. (W12-09) 296
Wang, Y. (B6-11) 9
Wang, Y. (F13-11) 72
Wang, Y. (H4-06) 90
Wang, Y. (Q8-02) 210
Wang, Y. (U9-01) 256
Wang, Z. (C4-03) 27
Wang, Z. (D10-02) 40
Wang, Z. (F8-03) 62
Wang, Z. (M2-01) 153
Wang, Z. (N17-07) 187
Wang, Z. (Q6-08) 208
Wang, Z. (U13-04) 262
Wang, Z. (V7-05) 275
Ward, S. (H15-01) 104
Ward, S. (S2-01) 224
Ward, T.Z. (S4-02) 226
Warnatz, T. (Q8-03) 211
Wartelle, A. (J6-05) 113
Watanabe, E. (D5-01) 35
Watanabe, F. (Q9-01) 211
Watanabe, H. (F1-02) 51
Watanabe, H. (L14-02) 148
Watanabe, H. (V2-02) 270
Watanabe, H. (W7-01) 288
Watanabe, I. (N6-04) 171
Watanabe, I. (U12-03) 261
Watanabe, K. (F6-01) 59
Watanabe, M. (B12-02) 18
Watanabe, M. (B12-06) 18
Watanabe, N. (F4-01) 56
Watanabe, S. (H7-04) 94
Watanabe, S. (H14-01) 103
Watanabe, S. (H14-03) 103
Watanabe, S. (N2-08) 165
Watanabe, T. (F7-07) 60
Watanabe, T. (Q6-03) 207
Watson, M. (T8-01) 241
Watson, M. (U13-13) 264
Watts, B. (F4-03) 56
Watts, J.D. (M1-02) 152
Weatherup, R. (J7-02) 113
Weber, F. (P8-02) 196
Weber, O. (P5-03) 193
Weber, S. (H13-07) 102
Weber, T. (B15-02) 21
Wehrmann, F. (T1-01) 233
Wei, D. (F6-06) 59
Wei, D. (H2-10) 87
Wei, D. (W3-06) 283
Wei, H.I. (V9-05) 278
Wei, L. (Q7-05) 209
Weickert, F. (K9-02) 125
Weickert, F. (V10-04) 279
Weigand, M. (B1-06) 2
Weigand, M. (B8-11) 12
Weigand, M. (G1-01) 74
Weigand, M. (P1-05) 189
Weigand, M. (T1-03) 233
Weil, R. (K1-04) 117
Weiler, M. (H11-07) 100
Weiler, M. (Q2-03) 201
Weiner, B. (Q11-09) 215
Weiner, B. (Q11-10) 215
Welbourne, E. (F2-09) 54
Wells, B. (V9-02) 277
Welp, U. (T10-02) 243
Wen, C. (H4-07) 90
Wen, C. (L13-01) 146
Wen, C. (L13-03) 146
Wen, H. (N13-06) 180
Wen, H. (N17-01) 186
Wen, H. (U7-07) 254
Wen, S. (W15-06) 302
Wen, Y. (F12-03) 69
Wen, Y. (Q8-02) 210
Wen, Y. (U9-01) 256
Wen, Y. (U9-05) 256
Wen, Z. (B3-04) 5
Wen, Z. (V1-03) 269
Wende, H. (B8-02) 11
Wende, H. (E4-03) 44
Wende, H. (G5-04) 79
Weng, H. (B6-11) 9
Wermeille, D. (L5-01) 134
Wermeille, D. (P8-01) 196

