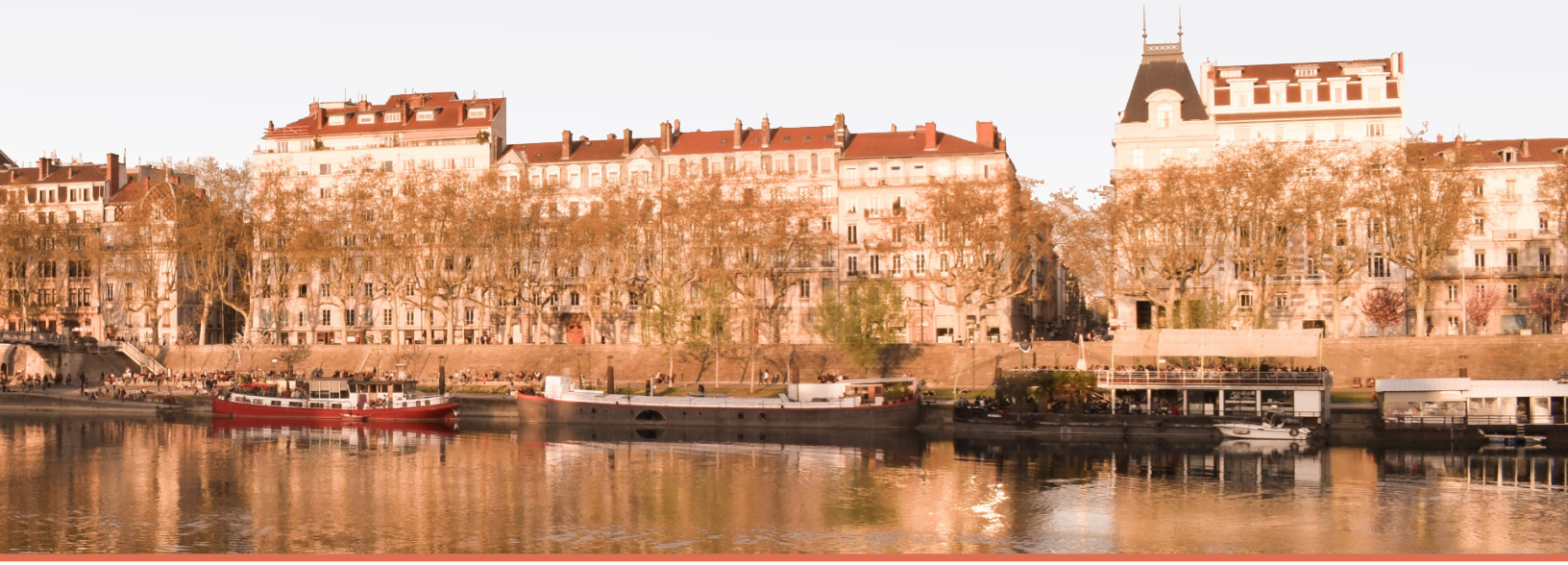
IEEE International Magnetics
Virtual Conference
26-30 April 2021

INTERMAG21

CONFERENCE PROGRAM



@intermagconf

IEEE MAGNETICS

SCOPE OF THE CONFERENCE

The INTERMAG 2021 Conference was due to be held in Lyon, France, 26-30 April 2021. Unfortunately, the ongoing COVID-19 pandemic and associated economic crisis meant that there was considerable uncertainty about the ability and willingness of our attendees to travel internationally. Owing to this uncertainty, the INTERMAG 2021 Management Committee, with the approval of the IEEE Magnetics Society Conference Executive Committee, decided to change the conference format from a face-to-face meeting to a virtual one.

With that said, we are excited to bring you the INTERMAG 2021 Virtual Conference! The program will consist of prerecorded talks that will be made available to registered attendees on-demand starting 19 April 2021. To best serve our global community, the Conference will schedule live programming, including Q&A sessions, during the four “golden global hours,” or "Zones" as follows:

Zone 1: Best for Asia (morning) and US (evening of the day before)
Zone 2: Best for Europe and Asia
Zone 3: Best for Europe, Asia and Eastern US
Zone 4: Best for Europe and US

All live events and sessions will be recorded and together with all the prerecorded content, made available to registered attendees, along with all the prerecorded content, until 30 June 2021 (60 days after the Conference ends).

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions to the presenters via the chat boards. Presenters will be monitoring these chat boards daily.

Live Sessions will take place during the Conference week, 26-30 April. These live sessions will be for Special Sessions, Symposia Invited Talks, Focus Sessions, and the Plenary and Awards Session, and will include brief summary talks followed by live Q&A. Again, attendees are highly encouraged to watch the prerecorded talks and submit questions in advance. Note that contributed oral and poster sessions will hold Q&A via the chat boards only.

SPECIAL SESSIONS

Tutorial: Magnetism and the Environment

Session Chair: Johannes Paulides (AE Group)

Live Session - Monday, 26 April
9:00 pm CST (Asia)
3:00 pm CEST (Europe)
8:00 am CDT (US)

This Tutorial will feature three prerecorded invited talks available on-demand starting 19 April 2021. During the Live Session, the speakers will each give a brief summary of their talk, followed by a live Q&A.

Electricity is the best suited vector of energy to meet the challenges of our societies. It allows an increase in energy efficiency and a reduction in polluting emissions. Electric machines are one of the most important, if not the most important, components of electrical energy production and conversion process. They are present upstream and downstream from this process. Upstream, electric generators allow converting mechanical energy into electrical energy. They can be found in power plants, wind turbines, in motor vehicles, and aircrafts. Downstream, motors and electric actuators allow converting electrical energy into mechanical work. The symposium will provide a state-of-the-art on electric machines and actuators and different aspects related to electric machines and actuators analysis, design and applications. The emphasis is on newly developed structures, and new challenging applications, such as high temperature superconducting machines, hybrid excited synchronous machines, high power density electric machines, high speed machines, offshore wind turbine generators, racing car traction, and maglev trains both from an academic and industrial point of view.

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions via the chat boards. Presenters will be monitoring these chat boards daily and will also answer questions during the live session.

Magnetic Refrigeration: From Fundamentals to Applications
Oliver Gutfleisch (TU Darmstadt)

Magnetics of Motor Drive System for Electrical Vehicle
Keisuke Fujisaki (Toyota Technological Institute)

Rare Earth Magnet Recycling: The Missing Link in a Circular Economy
Kiril Mugerman (Geomega Resources)

Symposia

Each Symposium will feature six prerecorded invited talks, available on-demand starting 19 April 2021. During the Live Session, the speakers will each give a brief summary of their talk, followed by a live Q&A.

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions via the chat boards. Presenters will be monitoring these chat boards daily and will also answer questions during the live session.

AA: Progress and Prospects of Advanced Magnetic Microscopies

Supported by

Live Session: Monday, 26 April
11:00 pm CST (Asia)
5:00 pm CEST (Europe)
10:00 am CDT (US)

BA: Electrical Machines and Drives 2020 and Beyond

Live Session: Tuesday, 27 April
3:00 pm CST (Asia)
9:00 am CEST (Europe)
2:00 am CDT (US)

CA: Spin Conversion Efficiency by Various Methods Towards Device Applications

Live Session: Tuesday, 27 April
9:00 pm CST (Asia)
3:00 pm CEST (Europe)
8:00 am CDT (US)

DA:2D Materials for Spintronics

Live Session: Wednesday, 28 April
8:00 am CST (Asia)
2:00 am CEST (Europe)
7:00 pm CDT (US - Tuesday evening)

EA: Spin Angular Momentum Transport: Spin Waves Pushing New Frontiers

Live Session: Wednesday, 28 April
11:00 m CST (Asia)
5:00 pm CEST (Europe)
10:00 am CDT (US)

FA: Terahertz Spintronics

Live Session: Thursday, 29 April
3:00 pm CST (Asia)
9:00 am CEST (Europe)
2:00 am CDT (US)

GA: Spintronics for Probabilistic Computing

Live Session: Thursday, 29 April
9:00 pm CST (Asia)
3:00 pm CEST (Europe)
8:00 am CDT (US)

HA: New Trends in Skyrmionics: Materials, Dynamics and Detection Techniques

Live Session: Friday, 30 April
9:00 pm CST (Asia)
3:00 pm CEST (Europe)
8:00 am CDT (US)

View Speakers for Symposia here:
https://intermag.org/storage/app/media/Documents/Confirmed%20Invited%20Speakers%20for%20Web.pdf

12th MRAM Global Innovation Forum

Chair: Bernard Dieny (CEA/SPINTEC)
Co-Chairs: Kevin Garello (SPINTEC) and Luc Thomas (Applied Materials)

Live Session - Tuesday, 27 April
8:00 am CST (Asia)
2:00 am CEST (Europe)
7:00 pm CDT (US) NOTE: This is Monday evening, 26 April.

Supported by
GMW Associates
Hprobe
Speed-Up Magnetic Test

This one-day Forum will feature ten prerecorded invited talks available on-demand starting 19 April 2021. The Forum will give an overview of the present status of industrial MRAM development and discuss the foreseen evolutions. During the Live Session, each speaker will give a brief summary of their talk, followed by live Q&A. Immediately after, there will be a live panel discussion, focusing on such topics as what we need to do bring MRAM to the next level, and what breakthroughs do we need to make MRAM (or spintronics) an integral part of CMOS electronics at advanced nodes.

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions via the chat boards. Presenters will be monitoring these chat boards daily and will also answer questions during the live session.

Invited Talks and Live Q&A:

Moderator: Kevin Garello (SPINTEC)

MRAM Physics, Materials and Process Integration
Tiffany Santos (Western Digital)
Sahil Patel (Applied Materials)

MRAM Product Development
Eric Edwards (IBM)
Jeong-Heon Park (Samsung)
Johannes Muller (Global Foundries)
Yuan-Jen Lee (TSMC)

Design-technology Interaction
Shinobu Fujita (Kioxa)
Jack Guedj (Numem)

Beyond STT-MRAM
Shunsuke Fukami (Tohoku University)
Manu Perumkunnil (IMEC)

Panel Discussion: What do we need to bring MRAM to next level?

Moderator: Luc Thomas (Applied Materials)

Simone Bertolazzi (Yole)
Gouri Sankar Kar (IMEC)
Daniel Worledge (IBM)
Seung Kang (Qualcomm)
Ko-Min Chang (NXP Semiconductor)

View MRAM Forum speaker bios here: https://intermag.org/mram-forum-biographies

View MRAM Forum brochure here:
https://intermag.org/storage/app/media//Documents/12th%20MRAM%20Forum%20Brochure%20Complete.pdf

Focus Sessions

Focus Sessions will each feature six prerecorded talks (three invited and three contributed), available on-demand starting 19 April 2021. During the Live Session, the invited speakers will each give a brief summary of their talk, followed by a live Q&A.

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions via the chat boards. Presenters will be monitoring these chat boards daily and will also answer questions during the live session.

YA: Bench to Bedside Transition of Biomagnetic Research: How Close Are We?

Live Session: Tuesday, 27 April
4:30 pm CST (Asia)
10:30 am CEST (Europe)
3:30 am CDT (US)

Biological applications of magnetic fields and magnetic materials cover a variety of research areas from human and animal health through food safety to environmental issues. Magnetism contributes to proposed solutions for detection, diagnosis and prognosis, and for therapy or treatment. While some of these applications show promise, others are already a reality. This symposium will gather successful cases in which magnetism is used for life sciences. We will learn how far we are in magnetic neurostimulation, imaging, biosensing, or cancer fight. This session will attract specialists in magnetic sensors, fluids and rheology, nanomaterials or micromagnetics, and an audience interested in finding out more on how magnetism can contribute to health and life care. The invited lectures will cover hot topics of biomedical applications of magnetism:

- Fast low-cost magnetic resonance imaging as an alternative to X-radiation for hard tissue: How far are we from seeing this in dental clinics?
- Tumor therapy by magnetic particle vibrations
- Imaging and quantifying transition metal ion in human brain for early detection and diagnosis of neurodegenerative disorders

YB: Magnetorheological Composite Materials and Applications

Live Session: Tuesday, 27 April
10:30 pm CST (Asia)
4:30 pm CEST (Europe)
9:30 am CDT (US)

This focus session seeks to highlight key new advances in the field of magnetorheological composite materials (MCMs). MCMs are composites that disperse magnetic particles, such as ferromagnetic spherical particles, flakes, or rods, in a matrix material that can vary from a lightly viscous fluid to a highly viscous grease, to a soft polymer or viscoelastic solid. These talks will describe how magnetic particles, dispersed in a matrix, can be used to developed MCMs with field controllable damping, stiffness and other mechanical, electrical, or thermal properties. These will also include key background explaining relevant practical applications, and how the tools of magnetism are exploited to meet the requirements of these applications. This symposium will clarify for non-experts, with backgrounds in magnetics, some of the key opportunities for applications of such MCMs in aerospace and automotive vehicles, as well as component level applications such as dampers, isolators, inerters, or actuators. Each speaker will also provide an assessment of their materials and application, and describe the key challenges remaining for successful practical implementation. The key objective of this symposium is to provide a broad perspective on magnetorheological composite materials utilizing various types of matrix materials and utilizing magnetic fields to create anisotropies in the composite.

View Speakers for Focus Sessions here:
https://intermag.org/storage/app/media/Documents/Confirmed%20Invited%20Speakers%20for%20Web.pdf

IEEE Magnetics Society Award Ceremony and Plenary Session

Co-Chairs: Juergen Fassbender (HZDR, IEEE Magnetics Society Honors & Awards Committee Chair) and Bernard Dieny (CEA/SPINTEC, INTERMAG 2021 Conference Chair)

Live Session - Wednesday, 28 April
8:30 pm CST (Asia)
2:30 pm CEST (Europe)
7:30 am CDT (US)

Supported by

The IEEE Awards Ceremony will recognize awardees from both 2020 and 2021, and the Plenary Session will immediately follow. The two prerecorded Plenary Talks will be available on-demand starting 19 April 2021. During the Live Session, the Plenary Speakers will each give a brief summary of their talk, followed by a live Q&A.