*Best student presentation award finalist

*Best student presentation award finalist

Werner, P. (F1-05) 51
Werwinski, M. (Y5-04) 305
Wesley, F. (U12-01) 260
Wessel, S. (V10-02) 279
Wessels, T. (P1-05) 189
Westerström, R. (L1-06) 128
White, J. (D10-01) 40
White, J. (F9-08) 64
White, J. (G10-02) 83
White, J. (T2-01) 234
Whitehead, N.J. (B8-09) 12
Whitehead, N.J. (U1-07) 245
Widyaiswari, U. (W2-10) 282
Wiesendanger, R. (N12-03) 178
Wilbs, G. (F11-03) 67
Wilcox, J.A. (N11-02) 177
Wildes, A.R. (F5-05) 58
Wildes, A.R. (F7-05) 60
Wildes, A.R. (Q12-05) 216
Wildes, A.R. (Z2-02) 312
Wilgocka-Slezak, D. (S4-03) 227
Wilhelm, F. (C2-03) 26
Wilhelm, F. (G5-04) 79
Wilhelm, F. (M8-04) 160
Wilhelm, F. (Z9-03) 318
Wilkins, S. (Y8-04) 309
Willa, K. (T10-02) 243
Williamsen, M. (F4-07) 57
Williamson, M.C. (B1-08) 2
Willing, S. (L2-08) 131
Willing, S. (T3-04) 235
Willing, S. (V1-04) 269
Wilson, N.P. (N14-03) 181
Wilson, S.D. (N7-02) 172
Wilson, S.D. (T7-01) 239
Winkler, H. (U12-01) 260
Winkler, R. (D4-04) 34
Winpenny, R. (B10-09) 16
Winter, S. (B14-05) 21
Wintz, S. (B1-06) 2
Wintz, S. (B8-11) 12
Wintz, S. (F4-03) 56
Wintz, S. (G1-01) 74
Wintz, S. (L11-06) 144
Wintz, S. (P1-05) 189
Wirth, S. (C9-02) 30
Wisser, J. (K1-06) 118
Wisser, J. (L8-05) 139
Wisser, J. (L8-06) 139
Witkowska-Kita, B. (F5-03) 58
Witt, M.U. (B2-09) 4
Witte, K. (F4-03) 56
Wittmann, A. (T4-05) 237
Wittmann, A. (W8-02) 290
Wittrock, S. (L9-08) 141
Wojewoda, O. (B8-06) 12
Wolf, T. (F12-01) 69
Wolff, M. (G4-01) 77
Wolowiec, C.T. (D9-05) 39
Wolter, A. (G10-01) 83
Won, C.Y. (B8-04) 11
Won, C.Y. (W9-05) 292
Wong, H. (G3-01) 76
Woo, B. (Q4-09) 205
Woo, S. (P1-02) 188
Woo, S. (P1-04) 189
Woo, S. (W9-05) 292
Wood, M. (S10-03) 232
Woods, L. (Q13-13) 219
Wosnitza, J. (J8-03) 115
Wosnitza, J. (K10-03) 127
Wosnitza, J. (Q12-03) 216
Wosnitza, J. (T9-02) 242
Wrona, J. (L9-06) 141
Wu, A. (H16-02) 106
Wu, C. (T3-02) 235
Wu, D. (F13-09) 71
Wu, D. (L11-07) 144
Wu, D. (U13-07) 263
Wu, D. (W7-07) 289
Wu, F. (K8-02) 124
Wu, F. (L15-06) 150
Wu, H. (L11-07) 144
Wu, J. (N14-09) 182
Wu, L. (D10-04) 40
Wu, L. (F1-04) 51
Wu, L.S. (N15-03) 184
Wu, M. (D1-01) 31
Wu, M. (H10-02) 98
Wu, M. (N4-01) 167
Wu, P. (Q6-08) 208
Wu, Q. (S8-01) 230
Wu, R. (G5-05) 79
Wu, R. (V1-02) 269
Wu, R. (V7-05) 275
Wu, X. (Y10-05) 311
Wu, Y. (B1-05) 2
Wu, Y. (B8-04) 11
Wu, Y. (H10-07) 98
Wu, Y. (N10-06) 177
Wu, Y. (N15-01) 183
Wu, Y. (Q2-06) 202
Wu, Y. (Q13-08) 219
Wu, Y. (S9-03) 232
Wu, Y. (U2-02) 246
Wu, Y. (V7-05) 275
Wu, Y. (W7-07) 289
Wu, Z. (H14-07) 104
Wu, Z. (K8-02) 124
Wu, Z. (U8-06) 255
Wulf, E. (L4-04) 133
Wunderlich, J. (H11-08) 100
Wunderlich, J. (W8-02) 290
Wurft, T. (U16-03) 268
Wurmehl, S. (F5-04) 58
Wurmehl, S. (U13-06) 263
Wuttig, M. (H4-10) 91
Wuttig, M. (L13-04) 146

- X -

Xavier, S. (E4-04) 44
Xavier, S. (J7-02) 113
Xi, X. (H5-01) 91
Xia, H. (B8-04) 11
Xia, J. (C8-02) 29
Xia, J. (H3-06) 89
Xia, K. (N4-01) 167
Xiang, M. (S2-05) 225
Xiang, T. (S8-01) 230
Xiao, D. (G6-05) 80
Xiao, D. (N14-03) 181
Xiao, D. (T2-03) 234
Xiao, D. (Y1-03) 303
Xiao, J. (F13-11) 72
Xiao, Y. (B13-03) 19
Xiao, Y. (B9-06) 13
Xiao, Y. (N4-01) 167
Xie, K. (L10-09) 143
Xie, K. (W7-07) 289
Xie, T. (F13-01) 70
Xie, T. (N10-01) 176
Xie, Y. (W9-07) 292
Xie, Y. (W9-08) 292
Xing, M. (U3-10) 248
Xing, W. (F12-07) 70
Xing, Y. (H7-11) 95
Xiong, L. (N4-09) 168
Xu, D. (B6-07) 9
Xu, D. (B6-09) 9
Xu, J. (B1-05) 2
Xu, J. (F8-04) 62
Xu, J. (F8-05) 62
Xu, K. (C8-02) 29
Xu, K. (S2-05) 225
Xu, M. (P4-02) 192
Xu, S. (H4-04) 90
Xu, X. (B2-10) 4
Xu, X. (N14-03) 181
Xu, X. (Q13-08) 219
Xu, X. (U2-02) 246
Xu, X. (U15-01) 266
Xu, Y. (H10-07) 98
Xu, Y. (S7-05) 230
Xu, Y. (U10-05) 257
Xu, Z. (H14-02) 103
Xue, D. (L8-07) 139
Xue, F. (B11-09) 17
Xue, S. (Y8-01) 308