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions via the chat boards. Presenters will be monitoring these chat boards daily and will also answer questions during the live session.

Welcome

Masahiro Yamaguchi, Tohoku University, IEEE Magnetics Society President

IEEE Magnetics Society Awards Presentation

Jürgen Fassbender, HZDR, IEEE Magnetics Society Honors & Awards Committee Chair

Congratulations to the 2020 Achievement Award Winner:

Chia-Ling Chien, Johns Hopkin University
For pioneering discoveries in magnetic materials, nanostructures, and spin phenomena; for training young researchers; and providing invaluable service to the community.

Congratulations to the 2021 Achievement Award Winner:

Eric Fullerton, University of California, San Diego
For groundbreaking and sustained contributions to the invention and development of modern exchange-coupled magnetic recording media and devices.

Congratulations to the 2021 Mid-Career Award Winner:

Geoffrey Beach, MIT Boston
For pioneering contributions to the understanding of chiral exchange interactions, spin-orbit torques, domain wall and skyrmion dynamics in magnetic films, heterostructures and nanostructures. Awarded in 2021 for the first time.

Congratulations to the 2020 Early-Career Award Winner:

Jean Anne Incorvia, University of Texas at Austin
For contributions to implementation of von Neumann and neuromorphic magnetic computing prototypes using spins in two-dimensional systems.

Congratulations to the 2021 Early-Career Award Winner:

Kerem Camsari, University of California, Santa Barbara
For contributions to the theory and practice of using low barrier nanomagnets for probabilistic computing.

Congratulations to the 2020 Distinguished Service Award Winner:

Gareth Hatch, Strategic Materials Advisors Ltd.
In recognition of a decade of outstanding service as Editor of the Magnetics Society Newsletter, and in particular for transforming it into a modern and engaging communications vehicle that is available through multiple channels.

Congratulations to the 2021 Distinguished Service Award Winner:

Manuel Vázquez, Spanish National Council for Research, CSIC, Madrid
For tremendously strengthening IEEE Magnetics Society outreach worldwide and dedicated efforts to engage new people in service to the society.

Awards and recognition will also be given to the Distinguished Lecturers, Summer School Award Winners, Best Student Presentation Finalists, and Magnetism as Art Finalists.

Plenary Talk Introductions

Bernard Dieny CEA/SPINTEC, INTERMAG 2021 Conference Chair

Antiferromagnetism: Celebrating 50 years since the Nobel Prize

Ivan K. Schuller, Distinguished Professor of Physics Chair, Center for Memory and Recording Research, University of California, San Diego

Dr. Ivan Schuller, a member of the Latin American, Chilean, Spanish, Colombian, Belgian, Latin American Academies and a fellow of the American Academy of Arts and Sciences, has won major science and TV prizes including the American Physical Society (Wheatley and Adler), Materials Research Society (Medal and Somiya), Department of Energy (Lawrence), Department of Defense (Vannevar Bush), European (Humboldt and Lise Meitner) and several regional Emmys. His more than 600 papers and 20 patents established the field of metallic superlattices key for the start of Spintronics, determined the structure of YBCO high temperature superconductor, and established the phenomenology of many hybrid heterostructures including exchange bias. His recent basic research on the properties of quantum-materials has direct relevance for Energy Efficient Bioinspired Computing and Sensors.

From Spin-Resolved Atomic-Resolution Imaging to Magnetic Materials and Devices by Design

Roland Wiesendanger, Professor of Experimental Physics, University of Hamburg

Dr. Roland Wiesendanger's scientific interests include nanomagnetism and nanospintronics, unconventional superconductivity and topological physics. Since the end of the eighties, he has pioneered the technique of Spin-Polarized Scanning Tunneling Microscopy (SP-STM) which allowed the first real-space observation of magnetic structures at the atomic level, leading to numerous discoveries of novel types of magnetic states and phenomena in low-dimensional systems. In particular, Dr. Wiesendanger and his team discovered chiral magnetic domain walls, spin spirals and individual nano-scale magnetic skyrmions in ultrathin films and demonstrated that skyrmions can be individually written and deleted by vertical injection of spin-polarized currents or by local electric fields. Moreover, based on SP-STM studies of individual magnetic atoms and their distance-dependent interactions, all-spin atomic-scale devices could be demonstrated by combining single-atom manipulation techniques with spin-sensitive imaging at the atomic scale. Time- and spin-resolved studies led to fundamental insight into thermally and spin-current induced magnetization switching down to the atomic level.

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions via the chat boards. Presenters will be monitoring these chat boards daily and will also answer questions during the live session.

Women in Magnetism Networking Event

Chair: Sara Majetich, Carnegie Mellon University, INTERMAG 2021 Program Co-Chair

Live Session: Wednesday, 28 April
12:30 am CST (Asia, Thursday morning)
6:30 pm CEST (Europe)
11:30 am CDT (US)

Supported by

SEAGATE

Expand your professional network! Don't miss the Virtual Women in Magnetism Networking Event. 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 students, researchers and retirees are encouraged to attend.

Meet the Experts

This event provides young researchers with the exclusive opportunity to participate in a small-group video discussion and get expert advice on career planning, technical paper writing and publication, job searches and interviews, society involvement, and more. **Pre-registration is required.**

Each participant will be asked to create one slide to share with their expert in advance of the session to include your background, expertise, areas of interest, research, etc. These "ice-breaker" slides will be used to help facilitate a productive discussion. Instructions for when and where to send your slide will be sent to you after you register.

IMPORTANT NOTE: These sessions are limited to 20 students per expert and are extremely popular! Please make every effort to let us know in advance if your plans change and you are unable to attend.

SESSION 1: Thursday, 29 April (Pre-registration is required.)
2:00 pm CST (Asia)
8:00 am CEST (Europe)
1:00 am CDT (US)

Supported by evicomagnetics

Experts:
Shunsuke Fukami (Tohoku University) - *Spintronic & Recording, Materials & Phenomena*
Min-Fu Hsieh (National Cheng Kung University) - *Motor & Power*
Teruo Ono (Kyoto University) - *Spintronic & Recording, Materials & Phenomena*
Shinji Yuasa (AIST) - *Spintronic & Recording, Materials & Phenomena*
Weisheng Zhao (Beihang University) - *Spintronic & Recording, Materials & Phenomena*

SESSION 2: Thursday, 29 April (Pre-registration is required.)
12:00 am CST (Asia)
6:00 pm CEST (Europe)
11:00 am CDT (US)

Supported by SEAGATE

Experts:
Joe Davies (NVE) - Instrumentation, Sensors & Interdisciplinary
Cindi Dennis (NIST) - Biomagnetism
Liesl Folks (University of Arizona) - Spintronic & Recording, Materials & Phenomena
Ravi Hadimani (VCU) - Biomagnetism
Mark Kief (Seagate) - Spintronic & Recording, Materials & Phenomena
Tiffany Santos (Western Digital) - Spintronic & Recording, Materials & Phenomena
Mingzhong Wu (Colorado State University) - Spintronic & Recording, Materials & Phenomena

SESSION 3: Friday, 30 April (Pre-registration is required.)
8:00 pm CST (Asia)
2:00 pm CEST (Europe)
7:00 am CDT (US)

Supported by APS physics GMAG MAGNETISM

Experts:
Johan Akerman (NanOsc) - Spintronic & Recording, Materials & Phenomena
Alina Deac (Helmholtz-Zentrum Dresden-Rossendorf) - Spintronic & Recording, Materials & Phenomena
Claude Fermon (Universite Paris-Saclay) - Spintronic & Recording, Materials & Phenomena
Atsufumi Hirohata (University of York) - Spintronic & Recording, Materials & Phenomena
Jurgen Kosel (Kaust) - Instrumentation, Sensors & Interdisciplinary
Johannes Paulides (AE Group) - Motor & Power

View the Expert's Bios here: https://intermag.org/expert-bios

Entrepreneurship Session: Launching a Start-up Company

Chair: Stephane Mangin (University of Lorraine)

Live Session: Thursday, 29 April
8:00 pm CST (Asia)
2:00 pm CEST (Europe)
7:00 am CDT (US)

Supported by

Hprobe
Speed-Up Magnetic Test

This special session will feature three speakers from Europe, USA and Asia, who will share their experience in launching a start-up company. The three prerecorded invited talks will be available on-demand starting 19 April 2021. During the Live Session, these speakers will each give a brief summary of their talk, followed by a live Q&A moderated by the Session Chair.

Attendees are highly encouraged to view the prerecorded talks beginning 19 April and submit questions via the chat boards. Presenters will be monitoring these chat boards daily and will also answer questions during the live session.

Speakers:

Jean Pierre Nozières, President and CEO, Antaios
Jean-Pierre is the founder of four MRAM-related start-ups: Crocus Technology, where he served as CTO, eVaderis, Hprobe and Antaios for which he currently serves as President and CEO. He is a research director from CNRS, France's largest research organization and he was up to 2015 the founder and Executive Director of Spintec laboratory, from which Antaios was spun-off. Jean-Pierre also worked in the past at IBM's Storage System Division and Applied Magnetics Corporation in the US. He graduated from Grenoble INP and holds a PhD in Physics from Grenoble University.

Andrew Kent, Professor of Physics, Founding Director, Center for Quantum Phenomena, New York University
Andrew Kent is a Professor of Physics and Founding Director of the Center for Quantum Phenomena at New York University. His research interests are in the physics of magnetic nanostructures, nanomagnetic devices and magnetic information storage. In 2007 he founded Spin Memory Inc., a company based in Fremont, California, developing spin torque magnetic random access memory devices he invented at NYU. Kent is a fellow of the American Physical Society (APS), has served as chair of APS topical group on magnetism and its applications (GMAG) and is an advisory board member of the Committee of Concerned Scientists. Kent accomplishments were recognized by an Honorary Doctorate from the University of Lorraine ("Docteur Honoris Causa" de l'Universite de Lorraine), in September 2013. He received the French Jean d'Alembert Research Fellowship in 2017 and was named Professor at Lorraine in the 2018 Lorraine University Excellence Initiative.

Xueying Zhang, Assistant Professor, Beihang University
Xueying Zhang was born in China in 1987. He received B.S. and M.E. degrees from the Ecole Centrale de Pekin, Beihang University, Beijing, China, in 2011 and 2014, respectively, and double Ph.D. degrees from Beihang University and University Paris-Saclay in 2018. His current research interests include the domain wall motion in ferromagnetic nanowire, the excitation and propagation of spin wave, and magneto dynamic measurements via magneto-optical Kerr effect.

Virtual Bierstube

Keeping the tradition alive! Our most popular Conference event has gone virtual. Create your own avatar and join us for a virtual bierstube set in a beautiful park. It's *almost l*ike being in Lyon!
BYOB (bring your own beverage)

To best serve everyone's happy hour, we are offering three different virtual bierstuben:

Monday, 26 April
12:30 am CST (Asia, Tuesday)
6:30 pm CEST (Europe)
11:30 am CDT (US)

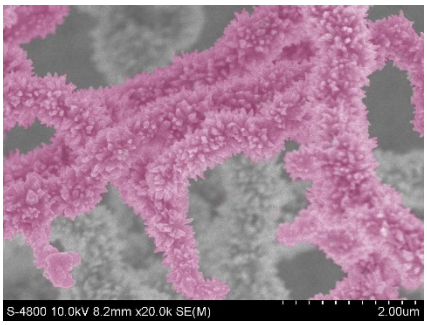
Tuesday, 27 April
7:00 am CST (Asia)
1:00 am CEST (Europe)
6:00 pm CDT (US)

Thursday, 29 April
4:30 pm CST (Asia)
10:30 am CEST (Europe)
3:30 am CDT (US)

Magnetism as Art Showcase

INTERMAG 2021 will host a virtual Magnetism as Art Showcase, to highlight the beauty of magnetism and magnetic materials. Submissions will be displayed on the virtual Conference website. Four finalists will be selected by a panel of judges and the winner will be determined by popular vote. Finalists will each receive a US$200 prize, and the winner will receive a US$400 prize. The winner will be announced during the Awards Ceremony on Wednesday, 28 April.

Please take a few minutes to look at all of our fantastic submissions online and vote for your favorite!



Winner from MMM2020
"Magnetic Cherry Blossoms"

Magnetics Society Annual Meeting

Chair: Masahiro Yamaguchi, IEEE Magnetics Society President

Live Session: Wednesday, 28 April
10:30 pm CST (Asia)
4:30 pm CEST (Europe)
9:30 am CDT (US)

The Magnetics Society Annual Meeting is open to all Conference attendees. Please join us to learn more about what the IEEE Magnetics Society is doing to support and strengthen the magnetics community, and about the benefits of belonging to the Society. Your suggestions and feedback are most welcome. By joining the IEEE Magnetics Society, you become part of the world's best-known magnetics organization. In addition to discounts on Conference registrations, you will gain access to local Chapter events and technical activities.

To join today, go to www.ieeemagnetics.org.

SPECIAL MEMBERSHIP DISCOUNT FOR STUDENTS
Use the promo code FUTURE50 for 50% off your IEEE Student Membership Due.

Best Student Presentation Award

Supported by

The IEEE Magnetics Society Best Student Presentation Award recognizes and encourages excellence in graduate studies in the field of magnetism. Finalists will each receive a US$250 prize, and the winner will receive a US$1,000 prize. The winner will be announced during the Awards Ceremony on Wednesday, 28 April.

Conference attendees are encouraged to support these young scientists by viewing their prerecorded talks and submitting questions via the chat boards.

Congratulations to the Intermag 2021 Finalists!