- Y -

Yabashi, M. (U14-06) 265
Yadav, A. (L6-01) 136
Yadav, C. (Q5-09) 206
Yadav, C.S. (W5-10) 286
Yadav, S.K. (H1-08) 85
Yae, T. (Q1-12) 201
Yaguchi, H. (U13-01) 262
Yagupov, S. (W4-11) 285
Yaji, K. (Q12-08) 217
Yako, H. (L13-06) 147
Yakushiji, K. (L9-08) 141
Yakushiji, K. (L9-12) 141
Yakushiji, K. (Z4-02) 313
Yamada, A. (U11-06) 259
Yamada, A. (U11-07) 260
Yamada, K. (B3-02) 5
Yamada, K. (B4-04) 6
Yamada, K. (C1-01) 24
Yamada, K. (C5-03) 27
Yamada, K. (F1-03) 51
Yamada, K. (Q1-10) 200
Yamada, K. (U4-10) 250
Yamada, K. (U16-05) 268
Yamada, M.G. (H8-03) 95
Yamada, S. (B15-04) 22
Yamada, S. (V6-03) 274
Yamada, T. (F4-06) 57
Yamagami, K. (U14-06) 265
Yamagishi, K. (W4-08) 285
Yamaguchi, A. (Q1-10) 200
Yamaguchi, A. (U4-10) 250
Yamaguchi, H. (V10-01) 279
Yamaguchi, T. (H7-02) 94
Yamamda, R.J. (U11-09) 260
Yamamoto, D. (L2-05) 130
Yamamoto, D. (N6-06) 171
Yamamoto, D. (N6-09) 172
Yamamoto, D. (N13-01) 180
Yamamoto, D. (W4-04) 284
Yamamoto, E. (G9-03) 83
Yamamoto, E. (G9-04) 83
Yamamoto, E. (H13-02) 102
Yamamoto, H.Q. (T8-02) 241
Yamamoto, K. (U13-01) 262
Yamamoto, M. (Z9-04) 318
Yamamoto, R. (U11-09) 260
Yamamoto, S. (Q11-04) 215
Yamamoto, S. (Q11-06) 215
Yamamoto, T. (L10-05) 142
Yamamoto, Y. (H7-03) 94
Yamamura, T. (F3-07) 55
Yamamura, T. (H13-01) 102
Yamanaka, T. (U13-01) 262
Yamanaka, T. (U14-01) 264
Yamanaka, T. (U14-05) 265
Yamane, Y. (P8-03) 197
Yamane, Y. (U11-09) 260
Yamane, Y. (Y9-02) 309
Yamaoka, H. (N3-08) 166
Yamasaki, A. (U14-06) 265
Yamashita, A. (J9-03) 116
Yamashita, M. (B5-05) 7
Yamashita, M. (C10-01) 30
Yamashita, S. (P9-01) 197
Yamashita, Y. (P9-03) 198
Yamaura, K. (P8-05) 197
Yamaura, K. (T10-04) 244
Yamazaki, S. (H13-06) 102
Yamazaki, T. (L13-14) 147
Yamazaki, T. (Q7-11) 210
Yamazaki, T. (U13-01) 262
Yamazaki, Y. (Q7-14) 210
Yan, B. (Y10-05) 311
Yan, H. (H8-02) 95
Yan, H. (U10-05) 257
Yan, M. (B8-04) 11
Yan, P. (C4-03) 27
Yan, S. (Q7-05) 209
Yan, X. (L3-04) 132
Yan, Z. (N13-06) 180
Yan, Z. (U7-07) 254
Yanagihara, H. (D5-01) 35
Yanagihara, H. (J4-04) 111
Yanagihara, H. (V5-01) 273
Yanagihara, H. (W3-02) 283
Yanagisawa, T. (H13-06) 102
Yanagisawa, T. (H13-08) 103
Yanagisawa, T. (H13-09) 103
Yanagisawa, T. (J8-03) 115
Yanagisawa, T. (Q10-07) 214
Yanagisawa, T. (Z9-04) 318
Yanase, Y. (F1-02) 51
Yanase, Y. (H14-08) 104
Yanase, Y. (M9-01) 160
Yanase, Y. (M9-02) 160
Yanase, Y. (S8-03) 231
Yanase, Y. (V2-02) 270
Yanes, R. (C4-02) 27
Yang, B. (H6-01) 93
Yang, B. (H11-01) 99
Yang, C. (F13-05) 71
Yang, C. (P8-03) 197
Yang, C. (W12-10) 296
Yang, E. (U2-01) 246
Yang, F. (K3-03) 120
Yang, F. (S6-05) 229
Yang, H. (B9-02) 13
Yang, H. (F15-06) 74
Yang, H. (K4-01) 120
Yang, H. (Q4-08) 205
Yang, H. (S5-06) 228
Yang, H. (U1-10) 246
Yang, J. (J9-02) 115
Yang, J. (Q11-05) 215
Yang, M. (F1-06) 52
Yang, M. (H11-01) 99
Yang, M. (H9-05) 97
Yang, M. (L3-06) 132
Yang, M. (U10-08) 258
Yang, M. (W11-06) 295
Yang, P. (Q15-05) 221
Yang, Q. (L3-04) 132
Yang, Q. (L3-06) 132
Yang, Q. (Q11-01) 214
Yang, Q. (Q11-02) 214
Yang, Q. (U10-07) 258
Yang, Q. (U10-08) 258
Yang, Q. (U10-09) 258
Yang, S. (C4-01) 26
Yang, S. (Q13-07) 218
Yang, S. (U15-08) 267
Yang, S. (V7-03) 275
Yang, W. (H16-08) 107
Yang, W. (Q11-05) 215
Yang, W. (T1-02) 233
YANG, W. (T10-03) 243
Yang, X. (H14-02) 103
Yang, X. (L3-05) 132

*Best student presentation award finalist

*Best student presentation award finalist

Yang, Y. (B13-04) 19
Yang, Y. (F5-07) 58
Yang, Y. (H10-07) 98
Yang, Y. (N12-02) 178
Yang, Y. (Q2-08) 202
Yang, Y. (S8-01) 230
Yang, Y. (W7-02) 288
Yang, Z. (V2-01) 270
Yano, K. (H5-10) 92
Yano, M. (F4-08) 57
Yano, M. (P5-04) 193
Yano, S. (L5-04) 135
Yano, S. (T3-02) 235
Yano, Y. (Q12-08) 217
Yao, B. (Q2-08) 202
Yao, W. (N14-03) 181
Yao, W. (Y8-01) 308
Yao, Y. (F12-07) 70
Yao, Y. (K1-02) 117
Yao, Y. (N8-08) 174
Yao, Y. (Y10-05) 311
Yaouanc, A. (L12-03) 145
Yaresko, A. (Q12-06) 217
Yashin, S. (J8-03) 115
Yasin, F. (V3-04) 272
Yasuda, C. (H15-07) 105
Yasuda, H. (D5-03) 35
Yasuda, K. (W12-06) 296
Yasui, Y. (H3-02) 88
Yasuoka, H. (Y8-02) 308
Ye, F. (E10-06) 50
Ye, F. (W5-08) 286
Ye, J. (W3-08) 283
Ye, L. (T5-05) 238
ye, Z. (N8-08) 174
Yeh, N. (N14-12) 183
Yeh, N. (P10-04) 199
Yeo, J. (Q11-08) 215
Yi, D. (S4-01) 226
Yi, H.T. (H3-01) 88
Yi, W. (F12-06) 69
Yildirim, T. (S9-03) 232
Yildrim, O. (N17-08) 188
Yin, G. (Z7-01) 315
Yin, L. (E2-02) 42
Ying, T. (V10-02) 279
Yochelis, S. (Z7-05) 316
Yoda, H. (G7-02) 80
Yoda, H. (Y7-03) 307
Yoda, Y. (W14-07) 300
Yoda, Y. (W14-12) 300
Yogi, M. (F3-11) 55
Yokomichi, K. (N3-04) 166
Yokomichi, K. (Q16-04) 222
Yokouchi, T. (Z1-02) 311
Yokoya, T. (Q12-08) 217
Yokoyama, M. (N11-01) 177
Yokoyama, M. (N11-03) 177
Yokoyama, M. (U12-03) 261
Yonezawa, S. (V8-04) 276
Yoo, B. (Q7-04) 209
Yoo, S. (D4-02) 34
Yoo, T. (L6-04) 136
Yoo, W. (U3-05) 248
Yoon, H. (Z8-05) 317
Yoon, J. (D3-02) 33
Yoon, S. (H1-09) 85
Yoon, Y. (C7-03) 29
Yoshida, H. (C10-01) 30
Yoshida, K. (W1-07) 281
Yoshida, K. (W10-02) 293
Yoshida, M. (H12-02) 101
Yoshida, T. (F15-03) 73
Yoshida, T. (M9-01) 160
Yoshida, T. (Q16-01) 222