Libor Vojáček (SPINTEC, Central European Institute of Technology)
CF-04. Giant Perpendicular Magnetic Anisotropy Enhancement in MgO-Based Magnetic Tunnel Junction by Using Co/Fe Composite Layer

Jonas Zehner (IFW Dresden, Technische Universität Dresden)
FE-04. Voltage Control of Néel Domain Wall Interactions and Pinning Sites

Pieter Gypens (Ghent University)
GB-13. Nanomagnetic Self-Organizing Logic Gates

Sabpreet Bhatti (Nanyang Technological University)
HB-11. Enhancement of Skyrmion Density achieved via Interface Engineering

Fanfan Meng (University of Cambridge)
JI-05. Non-planar Geometrical Effects on the Magnetoelectrical Signal in a 3D Nanomagnetic Circuit

Best Poster Award

Supported by

GMW Associates

All posters presenters who have submitted an electronic poster along with a prerecorded video summary (up to 90 seconds) will be eligible for nomination for this award. Nominations from each poster session group will be made by the Poster Session Chairs and the winner from each session group will be determined by the Program Co-Chairs. Selections will be based on the level of the research, quality of the poster, and clarity of the presentation. Winners will be announced on Thursday and Friday of the Conference week and will be featured in the GMW Best Poster Award Winners Session Room.

A list of the Best Poster Award Winners from the 2019 Joint MMM-INTERMAG Conference can be found here: https://intermag.org/best-poster-awards

Publications

Authors of accepted digests may submit a manuscript for publication in IEEE *Transactions on Magnetics*. The editorial process will follow the same high standards as for regular submissions to the journal.

Accepted conference-related papers will be posted online with DOIs as "Early Access" papers. They will be published in final form as regular articles (not as "conference papers") in a special-topic issue on "Applied Magnetics". The authors of some manuscripts not accepted for IEEE *Transactions on Magnetics* will be offered the opportunity to publish in IEEE Magnetics Society Conference Proceedings on IEEE Xplore. There is no cost to the authors for publication unless the authors want open access. Post-deadline manuscripts will not be accepted and not forwarded for review.

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. Details of the journal can be found at http://ieeexplore.ieee.org/xpl/aboutJournal.jsp?punumber=20

Conference Organization

IEEE Magnetic Society Advisory Committee (Adcom)

President – Masahiro Yamaguchi
President-elect – Atsufumi Hirohata
Secretary/Treasurer – Ron Goldfarb
Past President – Pallavi Dhagat

Committee members (term expiring December 31, 2021)
Elke Arenholz, David Jiles, Olga Kazakova, Nicoleta Lupu, Katsuji Nakagawa, Johannes Paulides, Gunter Reiss, Shinji Yuasa

Committee members (term expiring December 31, 2022)
Giovanni Finocchio, Jean Anne Incorvia, Galina Kurlyandskaya, Kenji Nakamura, Hendrik Ohldag, Lucian Prejbeanu, Montserrat Rivas, Yukiko Takahashi

Committee members (term expiring December 31, 2023)
Paolo Bortolotti, Alison Flatau, Mathias Kläui, Nicola Morley, Shigeki Nakagawa, Larissa Panina, S.N. (Prem) Piramanayagam, Laura Steren

INTERMAG 2021 Management Committee

General Chair - Bernard Dieny
Program Committee Co-Chairs - Tom Thomson, Sara Majetich, and Kyung-Jin Lee
Chair of Local Committee, Vice General Chair - Vincent Baltz
Treasurer USA - Mark Kief
Treasurer France - Mair Chshiev
Exhibits and Sponsorship Chair - Vincent Mazauric
Publication Co-Chairs - Petru Andrei, S. N. (Prem) Piramanayagam, and Min-Fu Hsieh
Publicity Co-Chairs - Philip Pong and Diana Leitao
Best Student Presentation Award Chair - Jordi Sort
Special Events Chair - Stéphane Mangin
IEEE Representative - Rudi Schaefer
Conference Manager - Molly Bartkowski
Abstracts and Publications Manager- Regina Mohr
Special Sessions Manager - Shelbie Jenkins
Exhibits Manager - Jennifer Fiske
Registration Manager - Ashley Cesare

INTERMAG 2021 Program Committee

Amr Adly, Dan Allwood, Yacine Amara, David Arnold, Kais Atallah, Metin Aydin, Tamalika Banerjee, Lei Bi, Jonathan Bird, Xiao Chen, Jang-Young Choi, Gyung-Min Choi, Oksana Chubykalo-Fesenko, Andrii Chumak, Phanwadee (Noi) Chureemart, Alina Deac, Nora Dempsey, Hatem Elbidweihy, Richard Evans, Xin Fan, Olivier Fruchart, Shunsuke Fukami, Simon Greaves, Ravi Hadimani, George Hadjipanayis, Wei Han, Masamitsu Hayashi, Robert Hicken, Axel Hoffmann, Jongill Hong, Min-Fu Hsieh, Guohan Hu, Yuko Ichiyanagi, Wanjun Jiang, Arti Kashyap, Takeshi Kato, Andy Kent, Tae-hee Kim, Enke Liu, Ming Liu, Thierry Lubin, Nicoleta Lupu, Denis Makarov, Steven May, Jeff McCord, Stephen McVitie, Alice Mizrahi, Shigemi Mizukami, Takahiro Moriyama, Nicola Morley, Kazuhiro Muramatsu, Kenji Nakamura, Shuangxia Niu, Siavash Pakdelian, Pierre-Daniel Pfister, Montserrat Rivas, Saibal Roy, Somporn Ruangsinchaiwanich, Carl Sanderman, Valerio Scagnoli, Dieter Seuss, Elizabeth Skoropata, Yuri Suzuki, Yukiko Takahashi, Mi-Ching Tsai, Parag Upadhyay, Ciro Visone, Rong-Jie Wang, Matthew Williard, Peng Yan, Hyunsoo Yang, and Fei Zhao

Future Conferences

15th Joint MMM-INTERMAG Conference
January 10-14, 2022, New Orleans, LA

2022 International Conference on Magnetism (ICM)
July 3-8, 2022, Shanghai, China

67th Annual Conference on Magnetism and Magnetic Materials (MMM)
October 31 – November 4, 2022, Minneapolis, MN

2023 Intermag Conference (INTERMAG)
May 15-19, 2023, Sendai, Japan

68th Annual Conference on Magnetism and Magnetic Materials (MMM)
October 30 – November 3, 2023, Dallas, TX

70th Annual Conference on Magnetism and Magnetic Materials (MMM)
October 27-31, 2025, Palm Beach, FL

Join our Mailing List

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

Thank you to all of our Partners for their support!

Visit https://intermag.org/partners for more information!

Speed-Up Magnetic Test

GMW Associates

evicomagnetics

PHYSICS TODAY

MONDAY LIVE Q&A SESSIONS
3:00 PM EUROPE CEST

Session TU
TUTORIAL: MAGNETISM AND THE ENVIRONMENT

Johan Paulides, Chair
Advanced Electromagnetics Group, Waalwijk, Netherlands

TU-01. Magnetic Refrigeration: From Fundamentals to Applications. ***(Invited)*** *O. Gutfleisch[1] 1. Material Science, Technical University Darmstadt, Darmstadt, Germany*

TU-02. Magnetics of Motor Drive System for Electrical Vehicle. ***(Invited)*** *K. Fujisaki[1] 1. Toyota Technological Institute, Nagoya, Japan*

TU-03. Rare Earth Magnet Recycling: the Missing Link in a Circular Economy. ***(Invited)*** *K. Mugerman[1] 1. Geomega Resources Inc., Montreal, QC, Canada*

TUESDAY LIVE Q&A SESSIONS
10:30 AM EUROPE CEST

Session YA
FOCUS SESSION: BENCH TO BEDSIDE TRANSITION OF BIOMAGNETIC RESEARCH: HOW CLOSE ARE WE?

Ravi Hadimani, Chair
Virginia Commonwealth University, Richmond, VA, United States

YA-01. Hard Tissue Magnetic Resonance Imaging With Fast Control of Intense Magnetic Fields. ***(Invited)*** J. Algarín[1,2], E. Díaz-Caballero[3], J. Borreguero[1,2], F. Galve[1,2], D. Grau-Ruiz[3], J. Rigla[3], R. Bosch[1,2], J. González[3], E. Pallás[1,2], C. Gramage[1,2], A. Ríos[3], J. Benlloch[1,2] and *J. Alonso[1,2] 1. Institute for Molecular Imaging and Instrumentation (i3M), Consejo Superior de Investigaciones Cientificas, Madrid, Spain; 2. Institute for Molecular Imaging and Instrumentation (i3M), Universitat Politecnica de Valencia, Valencia, Spain; 3. Tesoro Imaging S.L., Valencia, Spain*

YA-02. Nanoviber: Magnetic Nanovibrations for Brain Tumor Therapy: the Translational Road Also Needs Innovation. ***(Invited)*** *F. Berger[1] 1. BrainTech Lab U1205 INSERM-UGA, Grenoble, France*

YA-03. Imaging and Quantifying Transition Metal Ion Distribution in the Human Brain for Early Detection and Diagnosis of Neurodegenerative Disorders. ***(Invited)*** *J. Collingwood[1] 1. School of Engineering, University of Warwick, Coventry, United Kingdom*

YA-04. **Heating Efficiency of Magnetic Nanoparticles for Magnetic Hyperthermia: Effects of Temperature and Driving-Field Waveform.** G. Barrera[1], P. Allia[1] and *P. Tiberto*[1] *1. Advanced Materials and Life sciences, Istituto Nazionale di Ricerca Metrologica, Torino, Italy*

YA-05. **Magnetic Bio-Sensing of Plasma-Derived Extracellular Vesicles for Cancer Screening.** A. Moyano[1,2], E. Serrano-Pertierra[2], M. Salvador[1,3], J.L. Marqués[1], J.C. Martínez-García[1], M.C. Blanco-López[2] and *M. Rivas*[1] *1. Universidad de Oviedo Departamento de Fisica, Gijón, Spain; 2. Department of Physical and Analytical Chemistry, University of Oviedo, Oviedo, Spain; 3. Istituto di Struttura della Materia Consiglio Nazionale delle Ricerche, Roma, Italy*

YA-06. **Potential Effects of TMS Magnetic Fields Beyond the Conventional Neurostimulation.** *A. Guller*[1,2], S. Clement[1], P. Sowman[3] and E. Goldys[1] *1. ARC Centre of Excellence for Nanoscale BioPhotonics, The Graduate School pf Biomedical Engineering, University of New South Wales, Sydney, NSW, Australia; 2. The Institute for Regenerative Medicine, Sechenov University (I.M. Sechenov First Moscow State Medical University), Moscow, Russian Federation; 3. Macquarie University, Sydney, NSW, Australia*

TUESDAY
4:30 PM EUROPE CEST

LIVE Q&A SESSIONS

Session YB
FOCUS SESSION: MAGNETORHEOLOGICAL COMPOSITE MATERIALS AND APPLICATIONS

Norman Wereley, Chair
University of Maryland, College Park, MD, United States

YB-01. **Magnetorheology in Unsteady Triaxial Fields.** ***(Invited)*** M.B. Terkel[1], J.R. Morillas[1], G. Camacho[1] and *J. de Vicente*[1] *1. Applied Physics, Universidad de Granada Facultad de Ciencias, Granada, Spain*

YB-02. **Disassembling Blood Clots and Improving Blood Oxygenation With Magnetorheology for Covid-19 Patients.** ***(Invited)*** *R. Tao*[1] *1. Physics, Temple University, Philadelphia, PA, United States*

YB-03. **Controllable Stress of Magnetorheological Fluid Encapsulated Elastomers.** ***(Invited)*** *Y. Choi*[1] and N. Wereley[1] *1. Department of Aerospace Engineering, University of Maryland at College Park, College Park, MD, United States*

YB-04. **Magnetorheological Elastomers – Material Properties and Actuation Capabilities.** *H. Böse*[1], J. Ehrlich[1] and T. Gerlach[1] *1. Fraunhofer Institute for Silicate Research ISC, Würzburg, Germany*

YB-05. **Study of Liquid Metal Filled Magnetorheological Elastomers.** G. Yun[1], S. Tang[2] and *W. Li*[1] *1. School of Mechanical, Materials, Mechatronic and Biomedical Engineering, University of Wollongong, Wollongong, NSW, Australia; 2. Department of Electronic, Electrical and Systems Engineering, University of Birmingham, Birmingham, United Kingdom*

YB-06. **Magnetic Particle Reinforced Elastomer Composites for Additive Manufacturing.** *J. Park*[1], A. Becnel[1], A. Flatau[1] and N. Wereley[1] *1. University of Maryland at College Park, College Park, MD, United States*

MONDAY
5:00 PM EUROPE CEST

LIVE Q&A SESSIONS

Session AA
PROGRESS AND PROSPECTS OF ADVANCED MAGNETIC MICROSCOPIES

Olivier Fruchart, Chair
Univ. Grenoble Alpes, CNRS, CEA, Grenoble, France

AA-01. **Advanced Scanning Transmission X-Ray Microscopy for the Investigation Magnetic Phenomena.** ***(Invited)*** *M. Weigand*[2,1], S. Wintz[1], J. Gräfe[1] and G. Schütz[1] *1. Max-Planck-Institute Stuttgart, Stuttgart, Germany; 2. Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Berlin, Germany*

AA-02. **Quantum Sensing of Quantum Materials Using NV-Center Microscopy.** ***(Invited)*** *A. Yacoby*[1] *1. Physics, Harvard University, Cambridge, MA, United States*