Yoshida, Y. (W6-06) 288
Yoshii, F. (Q12-08) 217
Yoshikawa, H. (M6-02) 157
Yoshikawa, H. (U1-09) 245
Yoshiki, M. (G7-02) 80
Yoshikiyo, M. (P3-01) 191
Yoshimura, K. (E10-05) 50
Yoshimura, K. (J9-02) 115
Yoshimura, K. (T9-04) 242
Yoshimura, S. (U8-03) 255
Yoshimura, S. (U8-05) 255
Yoshinaga, S. (Q3-06) 203
Yoshioka, T. (Q9-02) 212
Yoshioka, T. (Q9-03) 212
Yoshioka, T. (Y5-02) 305
Yoshizawa, H. (H12-02) 101
Yoshizawa, H. (Q16-04) 222
Yoshizawa, H. (U13-01) 262
Yoshizawa, M. (U11-06) 259
Yoshizumi, S. (H14-07) 104
You, C. (B8-07) 12
You, C. (S6-01) 228
You, C. (U3-05) 248
You, C. (W15-03) 301
You, W. (H16-04) 106
You, W. (S7-01) 229
You, X. (J5-04) 112
Youm, C. (H11-11) 100
Young, I. (F13-10) 72
Youssef, J.B. (B8-03) 11
Yu, B. (P7-01) 195
Yu, C. (F10-08) 65
Yu, C. (H9-07) 97
Yu, C. (Q2-08) 202
Yu, D. (Y10-05) 311
Yu, E.Y. (C6-03) 28
Yu, E.Y. (D3-03) 33
Yu, E.Y. (E6-01) 46
Yu, G. (P7-01) 195
Yu, G. (Q13-04) 218
Yu, G. (T6-02) 239
Yu, G. (W12-10) 296
Yu, H. (N4-01) 167
Yu, J. (N8-09) 174
Yu, K. (U15-08) 267
Yu, R. (B6-11) 9
Yu, R. (W6-05) 287
Yu, S. (F7-08) 61
Yu, S. (F8-03) 62
Yu, X. (Q11-01) 214
Yu, X. (Q11-02) 214
Yu, X. (Y4-02) 304
Yu, X. (Y8-05) 309
Yu, Y. (N12-01) 178
Yu, Y. (Q15-05) 221
Yuan, F. (N9-01) 175
Yuan, H. (K8-02) 124
Yuan, H. (L15-06) 150
Yuan, H. (T9-02) 242
Yuan, H. (W7-02) 288
Yuan, N. (S2-05) 225
Yuan, W. (F12-07) 70
Yuan, Y. (B9-06) 13
Yuan, Y. (D6-04) 36
Yuasa, H. (B4-04) 6
Yuasa, H. (M7-02) 158
Yuasa, S. (L9-08) 141
Yuasa, S. (L9-12) 141
Yuasa, S. (U2-04) 247
Yuasa, S. (Z4-02) 313
Yudharma, G. (W2-10) 282
Yudin, D. (B6-02) 8
Yudin, D. (G6-04) 80
Yue, S. (B5-06) 7
Yue, S. (Q11-02) 214
Yukawa, R. (P9-03) 198
Yumoto, J. (G2-03) 75
Yun, F. (N8-08) 174
Yun, Y. (F12-07) 70

*Best student presentation award finalist

Yunoki, S. (C8-03) 30
Yunoki, S. (L14-02) 148

- Z -

Zabotto, F.L. (K5-05) 122
Zaharko, O. (E10-04) 50
Zaharko, O. (G10-02) 83
Zaharko, O. (V10-06) 280
Zahradnik, M. (T5-03) 238
Zajdel, P. (H13-04) 102
Zaleski, K. (H15-04) 105
Zaliznyak, I. (D10-04) 40
Zamoum, R. (W7-05) 289
Zamponi, F. (H16-07) 106
Zaum, S. (P8-02) 196
Zavaliche, F. (C3-01) 26
Zaveta, K. (N9-01) 175
Zbiri, M. (L16-04) 151
Zboril, R. (N12-05) 179
Zeissler, K. (P1-05) 189
Zeissler, K. (U9-02) 256
Zeitler, U. (U4-07) 250
Zeledon, C. (W12-02) 295
Zelenina, I. (L5-12) 135
Zelent, M. (L11-06) 144
Zeleny, M. (N5-01) 168
Zelezny, J. (G6-03) 80
Zemen, J. (U1-03) 245
Zeng, D. (G5-02) 78
Zeng, D. (H6-02) 93
Zeng, F. (N10-06) 177
Zeng, Z. (D7-04) 37
Zeng, Z. (L9-04) 140
Zhang, B. (C4-03) 27
Zhang, C. (B5-06) 7
Zhang, C. (F2-08) 54
Zhang, C. (F13-02) 71
Zhang, C. (F13-03) 71
Zhang, C. (L3-03) 132
Zhang, C. (L3-04) 132
Zhang, C. (L3-06) 132
Zhang, C. (Q11-01) 214
Zhang, C. (Q11-02) 214
Zhang, C. (U10-07) 258
Zhang, C. (U10-08) 258
Zhang, C. (U10-09) 258
Zhang, D. (B6-03) 8
Zhang, D. (H4-08) 91
Zhang, D. (H9-05) 97
Zhang, D. (H10-05) 98
Zhang, D. (V1-02) 269
Zhang, E. (B6-03) 8
Zhang, F. (E8-04) 48
Zhang, G. (B11-02) 16
Zhang, G. (Y9-03) 309
Zhang, H. (B13-11) 20
Zhang, H. (E6-05) 47
Zhang, H. (H6-08) 94
Zhang, H. (U10-05) 257
Zhang, J. (F8-04) 62
Zhang, J. (F8-05) 62
Zhang, J. (H13-09) 103
Zhang, J. (L15-06) 150
Zhang, J. (M2-03) 153
Zhang, J. (W9-04) 291
Zhang, K. (N13-06) 180
Zhang, K. (N13-07) 181
Zhang, K. (U7-07) 254
Zhang, L. (H15-08) 105
Zhang, L. (Q12-10) 217
Zhang, M. (H10-07) 98
Zhang, N. (F2-08) 54
Zhang, N. (Z5-04) 314
Zhang, P. (N9-03) 175
Zhang, P. (Y6-04) 306
Zhang, Q. (C10-03) 31
Zhang, Q. (F12-03) 69
Zhang, Q. (J2-03) 109
Zhang, Q. (L8-07) 139
Zhang, Q. (N17-01) 186
Zhang, Q. (S2-05) 225
Zhang, Q. (W9-04) 291
Zhang, S. (F12-03) 69
Zhang, S. (K4-01) 120
Zhang, S. (K6-02) 122
Zhang, S. (M10-04) 161
Zhang, S. (T6-02) 239
Zhang, S. (W1-06) 281
Zhang, S. (W9-04) 291
Zhang, S. (Y6-02) 306
Zhang, W. (K6-02) 122
Zhang, W. (N17-01) 186
Zhang, W. (T6-02) 239
Zhang, X. (F12-03) 69
Zhang, X. (H4-02) 90
Zhang, X. (H6-01) 93
Zhang, X. (K1-01) 117
Zhang, X. (N8-10) 174
Zhang, X. (N13-07) 181
Zhang, X. (T6-02) 239
Zhang, X. (U5-09) 251
Zhang, X. (U9-05) 256
Zhang, X. (W9-04) 291
Zhang, X. (Y7-06) 308
Zhang, X. (Z2-04) 312
Zhang, X.W. (W14-07) 300
Zhang, X.W. (W14-12) 300
Zhang, Y. (F8-03) 62
Zhang, Y. (F8-04) 62
Zhang, Y. (F8-05) 62
Zhang, Y. (H9-08) 97
Zhang, Y. (H12-05) 101
Zhang, Y. (H16-04) 106
Zhang, Y. (L3-05) 132
Zhang, Y. (S7-01) 229
Zhang, Y. (U7-07) 254
Zhang, Y. (W10-03) 293
Zhang, Y. (Y7-06) 308
Zhang, Y. (Z1-03) 311
Zhang, Z. (B10-06) 15
Zhang, Z. (B8-13) 13
Zhang, Z. (K10-03) 127
Zhang, Z. (L1-10) 129
Zhang, Z. (N8-10) 174
Zhang, Z. (P7-01) 195
Zhao, H. (B8-04) 11
Zhao, H. (H6-04) 93
Zhao, J. (D6-05) 36
Zhao, J. (F6-06) 59
Zhao, J. (G5-04) 79
Zhao, J. (L6-07) 137
Zhao, J. (U6-01) 252
Zhao, J. (W3-06) 283
Zhao, J. (W12-09) 296
Zhao, K. (N15-12) 184
Zhao, W. (U10-05) 257
Zhao, W. (Y7-06) 308
Zhao, X. (F6-06) 59
Zhao, X. (P6-03) 194
Zhao, X. (S6-05) 229
Zhao, X. (W3-06) 283
Zhao, X. (Z6-02) 315
Zhao, Y. (B9-05) 13
Zhao, Y. (F12-03) 69
Zhao, Y. (K1-01) 117
Zhao, Y. (M2-03) 153
Zhao, Y. (S2-05) 225
Zhao, Z. (H6-01) 93
Zhao, Z. (V1-02) 269
Zheludev, A. (G10-05) 84
Zheludev, A. (H3-03) 88
Zheludev, A. (H3-08) 89
Zheludev, A. (L4-04) 133
Zheng, A. (T5-05) 238