AA-03. **Imaging 3D Magnetic Configurations With X-Rays.** ***(Invited)*** *C. Donnelly*[1], M. Guizar-Sicarios[2], S. Gliga[2], S. Finizio[2], K. Metlov[3,4], V. Scagnoli[2,5], M. Holler[2], A. Hrabec[2,5], S. Mayr[2,5], N. Bingham[2,5], N.R. Cooper[1], J. Raabe[2] and L. Heyderman[5,2] *1. University of Cambridge, Cambridge, United Kingdom; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Donetsk Institute for Physics and Engineering, Donetsk, Ukraine; 4. Institute for Numerical Mathematics RAS, Moscow, Russian Federation; 5. ETH Zurich, Zurich, Switzerland*

AA-04. **3D Mapping of Magnetic Nanotextures With Nanometer Resolution Using Holographic Vector-Field Electron Tomography.** ***(Invited)*** *D. Wolf*[1], I. Andersen[2], S. Schneider[3], A. Kovacs[4], L. Rodriguez[5] and A. Lubk[1] *1. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 2. Centre d'Elaboration de Materiaux et d'Etudes Structurales, Toulouse, France; 3. Technische Universitat Dresden, Dresden, Germany; 4. Forschungszentrum Julich GmbH, Julich, Germany; 5. Universidad del Valle, Cali, Colombia*

AA-05. **Progress in Magnetic Force Microscopy.** ***(Invited)*** E. Berganza[1,2], M. Jaafar[1,3] and *A. Asenjo*[1] *1. ICMM, Consejo Superior de Investigaciones Cientificas, Madrid, Spain; 2. Karlsruher Institut fur Technologie, Karlsruhe, Germany; 3. Física de la Materia Condensada, Universidad Autonoma de Madrid Facultad de Ciencias, Madrid, Spain*

AA-06. **Brillouin Light Scattering Revisited.** ***(Invited)*** *K. Schultheiss*[1] and H. Schultheiss[1] *1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

ON-DEMAND SESSIONS

Session AB
MAGNETIC MICROSCOPY AND LMAGING

Trevor Almeida, Chair
CEA-SPINTEC, Grenoble, France

AB-01. **Microstructural and Residual Stress Evaluation of Bulk Martensitic Steels With Micrometer-Sized Grains Through Magneto-Optical Kerr Effect.** *M. Jovičević-Klug*[1,2], P. Jovičević-Klug[1,3], L. Thormählen[2], J. McCord[2] and B. Podgornik[1,3] *1. Institute of Metals and Technology, Ljubljana, Slovenia; 2. Christian-Albrechts-Universitat zu Kiel, Kiel, Germany; 3. Jozef Stefan International Postgraduate School, Ljubljana, Slovenia*

AB-02. **Imaging the Dynamical Switch of Antiferromagnetic Domains by Optical Microscopy.** ***(Invited)*** *Y. Wu*[1], J. Xu[1], X. Zhang[2], J. Xia[2], C. Zhou[1], H. Chen[1], D. Shi[1] and Y. Zhou[2] *1. Physics department, Fudan University, Shanghai, China; 2. School of Science and Engineering, The Chinese University of Hong Kong, Shenzhen, China*

AB-03. **Developing High-Resolution Magnetic Microscopy Applications Using NV Centers in Diamond.** ***(Invited)*** *P. Kehayias*[1] *1. Sandia National Laboratories, Albuquerque, NM, United States*

AB-04. **Magneto-Seebeck Microscopy of Domain Switching in Collinear Antiferromagnet CuMnAs.** ***(Invited)*** T. Janda[1,3], J. Godinho[2,3], T. Ostatnicky[3], Z. Soban[2], H. Reichlova[4], V. Novak[2], T. Jungwirth[2], B. Kästner[5] and *J. Wunderlich*[1,2] *1. Universitat Regensburg Institut fur Experimentelle und Angewandte Physik, Regensburg, Germany; 2. Institute of Physics, Czech Academy of Sciences, Cukrovarnická 10, Prague, Czechia; 3. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 4. Dresden University of Technology, Dresden, Germany; 5. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany*

AB-05. **Coherent Correlation Imaging: High-Resolution Imaging of Stochastic Dynamics.** ***(Invited)*** *C. Klose*[1], F. Buettner[2,3], W. Hu[3], C. Mazzoli[3], I. Lemesh[2], J. Bartell[2], M. Huang[2], C.M. Günther[4], M. Schneider[1], A. Barbour[3], S.B. Wilkins[3], G. Beach[2], S. Eisebitt[1] and B. Pfau[1] *1. Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Berlin, Germany; 2. Massachusetts Institute of Technology Department of Materials Science and Engineering, Cambridge, MA, United States; 3. National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, NY, USA, Upton, NY, United States; 4. Technische Universitat Berlin Institut fur Optik und Atomare Physik, Berlin, Germany*

AB-06. **Withdrawn**

AB-07. **Advanced, Kerr-Microscopy-Based MOKE Magnetometry for the Anisotropy Characterization of Magnetic Films.** *I. Soldatov*[1], J. Zehner[1], K. Leistner[1], T. Kang[2], D. Karnaushenko[2] and R. Schäfer[1,3] *1. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Institute for Metallic Materials, Dresden, Germany; 2. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Institute for Integrative Nanosciences, Dresden, Germany; 3. Technische Universitat Dresden, Dresden, Germany*

AB-08. **Direct Observation of Vertical Bloch Line Manipulation via in-Plane Magnetic Fields.** *M.P. Li*[1], C. Phatak[2], M. De Graef[1] and V.M. Sokalski[1] *1. Materials Science & Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Argonne National Laboratory Materials Science Division, Lemont, IL, United States*

AB-09. **Quantitative Magnetic Force Microscopy: Tip Transfer Function Method Revisited With High-Quality Data.** *Y. Feng*[2,1], A. Mandru[2] and H.J. Hug[2,1] *1. Physics Department, Universitat Basel Philosophisch-Naturwissenschaftliche Fakultat, Basel, Switzerland; 2. Magnetic and Functional Thin Films, Empa, Dübendorf, Switzerland*

AB-10. **Cryogenic Piezoelectric Scanner for Large-Range Microscopy.** J.D. Franklin[1], B. Xu[1] and *I. Sochnikov*[1,2] *1. Physics, University of Connecticut, Storrs, CT, United States; 2. Institute of Material Science, University of Connecticut, Storrs, CT, United States*

AB-11. **Quantitative Imaging of Antiferromagnetic Spin Cycloidal Textures on Strain Engineered $BiFeO_3$ Thin Films With a Scanning Nitrogen-Vacancy Magnetometer.** *H. Zhong*[1], J. Fischer[2], A. Haykal[3], A. Finco[3], A. Stark[1], F. Favaro[1], P. Maletinsky[1], M. Munsch[1], K. Bouzehouane[2], S. Fusil[2], V. Garcia[2] and V. Jacques[3] *1. Qnami AG, Muttenz, Switzerland; 2. Unité Mixte de Physique, CNRS, Thales, Université Paris Saclay, Palaiseau, France; 3. Laboratoire Charles Coulomb, CNRS, Université de Montpellier, Montpellier, France*

ON-DEMAND SESSIONS

Session AC
INSTRUMENTATION AND MEASUREMENT TECHNIQUES

Marcin Sikora, Co-Chair
AGH University of Science and Technology, Krakow, Poland
Jose Mardegan, Co-Chair
DESY, Hamburg, Germany

AC-01. **Electromagnetic Non-Destructive Testing of Wire Rope Inside Composite Steel Belts.** *X. Yan*[1] *1. University of Harbin Institute of Technology, Shenzhen, Shenzhen, China*

AC-02. **Anisotropic Magnetoresistance Zero-Field Domain Wall Depinning in Cylindrical Nanowires.** *J.A. Moreno*[1] and J. Kosel[2,3] *1. Materials Science and Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. Electrical Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 3. Sensor Systems Division, Silicon Austria Labs GmbH, Graz, Austria*

AC-03. **The Application of Unsupervised Learning to the AC Susceptibility Measurements of High-Temperature Superconductors.** *M. Kowalik*[1], R. Zalecki[2], M. Giebultowski[2], J. Niewolski[2] and W. Tokarz[2] *1. Rzeszow University of Technology, Rzeszow, Poland; 2. AGH University of Science and Technology, Krakow, Poland*

AC-04. **Residual Flux Measurement of Power Transformer Based on Transient Current Difference.** Y. Wang[1,2], *Y. Ren*[1,2] and C. Liu[1,2] *1. Hebei University of Technology State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 2. Hebei University of Technology, Tianjin, China*

AC-05. **Pulse Eddy Current Signal Analysis Using Machine Learning and Artificial Intelligence Techniques.** *J. Kim*[1,2], J. Shin[3], H. Seo[1], K. Kim[1] and D. Park[3,1] *1. Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea; 2. University of Science and Technology, Daejeon, The Republic of Korea; 3. AIPIT, Daejeon, The Republic of Korea*

AC-06. **System for Testing non-Persistent Switching and Retention Faults of STT-MRAM Arrays.** *S. Salimy*[1], I. Joumard[2], G. Zahnd[1], B. Blanc[1], A. Chavent[1], S. Cussac[1], R. Sousa[2], K. Garello[2] and L. Lebrun[1] *1. Hprobe, Eybens, France; 2. SPINtronique et Technologie des Composants, Grenoble, France*

AC-07. **Towards a Wideband Induction-Based AC Magnetometer for a Fast Characterization of Magnetic Nanoparticles.** *M. Saari*[1,2], M. Sulaiman[1], H. Ahmad[3], N. Che Lah[4] and K. Tsukada[5] *1. Faculty of Electrical and Electronic Engineering Technology, Universiti Malaysia Pahang, Pekan, Malaysia; 2. Automotive Engineering Centre, Universiti Malaysia Pahang, Pekan, Malaysia; 3. College of Engineering, Universiti Malaysia Pahang, Kuantan, Malaysia; 4. Faculty of Manufacturing and Mechatronic Engineering Technology, Universiti Malaysia Pahang, Pekan, Malaysia; 5. Graduate School of Interdisciplinary Science and Engineering in Health Systems, Okayama University, Okayama, Japan*

AC-08. **Thermal Noise Power Properties of Magnetic Nanoparticles: Theory and Experiment.** *K. Everaert*[1,2], M. Liebl[1], D. Gutkelch[1], B. Van Waeyenberge[2], F. Wiekhorst[1] and J. Leliaert[2] *1. Department 8.2 Biosignals, Physikalisch-Technische Bundesanstalt, Berlin, Germany; 2. Department of Solid State Sciences, Ghent University, Ghent, Belgium*

AC-09. **Virtualizing CoFeB/MgO Reconstruction Effects on the STT-PMTJ's Performance.** *A. Ramesh*[1,2], K. Chen[1], Y. Lin[1], P. Singh[2], J. Wei[3], Y. Hsin[3] and Y. Tseng[1] *1. National Chiao Tung University, Hsinchu, Taiwan; 2. Indian Institute of Technology Delhi, New Delhi, India; 3. Industrial Technology Research Institute, Hsinchu, Taiwan*

AC-10. **Analysis of Magneto-Tactic Bacteria Using an Open-Source Optical Density Meter.** *L. Abelmann*[1,2], M. Welleweerd[2] and T. Hageman[2] *1. Korea Institute of Science and Technology Europe Forschungsgesellschaft mbH, Saarbrucken, Germany; 2. Universiteit Twente, Enschede, Netherlands*

AC-11. **Exploring Magnetic Materials by Means of XMCD and XRMR Methods at Beamline P09 at Petra III/DESY.** *J.R. Mardegan*[1], O. Leupold[1], D. Graulich[2], J. Bergtholdt[1], T. Kuschel[2] and S. Francoual[1] *1. Petra III, Deutsches Elektronen-Synchrotron, Hamburg, Germany; 2. Department of Physics, Bielefeld University, Bielefeld, Germany*

AC-12. **Development of a Magneto-Mechanical Bench and Experimental Characterization for Magneto-Rheological Elastomers.** *M. Savary*[1], S. Hermann[1,2], C. Espanet[1] and V. Préault[1] *1. Moving Magnet Technologies, Besançon, France; 2. Mécanique, Franche-Comte Electronique Mecanique Thermique et Optique Sciences et Technologies, Besancon, France*

AC-13. **Magnetic Nanoparticle for Thermal and Magnetic Particle Imaging.** *T.Q. Bui*[1], A. Biacchi[1], E. Correa[1], W. Tew[1], A.R. Hight Walker[1], C. Dennis[1] and S. Woods[1] *1. National Institute of Standards and Technology, Gaithersburg, MD, United States*

AC-14. **RIXS-MCD as Selective *in-Situ* Probe of Structure and Magnetization of Nanoparticles Throughout Synthesis.** *J. Kuciakowski*[1], K.T. Pitala[1], A. Kmita[1], M. Wytrwal-Sarna[1], D. Lachowicz[1], S. Lafuerza-Bielsa[2], D. Koziej[3], A. Juhin[4] and M. Sikora[1] *1. AGH University of Science and Technology, Krakow, Poland; 2. ESRF, Grenoble, France; 3. Universitat Hamburg, Hamburg, Germany; 4. Institut de Mineralogie de Physique des Materiaux et de Cosmochimie, Paris, France*

AC-15. **Withdrawn**

AC-16. **Space-Varying E-Field Vector Modulation With Oriented Control Using Quintuple Core Coil for TMS.** *I.C. Carmona*[5], D. Kumbhare[1,2], M. Baron[1,3] and R.L. Hadimani[5,4] *1. Department of Neurosurgery, Virginia Commonwealth University Health System, Richmond, VA, United States; 2. Hunter Holmes McGuire VA Medical Center, Richmond, VA, United States; 3. Southeast Parkinson's Disease Research, Education and Clinical Center (PADRECC), Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, VA, United States; 4. Dept. of Biomedical Engineering, Virginia Commonwealth University, Richmond, VA, United States; 5. Dept. of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States*