*Best student presentation award finalist

Zheng, B. (C6-03) 28
Zheng, B. (E6-01) 46
Zheng, C. (W7-07) 289
Zheng, F. (Z1-03) 311
Zheng, P. (W1-06) 281
Zheng, Q. (L14-07) 148
Zheng, R. (N8-08) 174
Zheng, X. (F8-04) 62
Zheng, X. (F8-05) 62
Zherlitsyn, S. (J8-03) 115
Zhitomirsky, M.E. (F7-05) 60
Zhong, J. (T5-05) 238
Zhong, Z. (U15-08) 267
Zhou, C. (B8-04) 11
Zhou, C. (N10-06) 177
Zhou, C. (V7-05) 275
Zhou, H. (L8-07) 139
Zhou, H. (P7-01) 195
Zhou, J. (B1-08) 2
Zhou, L. (M5-03) 156
Zhou, L. (V7-05) 275
Zhou, M. (Q15-05) 221
Zhou, S. (D6-04) 36
Zhou, S. (H4-04) 90
Zhou, W. (W2-09) 282
Zhou, X. (N4-08) 168
Zhou, X. (Y6-04) 306
Zhou, X.Y. (C6-03) 28
Zhou, X.Y. (D3-03) 33
Zhou, X.Y. (E6-01) 46
Zhou, Y. (E8-04) 48
Zhou, Y. (T6-02) 239
Zhou, Y. (Y7-06) 308
Zhou, Z. (Q7-03) 209
Zhu, B. (L3-05) 132
Zhu, J. (G6-05) 80
Zhu, J. (L3-04) 132
Zhu, J. (N6-08) 171
Zhu, J. (Q16-08) 223
Zhu, J. (V3-03) 271
Zhu, L. (E1-05) 41
Zhu, L. (Q13-08) 219
Zhu, S. (C3-01) 26
Zhu, T. (N14-13) 183
Zhu, W. (N6-08) 171
Zhu, X. (C3-01) 26
Zhu, Z. (B9-02) 13
Zhu, Z. (Q4-08) 205
Zhu, Z. (S5-06) 228
Zhu, Z. (Z8-04) 317
Zhuang, L. (T5-05) 238
Zhukov, A.P. (H9-03) 96
Zhukov, A.P. (H9-04) 97
Zhukov, A.P. (J5-02) 111
Zhukova, V. (H9-03) 96
Zhukova, V. (H9-04) 97
Zhukova, V. (J5-02) 111
Zielinski, P. (N4-02) 167
Zietek, S. (H11-09) 100
Zietek, S. (Q13-03) 218
Zieve, R. (W13-02) 297
Zilske, P. (S3-04) 226
Zimanyi, G. (D2-04) 32
Zimmer, F. (Y2-04) 303
Zimmer, J. (U16-03) 268
Zimmermann, B. (B1-11) 3
Zimmermann, B. (P1-03) 189
Zimmermann, B. (Q14-10) 220
Zion, E. (H10-08) 99
Zion, E. (W15-07) 302
Ziq, K.A. (N6-03) 171
Zitko, R. (C10-03) 31
Zivkovic, I. (B10-03) 15
Zivkovic, I. (B12-08) 18
Zivkovic, I. (F5-05) 58
Zivković, I. (H3-01) 88
Zivkovic, I. (L16-02) 150
Zocco, D.A. (P8-02) 196
Zocco, D.A. (S1-03) 224
Zografos, O. (U5-05) 251
Zografos, O. (U5-07) 251
Zoppellaro, G. (B7-02) 10
Zorko, A. (C10-03) 31
Zorko, A. (G10-02) 83
Zou, L. (B16-03) 23
Zou, L. (L10-06) 142
Zou, L. (Y8-05) 309
Zubko, M. (N8-03) 174
Zubov, V. (W4-11) 285
Zukovic, M. (B14-02) 20
Zukovic, M. (W4-01) 284
Zukrowski, J. (F10-08) 65
Zukrowski, J. (Q7-08) 209
Zuo, H. (Z8-04) 317
Zusin, D. (H16-04) 106
Zusin, D. (N17-04) 187
Zusin, D. (S7-01) 229
Zvezdin, A. (H16-06) 106
Zvezdin, A. (Q9-05) 212
Zvezdin, K. (H16-06) 106
Zviagin, V. (N5-11) 169
Zvyagin, S. (H3-08) 89
Zwicknagl, G. (D9-01) 39
Zwicknagl, G. (E9-02) 49
Zwicknagl, G. (U14-02) 264

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