AC-17. **New Polarized Neutron Diffraction Setup for Precise High-Field Investigations of Magnetic Structures up to 8 T at the MLZ.** *V. Hutanu*[1], H. Thoma[3], H. Deng[1], G. Brandl[3], A. Weber[3], V. Rubanskyi[3], J. Peters[6], W. Luberstetter[1], T. Krist[5], G. Roth[4], L. Peters[4], S. Mattauch[3] and T. Brückel[2] *1. Institute of Crystallography & JCNS outstation at MLZ, RWTH Aachen University, Rheinisch-Westfalische Technische Hochschule Aachen, Aachen, Nordrhein-Westfalen, DE, academic, Garching, Germany; 2. Juelich Centre for Neutron Science JCNS and Peter Gruenberg Institut PGI JCNS-2 & PGI-4, Forschungszentrum Juelich, Jülich, Germany; 3. Jülich Centre for Neutron Science JCNS at Heinz Maier-Leibnitz Zentrum (MLZ), Forschungszentrum Julich GmbH Julich Centre for Neutron Science, Julich, Germany; 4. Institut für Kristallographie, RWTH Aachen University, Rheinisch-Westfalische Technische Hochschule Aachen, Aachen, Nordrhein-Westfalen, DE, Academic, Aachen, Germany; 5. NOB Neutron Optic Berlin, Berlin, Germany; 6. Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Garching b. München, Germany*

AC-18. **Magnetic Stimulation Reduced Electroencephalography Beta Band Excitability in Insomniacs.** *H. Yu*[1], M. Qiao[1], S. Ba[1], G. Xu[1] and L. Guo[1] *1. Hebei University of Technology, Tianjin, China*

ON-DEMAND SESSIONS

Session AD
HYSTERESIS MODELLING

Salvatore Perna, Chair
University of Naples Federico II, Naples, Italy

AD-01. **Exploring Effects of Magnetic Nanowire Arrangements and Imperfections on First-Order Reversal Curve Heat-Maps.** *M. Zamani Kouhpanji*[1] and B. Stadler[1] *1. University of Minnesota, Minneapolis, MN, United States*

AD-02. **A Dynamic Model for the Hysteresis of CoPt Multilayers and its use for the Interpretation of MOKE Hysteresis Loops Aquired at Different Field Ramp Rates.** J. Haupt[2,1], G. Atcheson[1], K. Borisov[2,1], N. Teichert[1], J. Bespas[1], W. Wernsdorfer[2] and *P.S. Stamenov*[1] *1. School of Physics and CRANN, The University of Dublin Trinity College, Dublin, Ireland; 2. Physikalisches Institut, Karlsruhe Institute of Technology, Karlsruhe, Germany*

AD-03. **Coarse-Graining in Micromagnetic Simulations of Dynamic Hysteresis Loops.** *R. Behbahani*[1,2], M.L. Plumer[1] and I. Saika-Voivod[1] *1. Physics and Physical Oceanography, Memorial University of Newfoundland, St. John's, NL, Canada; 2. Applied Mathematics, Western University, London, ON, Canada*

AD-04. **Using a Random Forest Regressor to Predict First-Order Reversal Curves of hcp-Co Particle Ensembles.** *L. Breth*[1], T. Schrefl[1], J. Fischbacher[1], A. Kovacs[1], H. Oezelt[1], M. Schwarz[2], C. Storf[2], J. Pachlhofer[2], C. Czettl[2] and H. Brückl[1] *1. Department for Integrated Sensor Systems, Donau-Universitat Krems, Krems, Austria; 2. R&D Carbide and Coating, Ceratizit Austria GmbH, Reutte, Austria*

AD-05. **Two-Dimensional Dynamic Magnetization Model of Steel Sheets Including Vector Hysteresis Effect.** *R. Zeinali*[1], D. Krop[1] and E. Lomonova[1] *1. Electrical Engineering, Eindohven University of Technology, Eindhoven, Netherlands*

AD-06. **Hysteresis Branch Crossing and the Stoner-Wohlfarth Model.** *S.A. Mathews*[1], A. Ehrlich[2] and N. Charipar[1] *1. Materials Science and Technology Division, US Naval Research Laboratory, Washington, DC, United States; 2. Leidos Inc Arlington, Arlington, VA, United States*

AD-07. **Estimation of Magnetostrictive Hysteresis Properties of Electrical Steel Sheet Under External Stress Using Multi-Scale Domain Energy Model.** M. Li[1], *Y. Zhang*[1], W. Jiang[1], D. Xie[1] and C. Koh[2] *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China; 2. Cheongju, Chungbuk, Chungbuk National University, Cheongju, The Republic of Korea*

AD-08. **A 2D Vector Magnetostriction Model in an Electrical Steel Sheet Taking the Pining Hysteresis Effect Into Account.** *D. Li*[1], Y. Zhang[1], W. Jiang[1], C. Koh[2] and D. Xie[1] *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China; 2. College of Electrical and Computer Engineering, Chungbuk National University, Cheongju, The Republic of Korea*

AD-09. **Optimized Magnetic Hysteresis Management for Electromagnetic Space Discretization Simulation Tool.** *P. Fagan*[1,2], B. Ducharne[2,3] and A. Skarlatos[1] *1. CEA – DISC, CEA-LIST, CEA Saclay Digiteo Labs, Saclay, France; 2. LGEF INSA Lyon, Villeurbanne, France; 3. ELyTMaX UMI 3757, CNRS – Université de Lyon – Tohoku University, International Joint Unit, Tohoku University, Sendai, Japan, Sendai, Japan*

AD-10. **Ferromagnetic Hysteresis Model Using Fractional Derivative Resolution Developed for the Simulation of Viscoelastic Phenomena.** *B. Ducharne*[1,2] and G. Sebald[1] *1. ELyTMaX UMI 3757, CNRS – Université de Lyon – Tohoku University, International Joint Unit, Tohoku University, Sendai, Japan, Sendai, Japan; 2. LGEF INSA Lyon, Villeurbanne, France*

Session AE
MICROMAGNETIC MODELLING

Daria Gusakova, Co-Chair
SPINtronique et Technologie des Composants, Grenoble, France
Joo-Von Kim, Co-Chair
Université Paris-Saclay, Palaiseau, France

AE-01. **Dzyaloshinskii Domain Wall Creep. *(Invited)*** *V.M. Sokalski*[1] *1. Materials Science & Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*

AE-02. **Interaction of Chiral Domain Walls With Pinning Disorder in Thin Ferromagnetic Films.** *V. Jeudy*[1], P. Géhanne[1], S. Rohart[1] and A. Thiaville[1] *1. Laboratoire de Physique des Solides, Orsay, France*

AE-03. **On Dynamics of Domain Walls With Internal Degrees of Freedom.** *L. Laurson*[1] *1. Tampereen Yliopisto, Tampere, Finland*

AE-04. **Micromagnetics of Frustrated States and High-Frequency Modes in Artificial Buckyball Nanostructures.** *R. Cheenikundil*[1] and R. Hertel[1] *1. Institut de Physique et Chimie des Matériaux de Strasbourg, Centre National de la Recherche Scientifique, Strasbourg, France*

AE-05. **Micromagnetic Modelling of Ferro-, Ferri-, and Antiferromagnetic Materials.** *L. Sánchez-Tejerina*[1,2] and V. Puliafito[3] *1. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, Universita degli Studi di Messina, Messina, Italy; 2. Department of Biomedical, Dental, Morphological and Functional Imaging Sciences, Universita degli Studi di Messina, Messina, Italy; 3. Department of Engineering, Universita degli Studi di Messina, Messina, Italy*

AE-06. **Micromagnetic Simulations of Artificial Spin ice Lattices and Vertices.** *L. Connell*[1,2], K. Esien[1] and S. Felton[1] *1. School of Maths and Physics, Queen's University Belfast, Belfast, United Kingdom; 2. University of Glasgow, Glasgow, United Kingdom*

AE-07. **Concentric Target Domains in Magnetic Nanodisks.** *R. Morel*[1], S. Ponomareva[1], H. Joisten[2], S. Philippe[1] and B. Dieny[1] *1. Univ. Grenoble Alpes, CNRS, CEA, Grenoble INP, SPINTEC, 38000, Grenoble, France, Grenoble, France; 2. Univ. Grenoble Alpes, CEA, LETI, 3800 Grenoble, France, Grenoble, France*

AE-08. **Micromagnetic Study of Stable Skyrmions in Dot-Patterned Graphene-Based Magnetic Trilayers.** *P. Olleros-Rodríguez*[1], R. Guerrero[1], J. Camarero[1,2], O. Chubykalo-Fesenko[3] and P. Perna[1] *1. Fundacion IMDEA Nanociencia, Madrid, Spain; 2. Departamento de Física de la Materia Condensada, Universidad Autonoma de Madrid, Madrid, Spain; 3. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain*

AE-09. **Néel Type Skyrmions Formation in Nanodots and Antidot Arrays.** *M.K. Zelent*[1], S. Saha[4,5], I. Vetrova[2], M. Mruczkiewicz[2,3] and M. Krawczyk[1] *1. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland; 2. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 3. Centre For Advanced Materials Application CEMEA, Slovak Academy of Sciences, Bratislava, Slovakia; 4. Laboratory for Multiscale Materials Experiments, Paul Scherrer Institut, Villigen, Switzerland; 5. Laboratory for Mesoscopic Systems, Department of Materials, ETH Zurich, Zurich, Switzerland*

AE-10. **Smaller and Faster Skyrmions in Compensated Ferrimagnets and Synthetic Antiferromagnets.** *S. Rohart*[1], E. Haltz[1], S. Mallick[1], L. Berges[1], A. Mougin[1] and J. Sampaio[1] *1. Laboratoire de Physique des Solides, Universite Paris-Saclay Faculte des Sciences d'Orsay, Orsay, France*

AE-11. **Statics and Dynamics of Skyrmions in Synthetic Antiferromagnets : Benefits and Micromagnetic Understanding.** *E. Haltz*[1], C. Barker[1] and C. Marrows[1] *1. Physics, University of Leeds School of Physics and Astronomy, Leeds, United Kingdom*

AE-12. **The Effects of Field History on Magnetic Skyrmion Formation in $[Pt/Co/Ir]_n$ Multilayers.** *A.T. Clark*[1], X. Wang[1], A. Stuart[2], W. Jiang[3,4], S.G. te Velthuis[3], A. Hoffmann[3,5], K. Buchanan[2] and X. Cheng[1] *1. Department of Physics, Bryn Mawr College, Bryn Mawr, PA, United States; 2. Department of Physics, Colorado State University, Fort Collins, CO, United States; 3. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States; 4. Department of Physics, Tsinghua University, Beijing, China; 5. Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States*

AE-13. **Dependence of Curvature in HAMR Transitions on Bit Length.** *K. Xue*[1] and R. Victora[1] *1. Electrical and Computer Engineering, University of Minnesota Twin Cities, Minneapolis, MN, United States*

ON-DEMAND SESSIONS

Session AP
ADVANCES IN (SEMI)-ANALYTICAL AND NUMERICAL TECHNIQUES FOR DESIGN I (Poster Session)

Yacine Amara, Chair
GREAH, University of Le Havre, Le Havre, France

AP-01. **A Space-Time Domain Decomposition Method for the Finite Element Analysis of Transient Magnetic Field.** *Y. Zhang*[1], X. Yang[2], D. Shao[1], C. Zhang[2], H. Wu[3] and W. Fu[3] *1. School of Mechatronic Engineering and Automation, Shanghai University, Shanghai, China; 2. Hebei University of Technology State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 3. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

AP-02. **Analytical Computation of Inductance for Spoke-Type Permanent Magnet Synchronous Motor Accounting for Saturation.** *P. Liang*[1] *1. Northwestern Polytechnical University, Xi'an, China*

AP-03. **Optimization Method for Setting Resonance of Multi-Module Wireless Charging Systems With Various Circuit Topologies.** J. Lee[1], C. Byeon[2] and *S. Lee*[1] *1. Jeonbuk National University, Jeonju, The Republic of Korea; 2. Wonkwang University, Iksan, The Republic of Korea*

AP-04. **Analytical Method of Form-Wound Winding Loss Calculation Considering Circulating Current Effect.** *Y. Jiang*[1], J. Chen[1], H. Wang[1] and D. Wang[1] *1. Naval University of Engineering, Wuhan, China*

AP-05. **Magnetic Field Model of Flux Switching Permanent Magnet Machines Considering Harmonic Analysis and Slot Shape.** *F. Liu*[1], J. Hu[1] and Y. Li[1] *1. Harbin Institute of Technology, Harbin, China*

AP-06. **A General Analytical Expression to Model the air gap Permeance of Electrical Machines.** J. Marault[1], *A. Tounzi*[1], F. Gillon[1] and M. Hecquet[1] *1. Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Junia, Lille, France*

AP-07. **A Mortar Method Based Domain Decomposition Approach for Winding Loss Computation of Electrical Machines.** *Y. Li*[1], Y. Feng[1], S. Huang[1], B. Ma[1], G. Wu[1] and J. Zhu[2] *1. College of Electrical and Information Engineering, Hunan University, Changsha, China; 2. School of Electrical and Information Engineering, University of Sydney, Sydney, NSW, Australia*

AP-08. **A Novel DiG-DE Algorithm for Multi-Objective Design Optimization of Electrical Machine.** *J. Wu*[1], J. Yin[1], W. Cao[1], B. Zhuang[3], V. Rallabandi[2] and D.M. Ionel[2] *1. Department of Electrical Engineering, Zhengzhou University of Light Industry, Zhengzhou, China; 2. University of Kentucky, Lexington, KY, United States; 3. Ansys, Shenzhen, China*

AP-09. **Low Weight Halbach UAM Motor Design Based on Subdomain Analysis.** *B. Koo*[1], M. Lee[1] and K. Nam[1] *1. Pohang University of Science and Technology, Pohang, The Republic of Korea*

AP-10. **Calculation and Decomposition of Zig-Zag Leakage Flux Losses in a Wet Submersible Induction Machine by the Virtual Permanent Magnet Harmonic Machine Model.** *J. Yan*[1], C. Di[1] and X. Bao[1] *1. School of Electrical Engineering and Automation, Hefei University of Technology, Hefei, China*

AP-11. **Analytical Modeling for the Flux Reversal Permanent Magnet Machine With Halbach Array Magnets in Rotor Slot.** *K. Yang*[1], T. Zhang[1], F. Zhao[1] and Y. Wang[1] *1. Harbin Institute of Technology Shenzhen, Shenzhen, China*

AP-12. **Analytical Study and Comparison of Electromagnetic Characteristics of 8-Pole 9-Slot and 8-Pole 12-Slot Permanent Magnet Synchronous Machines According to Rotor Eccentricity.** *H. Lee*[1], T. Bang[1], J. Woo[1], K. Shin[2] and J. Choi[1] *1. Chungnam National University, Daejeon, The Republic of Korea; 2. Power System Engineering, Chonnam National University, Yeosu, The Republic of Korea*

AP-13. **Particular Reduced Scalar Potential Formulation for End Winding Magnetic Circuits Modeling Enabling Increased Field Weakening in PM Motors.** *E.K. Karamanis*[1] and A.G. Kladas[1] *1. Electrical and Computer Engineering, National Technical University of Athens, Zografou, Greece*

ON-DEMAND SESSIONS

Session AQ
ADVANCES IN (SEMI)-ANALYTICAL AND NUMERICAL TECHNIQUES FOR DESIGN II (Poster Session)

Guillaume Parent, Chair
Université d'Artois, Béthune, France

AQ-01. **An Acceleration Method for Reaching Steady-State Performance in Time-Stepping Finite Element Analysis.** *Y. Li*[1], Y. Feng[1], S. Huang[1], B. Ma[1], G. Wu[1] and J. Zhu[2] *1. College of Electrical and Information Engineering, Hunan University, Changsha, China; 2. School of Electrical and Information Engineering, University of Sydney, Sydney, NSW, Australia*

AQ-02. **An Automatic Local Mesh Refinement Method on Material Interfaces for Enhancing the Solution Accuracy in Electric Field Computation.** Y. Zhao[1], *S. Cheng*[1] and W. Tao[1] *1. Wuhan University, Wuhan, China*

AQ-03. **A Novel 3D Finite Element Modelling Approach for Calculating Axial Flux Permanent Magnet Machines Based on Scaling Air Gap Method.** *Y. Bi*[1], F. Chai[1] and Y. Pei[1] *1. Harbin Institute of Technology, Harbin, China*

AQ-04. **Comparison of Electromagnetic Field Distribution Estimated by Three-Channel U-net Neural Network.** *Y. Chen*[1,2], Q. Yang[3], C. Zhang[1,2], Y. Li[1,2] and H. Zhang[1,2] *1. Hebei University of Technology, Tianjin, China; 2. Hebei University of Technology State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 3. Tianjin University of Technology, Tianjin, China*

AQ-05. **Efficiency Improvement for Submersible Motors by Optimizing the Ratio of Diameter to Shaft Length.** *J. Li*[1], C. Di[1], X. Bao[1], Z. Ke[1] and J. Yan[1] *1. School of Electrical Engineering and Automation, Hefei University of Technology, Hefei, China*

AQ-06. **Electromagnetic Performance Analysis of a Hybrid Excitation Machine Based on Equivalent Magnetic Network.** *W. Tong*[1], P. Wang[1], S. Wu[2] and S. Li[1] *1. National Engineering Research Center for Rare-Earth Permanent Magnet Machines, Shenyang University of Technology, Shenyang, China; 2. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China*

AQ-07. **Electromagnetic Performance Analysis of Permanent Magnet Synchronous Machine Considering Axial Leakage Flux Using Subdomain Analytical Method.** *K. Shin*[1], H. Park[2], T. Bang[3], H. Cho[3] and J. Choi[3] *1. Power System Engineering, Chonnam National University, Yeosu, The Republic of Korea; 2. Hyundai Mobis, Yong-in, The Republic of Korea; 3. Chungnam National University, Daejeon, The Republic of Korea*

AQ-08. **Improved 3D Electromagnetic Analytical Model of an Axial Flux Magnetic Coupling With Rectangular Shaped Permanent Magnets.** A. Zerioul[1], L. Hadjout[1], *S. Mezani*[2] and Y. Ouazir[1] *1. LSEI-Université des Sciences et Technologie Houari Boumediene (USTHB), Algiers, Algeria; 2. Laboratoire GREEN - FST, Université de Lorraine, Nancy, France*

AQ-09. **Modeling and Electromagnetic Performance Analysis of the Novel DC Hybrid Magnetic Bearing With Crossed Poles.** *T. Zhang*[1] and Z. Wang[1] *1. Huaiyin Institute of Technology, Huaian, China*

AQ-10. **Quickly and High-Precision Digital Twin Device-Level Simulation Modeling of Permanent Magnet Synchronous Generator and Voltage Stabilizing System.** *R. Sun*[1], D. Yang[1], D. Shi[1], L. Zhuo[1,2] and H. Peng[1] *1. National Engineering Research Center for Small and Special Precision Motors, Guizhou Aerospace Linquan Motor Co., Ltd, Guiyang, China; 2. Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China*

AQ-11. **Robust Multi-Objective Optimization Design of Permanent Magnet Motors Based on Objective-Dimension-Reduced Method.** *L. Quan*[1], Y. Lu[1] and J. Wu[1] *1. Jiangsu University, Zhenjiang, China*

AQ-12. **Robust Optimization Design for PMBL Machine Considering Permanent Magnet Material Uncertainties.** *J. Wu*[1], X. Zhu[1] and D. Fan[1] *1. Jiangsu University, Zhenjiang, China*

Session AR
DESIGN OPTIMIZATION OF PERMANENT MAGNET ELECTRICAL MACHINES
(Poster Session)

Metin Aydin, Chair
Kocaeli University, Umuttepe, Izmit, Turkey

AR-01. **Topology Optimization of Consequent-Pole PMSM Using on/OFF Method.** *Z. Sun*[1,2], K. Watanabe[1] and X. Xu[2] *1. Muroran Institute of Technology, Muroran, Japan; 2. Henan Polytechnic University, Jiaozuo, China*

AR-02. **Influence of Split Ratio on Field Modulation Effect in Consequent-Pole Permanent Magnet Machine.** *Y. Li*[1], H. Yang[1] and H. Lin[1] *1. Southeast University School of Electrical Engineering, Nanjing, China*

AR-03. **Design and Optimization of Fractional Slot Concentrated Windings Interior Permanent Magnet Traction Motor Considering Anti-Demagnetization Capability.** *T. Huynh*[1], J. Peng[1], M. Hsieh[1] and P. Huang[2] *1. Electrical Engineering, National Cheng Kung University, Tainan, Taiwan; 2. Electrical Motor Technology Research Center, National Cheng Kung University, Tainan, Taiwan*

AR-04. **Optimization of a New Asymmetric-Hybrid-PM Machine With High Torque Density and Low Torque Ripple Considering the Difference of Magnetic Materials.** *Y. Chen*[2], T. Cai[2], X. Zhu[1] and Y. Ding[2] *1. Jiangsu University, Zhenjiang, China; 2. Yangzhou University, Yangzhou, China*

AR-05. **Design and Optimization of New Flux-Concentrating Rotors Combining Halbach PM Array and Spoke-Type IPM for PMSM.** *J. Wang*[1], W. Geng[1], Q. Li[1] and L. Li[1] *1. College of Automation Engineering, Nanjing University of Science and Technology, Nanjing, China*

AR-06. **Multi-Objective Tradeoff Designs of Rotor Flux-Barrier in a Multi-Layered IPM Machines for EV Applications.** *Z. Chen*[1] *1. Nanjing University of Aeronautics and Astronautics, Nanjing, China*

AR-07. **Robust Design Optimization Based on Separated Surrogate Model Method for IPMSM.** *C. Kim*[1], S. Jun[1] and S. Jung[1] *1. Department of Electrical and Computer Engineering, Sungkyunkwan University College of Information and Communication Engineering, Suwon, The Republic of Korea*

AR-08. **Tornado Optimization With Pattern Search Method for Optimal Design of IPMSM.** *C. Wi*[1] and D. Lim[1] *1. University of Ulsan, Ulsan, The Republic of Korea*

AR-09. **Torque Ripple and Cogging Torque Reduction Method of IPMSM Using Asymmetric Shoe of Stator and Notch in Stator.** *J. Moon*[1], D. Lee[3] and D. Kang[2] *1. Dept. of Electrical and Electronic Convergence System Engineering, Keimyung University, Daegu, The Republic of Korea; 2. Dept. of Electrical Energy Engineering, Keimyung University, Daegu, The Republic of Korea; 3. Dept. of Electronic and Electrical Engineering, Keimyung University, Daegu, The Republic of Korea*

AR-10. **A Novel Structure Design About Nonidentical Slotted Concentric Winding.** *H. Kim*[1], D. Kang[1], S. Kang[1], Y. Kim[2] and S. Jung[1] *1. Department of Electrical and Computer Engineering, Sungkyunkwan University, Jongno-gu, The Republic of Korea; 2. Department of Electrical Engineering, Chosun University, Gwangju, The Republic of Korea*

AR-11. **Withdrawn**

AR-12. **Optimal Design of IPMSM for EV Using Subdivided Kriging Multi Objective Optimization.** *J. Ahn*[1], S. Park[2], M. Baek[2] and D. Lim[1] *1. University of Ulsan, Ulsan, The Republic of Korea; 2. Korea Electrotechnology Research Institute, Changwon, The Republic of Korea*

AR-13. **Design and Analysis of a Low Torque Ripple Inset-Permanent-Magnet Motor Considering Multi-Harmonic Injection.** *Y. Xu*[1], L. Quan[1] and W. Pu[1] *1. Jiangsu University, Zhenjiang, China*

AR-14. **Multi-Variable Multi-Objective Optimization Algorithm for Optimal Design of PMa-SynRM for Electric Bicycle.** *J. Son*[1], K. Lee[2] and D. Lim[1] *1. Department of Electrical and Computer Engineering, University of Ulsan, Ulsan, The Republic of Korea; 2. Korea Railroad Research Institute, Uiwang, The Republic of Korea*

AR-15. **A Study on the Optimal Design and Analysis of Outer Rotor Surface Permanent Magnet Synchronous Generator for Charging Battery of Electric Vehicle.** *H. Kim*[1], Y. Park[1], S. Oh[1] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea*

AR-16. **A Study on the Comparison of Power Characteristics of Slotless Motor by the Permanent Magnet Shape.** *Y. Park*[1], H. Kim[1], S. Oh[1], C. Jin[2] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea; 2. Electrical Engineering, Wonkwang University, Iksan, The Republic of Korea*

AR-17. **Research on Flux Regulating Characteristics of Built-in Permanent Magnet Motor IPM Synchronous Motor for Multiple Operating Conditions.** *W. Wu*[1], Y. Sun[1], Q. Chen[1] and L. Gao[1] *1. School of Automotive Engineering, Changsu Institute of Technology, Changshu, China*

AR-18. **Research on Polar Anisotropic Molding Yoke Shape to Reduce Dead Zone of Ring Type Bond Magnets.** *J. Min*[1], D. Nam[1] and W. Kim[1] *1. Electrical Engineering, Gachon University, Seongnam, The Republic of Korea*

Session AS
ELECTRIC DRIVE APPLICATIONS, TRANSFORMERS AND WIRELESS POWER TRANSFER II (Poster Session)

Kyung-Hun Shin, Chair
Chonnam National University, Yeosu, The Republic of Korea

AS-01. **The Electric Vehicle Wireless Charging Application Oriented Coupler Robust Optimization Design With Multiple Series Unipolar Coils.** *L. Li*[1], Z. Wang[1], Z. Feng[1], J. Deng[1], S. Wang[1] and D.G. Dorrell[2] *1. Faculty of Mechanical Enginnering, Beijing Institute of Technology, Beijing, China; 2. The University of Witwatersrand, South Africa, Johannesburg, South Africa*

AS-02. **Decoupled-Double D Coils Based Dual-Resonating-Frequency Compensation for Wireless Power Transfer.** *H. Pang*[1], K. Chau[1], W. Han[3], W. Liu[1] and Z. Zhang[2] *1. University of Hong Kong, Hong Kong; 2. Tianjin University, Tianjin, China; 3. University of Toronto, Toronto, ON, Canada*

AS-03. **Design, Manufacture, and Test of a Contactless Power Transfer Device for Rotating System.** Y. Zhang[1], J. Yang[1], D. Jiang[1], *D. Li*[1] and R. Qu[1] *1. Huazhong University of Science and Technology, Wuhan, China*

AS-04. **Active Shielding Coil Design for Wireless Charging System of Electric Vehicle.** *M. Mi*[1], Y. Li[1], Q. Yang[1], P. Zhang[1] and W. Zhang[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

AS-05. **Propulsion of Magnetic Material Embedded Microrobot in Tubes Based on Wireless Power Transfer System.** *D. Kim*[1] *1. Automotive Engineering, Yeungnam University, Gyeongsan, The Republic of Korea*

AS-06. **Modeless Prediction of Variable Coupling Effect for Multiple-Pickup Wireless Power Transfer.** S. Shen[1], Z. Zhang[1] and *Y. Wu*[1] *1. Tianjin University, Tianjin, China*

AS-07. **Brushless DC Motor Driver and Control System Based on Simultaneous Wireless Information and Power Transfer.** Y. Li[1], *H. Zhang*[1], J. Wu[1], J. Yin[1], M. Wang[1] and J. Zhang[1] *1. Zhengzhou University of Light Industry, Zhengzhou, China*

AS-08. **Analysis and Comparison of Variable Positioning Wireless Power Transfer Using Multi-Axis Coil.** *Y. Kim*[1], D. Um[1] and G. Park[1] *1. Electrical Engineering, Pusan National University, Busan, The Republic of Korea*

AS-09. **Thermal Network Model of a SCB2500kVA Dry-Type Transformer Coupled With Electromagnetic Loss.** *Y. Chen*[2,1], Q. Yang[3], C. Zhang[2,1], Y. Li[2,1] and X. Li[2,1] *1. Hebei University of Technology, Tianjin, China; 2. Hebei University of Technology State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 3. Tianjin University of Technology, Tianjin, China*

AS-10. **Fourier-Based Semi-Analytical Method for Current Distribution of Foil Wound Solid-State Transformers.** *S. Pourkeivannour*[1], M. Curti[1] and E. Lomonova[1] *1. Electrical Engineering, Technische Universiteit Eindhoven Faculteit Industrial Engineering and Innovation Sciences, Eindhoven, Netherlands*

AS-11. **Study of Vibration and Noise Considering DC Bias in Power Transformer.** *Z. Xin*[1], D. Chen[1], H. Yao[1], B. Bai[1] and D. Fang[2] *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China; 2. Tieling Power Supply Company, State Grid Liaoning Electric Power Supply Co Ltd, Shenyang, China*

AS-12. **Study on Vibration and Noise Characteristics of Nanocrystalline High-Frequency Transformer.** *P. Zhang*[1], L. Li[2], Y. Jia[1] and L. Li[3] *1. School of Mechanical Electronic and Information Engineering, China University of Mining and Technology (Beijing), Beijing, China; 2. North China power control sub-center of State Grid, Beijing, China; 3. State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources (North China Electric Power University), Beijing, China*

AS-13. **Study of Electromagnetic Characteristics of Silicon Steel Sheet and Transformer Vibration Under Different Tension/ Compression Stress.** *H. Yao*[1], D. Chen[1] and B. Bai[1] *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China*

AS-14. **Study of Magnetic Properties of Ultra-Thin Silicon Steel Sheet and Medium Frequency Transformer.** *X. Cao*[1], D. Chen[1], Y. Wang[1], S. Zhang[1] and B. Bai[1] *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China*

AS-15. **Study of Loss and Temperature Considering Different Shielding Structure in Power Transformer.** B. Bai[1], *X. Cui*[1,2] and D. Chen[1] *1. Shenyang University of Technology, Shenyang, China; 2. Shenyang Institute of Engineering, Shenyang, China*

AS-16. **Research on Structure Loss Separation of Power Transformer.** *X. Cui*[1,2], D. Chen[1] and B. Bai[1] *1. Shenyang University of Technology, Shenyang, China; 2. Shenyang Institute of Engineering, Shenyang, China*

Session AT
MAGNETIC BEARINGS AND MAGNETIC LEVITATION
(Poster Session)

Somporn Ruangsinchaiwanich, Chair
Naresuan University, Thailand, Phitsanuloke, Thailand

AT-01. **New Levitation Scheme With Traveling Magnetic Electromagnetic Halbach for EDS MAGLEV System.** *W. Qin*[1] *1. Electrical Engineering, Beijing Jiaotong University, Beijing, China*

AT-02. **Levitation Force and Lateral Force Analysis of a Large-Load Magnetic Levitation Gravity Compensator With Two-Dimensional Permanent Magnet Array.** *H. Zhang*[1], L. Zhou[1], B. Kou[1] and Y. Liu[1] *1. Harbin Institute of Technology, Harbin, China*

AT-03. **Modeling and Finite Element Analysis on the Novel Double-Stator Hybrid Magnetic Bearing.** *X. Ye*[1], Z. Wang[1], T. Zhang[1] and Q. Lu[1] *1. Huaiyin Institute of Technology, Huaian, China*

AT-04. **Electromagnetic Analysis of a Novel Axial-Radial Four-Pole DC Hybrid Magnetic Bearing.** *S. Wu*[1], Z. Wang[1] and T. Zhang[1] *1. Huaiyin Institute of Technology, Huaian, China*

AT-05. **Development of a 120W Bearingless Maglev Motor for Centrifugal Pumps.** *C. Wang*[1], S. Nain[1], S. Liou[1] and G. Chen[1] *1. Industrial Technology Research Institute, Hsinchu, Taiwan*

AT-06. **Design of the HTS Magnetic Bearing Rotor Incorporated the Secondary of the Induction Motor.** *M. Minamitani*[1], S. Takimura[1] and S. Ohashi[1] *1. Kansai University, Suita, Japan*

AT-07. **A Suspension Performance Comparison of the Bearingless Axial Motor With Different Number of the Rotor Poles and Stator Slots.** *T. Pei*[1], D. Li[1], J. Liu[1], W. Kong[1] and R. Qu[1] *1. Huazhong University of Science and Technology State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Wuhan, China*

AT-08. **Electromagnetic Analysis of a Novel AC Six-Pole Hybrid Magnetic Bearing.** *T. Zhang*[1], Z. Zhou[1] and Z. Ding[1] *1. Huaiyin Institute of Technology, Huaian, China*

Session AU
ELECTRIC DRIVE APPLICATIONS, TRANSFORMERS AND WIRELESS POWER TRANSFER III (Poster Session)

Kazuhiro Muramatsu, Chair
Saga University, Saga, Japan

AU-01. **Magnetoelectric Inductor Tuned by Electric and Magnetic Fields.** *D.V. Savelev*[1], L.Y. Fetisov[1], D.V. Chashin[1] and Y.K. Fetisov[1] *1. MIREA - Russian Technological University, Moscow, Russian Federation*

AU-02. **High Efficiency Eddy Current Couplings.** S.J. Alshammari[1], P. Lazari[1] and *K. Atallah*[1] *1. Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom*

AU-03. **Compact Wireless Motor Drive Using Decoupled Bipolar Coils for Coordinated Operation of Robotic Arms.** *W. Han*[1], K. Chau[2], Z. Hua[2] and H. Pang[2] *1. Department of Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada; 2. Department of Electrical and Electronics Engineering, The University of Hong Kong, Hong Kong*

AU-04. **A Study on Optimal Design of Induction Heater for Electric Vehicle Considering Proximity Effect and Skin Effect.** *H. Shin*[1], C. Lee[1], I. Song[1] and B. Lee[2] *1. Hanbat National University, Daejeon, The Republic of Korea; 2. Samhyun, Changwon, Gyeongsangnam-do, The Republic of Korea*

AU-05. **Research on Iron Loss Characteristics of a Variable-Leakage-Flux Permanent Magnet Motor Considering Multiple Operation Conditions.** *Z. Wan*[1], X. Zhu[1] and X. Zhou[1] *1. Jiangsu University, Zhenjiang, China*

AU-06. **Closed-Form Electromagnetic Field Coupling to Transmission Line Model Exploiting the Reciprocity Theorem.** *T. Liang*[1] and Y. Xie[1] *1. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China*

AU-07. **Design and Experimental Verification of DC Superconducting Current-Limiting Switch.** *Z. Cai*[1], l. Ren[1], X. Tan[1], H. Zheng[1], Z. Li[1] and Y. Tang[1] *1. State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology, Wuhan, China*

AU-08. **Influence of Current Harmonics on Mechanical Noise of Interior Permanent Magnet Synchronous Motor Driven by SVPWM Control.** *H. Shin*[1], G. Jang[1], T. Bang[1], G. Park[2], Y. Baek[2] and J. Choi[1] *1. Chungnam National University, Daejeon, The Republic of Korea; 2. LG Electronics First Changwon Plant, Changwon, The Republic of Korea*

AU-09. **Analysis and Calculation of Magneto-Thermal-Structure Coupling of Double-Skewed Induction Motor Based on Multiphysics Field.** *G. Chen*[1], X. Bao[1], C. Di[1], W. Xu[1], R. Zhu[1] and J. Li[1] *1. Hefei University of Technology, Hefei, China*

AU-10. **Prediction of Iron Loss With Combined Nonlinear and Linear Finite Element Analysis Considering Current Harmonics by PWM.** *X. Gu*[1], J. Ryu[1], J. Chin[1] and M. Lim[1] *1. Automotive Engineering, Hanyang University, Seoul, The Republic of Korea*

AU-11. **Magnetic-Thermal Coupling Analysis of Anode Saturable Reactor.** *Y. Chen*[1,2], Q. Yang[3], C. Zhang[1,2], Y. Li[1,2] and J. Wang[1,2] *1. Hebei University of Technology, Tianjin, China; 2. Hebei University of Technology State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 3. Tianjin University of Technology, Tianjin, China*

AU-12. **Influence of Uneven Axial Temperature Distribution on Axial Unbalanced Magnetic Force in PM Machines With Different Rotor Skew Types.** *Y. Du*[1], L. Wu[1] and H. Wen[1] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, China*

AU-13. **Withdrawn**

AU-14. **Research on Electromagnetic Control of Robot Arm Using Smart Motor Combined With Internet of Things.** *C. Hsu*[1] *1. Mechanical Engineering, Oriental Institute of Technology, Panchiao, Taiwan*

ON-DEMAND SESSIONS

Session AV
VIBRATION ANALYSIS AND ENERGY HARVESTING APPLICATIONS (Poster Session)

Daniele Davino, Chair
Universita degli Studi del Sannio Dipartimento di Ingegneria, Benevento, Italy

AV-01. **Dependence of the Vibration Energy and Frequency on the Charging Characteristics and the Damping Characteristics of the Linear Synchronous Generator.** *T. Azuma*[1], T. Maruyama[1] and S. Ohashi[1] *1. Electrical and Electronic Engineering, Kansai University, Suita, Japan*

AV-02. **Modal Frequency Calculation of Stator Assembly of the Electrical Machine Considering Interference Fit and Orthogonal Properties of Materials.** *F. Liu*[1], P. Zheng[1], M. Wang[1], G. Qiao[1] and S. Zhang[1] *1. School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China*

AV-03. **Vibration Reduction of IPMSM With Asymmetric Rotor Shape Under Certain Load Condition.** *S. Woo*[1], J. Kim[1], J. Park[1], S. Park[1] and M. Lim[1] *1. Automotive Engineering, Hanyang University, Seongdong-gu, The Republic of Korea*

AV-04. **Modeling and Low-Power Design of Advanced Galfenol Nonlinear Coupled Energy Harvesting System.** *S. Cao*[1], C. Zhao[1], J. Zheng[1] and R. Yan[1] *1. Hebei University of Technology, Tianjin, China*

AV-05. **Research on Performance of Magnetic Fluid Triboelectric Nanogenerator.** *X. Yang*[1], Y. Chen[2], Y. Zhang[1] and W. Yang[2] *1. Hebei University of Science and Technology, Shijiazhuang, China; 2. Hebei University of Technology, Tianjin, China*

TUESDAY
9:00 AM EUROPE CEST

LIVE Q&A SESSIONS

Session BA
ELECTRICAL MACHINES AND DRIVES 2020 AND BEYOND

Amr Adly, Chair
Cairo University, Giza, Egypt

BA-01. **Getting rid of Critical raw Materials in Hard Magnets: is it Feasible?** ***(Invited)*** *F. Mazaleyrat*[1] *1. Electrical engineering, Ecole Normale Superieure Paris-Saclay, Gif-sur-Yvette, France*

BA-02. **Integration of Electrical Machine and Drive.** ***(Invited)*** *J.J. Paulides*[1] and L. Encica[1] *1. R&D, AE-Group www.ae-grp.nl, Waalwijk, Netherlands*

BA-03. **HTS Machines.** ***(Invited)*** *S. Mezani*[1], B. Dolisy[1], L. Belguerras[1], T. Lubin[1], J. Lévêque[1] and A. Rezzoug[1] *1. Groupe de Recherche en Energie Electrique de nancy, Universite de Lorraine, Nancy, France*

BA-04. **A Review of Electric Aircraft Drivetrain Motor Technology.** ***(Invited)*** *J. Bird*[1,2] *1. Portland State University, Portland, OR, United States; 2. FluxMagic, Inc., Portland, OR, United States*

BA-05. **Novel Asymmetric Rotor Pole Interior Permanent Magnet Machines With Enhanced Torque Density: An Overview.** ***(Invited)*** *Z. Zhu*[1] and Y. Xiao[1] *1. The University of Sheffield, Sheffield, United Kingdom*

BA-06. **Hybrid Excited Synchronous Machines.** ***(Invited)*** *S. Hlioui*[1], M. Gabsi[2], H. Ben Ahmed[3], G. Barakat[4] and Y. Amara[4] *1. SATIE Laboratory, Conservatoire National des Arts et Metiers, Paris, France; 2. SATIE Laboratory, Ecole Normale Superieure Paris-Saclay, Gif-Sur-Yvettes, France; 3. SATIE Laboratory, Ecole Normale Superieure de Rennes, Bruz, France; 4. GREAH Laboratory, Universite du Havre, Le Havre, France*

Session BB
DUAL WINDING AND PERMANENT MAGNET MEMORY MACHINES

Jonathan Bird, Co-Chair
Portland State University, Portland, OR, United States
Johan Paulides, Co-Chair
Advanced Electromagnetics Group, Waalwijk, Netherlands

BB-01. **Split Ratio Investigation of Double Stator Permanent Magnet Motor Considering Multimode Operation.** *D. Fan*[1], Z. Xiang[1] and X. Zhu[1] *1. Jiangsu University, Zhenjiang, China*

BB-02. **Analytical Modelling, Optimization and Electromagnetic Performance Analysis of Electrically Excited Flux Switching Motor.** *B. Khan*[1], F. Khan[1], W. Ullah[1], E. Sulaiman[2] and B. Ullah[1] *1. Electrical & Computer Engineering, COMSATS University Islamabad, Abbottabad, Pakistan; 2. Department of Electrical Power Engineering, Universiti Tun Hussein Onn Johore, Johore, Malaysia*

BB-03. **A Novel Stator Cooling Construction for Yokeless and Segmented Armature Axial Flux Machine With Heat Pipe.** *W. Le*[1], M. Lin[1], L. Jia[1] and S. Wang[1] *1. Southeast University, Nanjing, China*

BB-04. **Research on an Asymmetric-Primary Axis-Flux Hybrid-Excitation Generator for the Vertical Axis Wind Turbine.** *J. Liu*[1], Q. Zhang[1] and J. Chen[1] *1. China University of Petroleum Huadong, Qingdao, China*

BB-05. **An Improved Dual-Stator Cup Rotor Interior Permanent Magnet Synchronous Machine.** *M.M. Zaid*[1,2], H. Ahmad[1], I. Sami[1] and A. Waheed[1] *1. Chung-Ang University, Seoul, The Republic of Korea; 2. Milim Syscon Co, Ltd., Seongnam-si, The Republic of Korea*

BB-06. **Fault-Tolerant Control for a Six-Phase Two-Controllable-Rotor Motor.** *H. Suzuki*[1], K. Hirata[1], N. Niguchi[1] and K. Takahara[1] *1. Graduate School of Engineering, Osaka University, Suita, Japan*

BB-07. **Ultra High-Field, High-Efficiency Superconducting Machines for Offshore Wind Turbines.** *T. Balachandran*[1], D. Lee[1], A. Yoon[1] and K. Haran[1] *1. Hinetics LLC, Champaign, IL, United States*

BB-08. **A sub-Harmonically Excited Novel Brushless Wound Rotor Synchronous Machine Using a new two-Layer Winding Topology.** *S.H. Rafin*[1] and Q. Ali[2] *1. Electrical and Electronic Engineering, Northern University Bangladesh, Dhaka, Bangladesh; 2. Electrical Engineering, Sukkur IBA University, Sukkur, Pakistan*

BB-09. **Investigation of a Novel Consequent-Pole Variable Flux Memory Machine With Reduced Magnetization Current.** *H. Yang*[1,2], R. Tu[1] and H. Lin[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. The Hong Kong Polytechnic University, Kowloon, Hong Kong*

BB-10. **Design and Analysis of a Novel Series-Parallel Variable Flux Machine With Segmented Hybrid Permanent Magnets.** *M. Wang*[1], P. Zheng[1,2], C. Tong[1], G. Qiao[1] and F. Liu[1] *1. School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China; 2. State Key Laboratory of Robotics and System, Harbin Institute of Technology, Harbin, China*

ON-DEMAND SESSIONS

Session BC
HIGH-SPEED MACHINES AND RELUCTANCE MACHINES

Jian-Xin Shen, Chair
Zhejiang University, Hangzhou, China

BC-01. **Permanent Magnet Synchronous Reluctance Machines With Axially Combined Rotor Structure.** ***(Invited)*** *J. Shen*[1,2], X. Qin[1], Y. Lin[1], Y. Sun[1], W. Wan[1] and S. Cai[3,1] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, China; 2. Zhejiang Provincial Key Laboratory of Electrical Machine Systems, Hangzhou, China; 3. Nanyang Technological University, Singapore, Singapore*

BC-02. **Analytical Analysis of the Eccentricity Effect in Slotted Ultra-High Speed Axial Flux Permanent Machines.** *G. Cao*[1], W. Cheng[1], Z. Deng[1], L. Xiao[1] and M. Li[1] *1. College of Science, Xi'an University of Science and Technology, Xi'an, China*

BC-03. **Design and Optimization of a Slotless High-Speed Permanent-Magnet Synchronous Motor With Non-Magnetic Fillers in Stator.** Y. Wan[1], *L. Zhu*[1], Y. Jia[2], N. Meng[1], J. Guo[1] and X. Jiang[1] *1. School of automation, Nanjing University of Science and Technology, Nanjing, China; 2. Aviation Key Laboratory of Science and Technology on Aero Electromechanical system integration, AVIC Nanjing Engineering Institute of Aircraft System, Nanjing, China*

BC-04. **Experimental Study on Remanence Variation of Permanent Magnets for High-Speed Machines.** *J. Shen*[1,2], H. Cao[1], Y. Zhang[1] and Y. Wang[1,2] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, China; 2. Zhejiang Provincial Key Laboratory of Electrical Machine Systems, Hangzhou, China*

BC-05. **Analysis and Experimental Verification of Segmented Rotor Structure on Rotor Eddy Current Loss of High-Speed Surface-Mounted Permanent Magnet Machine.** *W. Tong*[1], M. Hou[1], L. Sun[1] and S. Wu[1] *1. National Engineering Research Center for Rare-Earth Permanent Magnet Machines, Shenyang University of Technology, Shenyang, China*

BC-06. **Impact of Rotor Eccentricity and Current Harmonics on High-Speed Permanent Magnet Generator Performance for Microturbine Applications.** *T. Huynh*[1] and M. Hsieh[1] *1. Electrical Engineering, National Cheng Kung University, Tainan, Taiwan*

Session BD
LINEAR MACHINES, ELECTROMAGNETIC ACTUATORS AND APPLICATIONS

David Bowen, Chair
University of Maryland, College Park, MD, United States

BD-01. **Analysis of Magnetic Gearing Effect in Field-Modulated Hybrid Excitation Transverse Flux Linear Generator for Direct Drive Wave Energy Conversion.** *M. Chen*[1], L. Huang[1], Y. Li[1], P. Tan[1], G. Ahmad[1], Y. Liu[1] and M. Hu[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

BD-02. **Design and Analysis of a Three-Degree-of-Freedom Linear Oscillatory Actuator Integrated With Support Mechanism.** *R. Nakamura*[1], A. Heya[2] and K. Hirata[1] *1. Division of Materials and Manufacturing Science, Osaka University, Suita, Japan; 2. Department of adaptive machine systems, Osaka University, Suita, Japan*

BD-03. **Eddy Current Analysis and Optimization Design of Linear Induction Motors With Different Secondary Topologies Based on XGBoost.** *S. Wu*[1] and Q. Lu[1] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, China*

BD-04. **An Ironless Planar Translational Permanent Magnet Generator for sea-Wave Energy Conversion.** *M. Trapanese*[1], D. Curto[1] and V. Franzitta[1] *1. Dipartimento di Ingegneria, Università di Palermo, Palermo, Italy*

BD-05. **Optimization of the Excitation Method of the Propulsion Coils in the Permanent Magnet-HTS Hybrid Magnetically Levitated Conveyance System.** *S. Ohashi*[1] *1. Electrical and Electric Engineering, Kansai University, Suita, Japan*

BD-06. **Reduction of Rotational Vibration Using Coriolis Force Generated by Electromagnetic Oscillatory Actuator Moving in Radial Direction.** *M. Kato*[1] and F. Kitayama[1] *1. Ibaraki University, Hitachi, Japan*

BD-07. **Design and Experimental Analysis of Novel Hybrid Excited Linear Flux Switching Machine With Unequal Primary Tooth Width and Segmented Secondary.** *N. Ullah*[1,2], F. Khan[1] and A. Basit[2] *1. Department of Electrical and Computer Engineering, COMSATS University Islamabad, (Abbottabad Campus), Abbottabad, Pakistan; 2. Department of Electrical Energy System Engineering, University of Engineering and Technology, Peshawar, Pakistan*

BD-08. **Numerical Analysis of Magnetic Soliton Excited on Nonlinear LC Ladder Circuit Array Using Permanent Magnet Flux Biased Inductor.** *M. Kato*[1], S. Lee[2] and K. Hirata[2] *1. Ibaraki University, Mito, Japan; 2. Osaka University, Suita, Japan*

BD-09. **Proposal of Novel Multiple-Degree-of-Freedom Voice Coil Actuator.** *A. Heya*[1] and K. Hirata[2] *1. Department of Adaptive Machine Systems, Osaka University, Suita, Japan; 2. Division of Materials and Manufacturing Science, Osaka University, Suita, Japan*

BD-10. **Core Loss Reduction of Tubular Flux-Switching Permanent Magnet Machine With Hybrid Magnetic Core.** *S. Wang*[1,2], Y. Wang[1,2], C. Liu[1,2], G. Lei[3], Y. Guo[3] and J. Zhu[4] *1. Hebei University of Technology, Tianjin, China; 2. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tiajin, China; 3. University of Technology Sydney, Sydney, NSW, Australia; 4. School of Electrical and Information Engineering, University of Sydney, Sydney, NSW, Australia*

BD-11. **Translator Eccentricity Analysis in Tubular Linear Machines Using Quasi-3D Finite Element Method Modeling.** *H. Diab*[1], Y. Amara[1], G. Barakat[1] and M. Ghandour[2] *1. GREAH, Universite du Havre, Le Havre, France; 2. Universite Libanaise Faculte de Genie, Beirut, Lebanon*

ON-DEMAND SESSIONS

Session BE
MAGNETIC BEARINGS AND MOTOR MATERIAL MODELLING

Jonathan Bird, Co-Chair
Portland State University, Portland, OR, United States
Wei Qin, Co-Chair
Beijing Jiaotong University, Beijing, China

BE-01. **Parameter Identification of Preisach Model Based on the Conjugate Gradient Method and Velocity-Controlled Particle Swarm Optimization.** *L. Chen*[1,2], Q. Yi[1,3], T. Ben[1,2], Z. Zhang[1,3] and Y. Wang[2] *1. College of Electrical Engineering and New Energy, China Three Gorges University, Yichang, China; 2. State Key Laboratory of Reliability and Intelligence of Electrical Equipment Hebei University of Technology, Hebei University of Technology, Tianjin, China; 3. Hubei Provincial Engineering Technology Research Center for Power Transmission Line, China Three Gorges University, Yichang, China*

BE-02. **Design of Innovative Radial Flux Permanent Magnet Motor Alternatives With Non-Oriented and Grain-Oriented Electrical Steel for Servo Applications.** B. Ozdincer[2] and *M. Aydin*[1] *1. Mechatronics Engr., Kocaeli Universitesi, Kocaeli, Turkey; 2. Akim Metal Sanayi ve Ticaret A S, Istanbul, Turkey*

BE-03. **Additively Manufactured Fe-3Si Stator for High-Performance Electrical Motor.** *T. Lamichhane*[1], C. Chinnasamy[2], F. List[1], K. Carver[1], B. Andrews[1] and P.M. Paranthaman[1] *1. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Carpenter Technology Corporation, Philadelphia, PA, United States*

BE-04. **Reduction of Materials Criticality in Hybrid Manufacturing of Halbach Arrays Using Sintered NdFeB Magnets and Additively Manufactured Soft Magnetic Frame.** *T. Lamichhane*[1], B. Andrews[1], A. Dalganan[1], T. Charlton[2], M. Doucet[2], V. Lauter[2], J. Katsaras[2] and P.M. Paranthaman[1] *1. Chemical Science, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. SNS, Oak Ridge National Laboratory, Oak Ridge, TN, United States*

BE-05. **A Novel Hybrid Axial Magnetic Bearing That Produces a Unidirectional Electromagnetic Force.** *C. Yu*[1], Z. Deng[1], L. Mei[2], C. Peng[1] and S. Chen[1] *1. College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. College of Electrical Engineering and Control Science, Nanjing Tech University, NanJing, China*

BE-06. **Design of a Stiffness Control Actuator Utilizing Magneto-Elastic Actuation.** *L. Cheng*[1] and J. Chang[1] *1. Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan*

BE-07. **A Constant Stiffness Magnetic Bearing.** *R. Bjørk*[1] and C.R. Bahl[1] *1. Department of Energy Conversion and Storage, Danmarks Tekniske Universitet, Lyngby, Denmark*

ON-DEMAND SESSIONS

Session BF
MAGNETIC GEARING

Kais Atallah, Chair
University of Sheffield, Sheffield, United Kingdom

BF-01. **Design of Bridged Flux Modulators in Coaxial Magnetic Gear Considering Mechanical Stress.** *Y. Zhan*[1], K. Wang[1], Z. Ying[1], G. Xu[1] and H. Zhao[1] *1. School of Electrical and Electronic Engineering, North China Electric Power University, Beijing, China*

BF-02. **Influence of Magnetic Interaction on Power Factor and Efficiency of IPM-Type Magnetic-Geared Motor.** *K. Ito*[1] and K. Nakamura[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan*

BF-03. **Pseudo Direct Drive Electrical Machine for a Floating Marine Current Turbine.** *R. Dragan*[1], R. Barrett[1], S.D. Calverley[1], J. Moreu[3] and K. Atallah[2] *1. Magnomatics Ltd, Sheffield, United Kingdom; 2. Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom; 3. Seaplace, Madrid, Spain*

BF-04. **Magnetically Geared Propulsion Motor for Subsea Remote Operated Vehicle.** *G. Cooke*[1], R. Barrett[1], R. Dragan[1], D. Powell[1], S. Graham[3] and K. Atallah[2] *1. Magnomatics Ltd, Sheffield, United Kingdom; 2. Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom; 3. Soil Machine Dynamics Ltd, Wallsend, United Kingdom*

BF-05. **Optimization Algorithms for Performance Calculation of Rotating Cylinder Planetary Gear.** *Y. Zhan*[1], Z. Zhang[1], X. Yuan[1], H. Zhao[1] and G. Xu[1] *1. School of Electrical and Electronic Engineering, North China Electric Power University, Beijing, China*

BF-06. **Analytical Modeling of an Axial Flux Magnetic-Geared Double-Rotor Machine With Interior-Modulating-Rotor.** *J. Lang*[1], C. Tong[1], J. Bai[1], P. Zheng[1] and J. Liu[1] *1. Electrical Engineering, Harbin Institute of Technology, Harbin, China*

BF-07. **Optimization Design of Performance and its Cost of a Novel Magnetic Lead Screw by Combination of Different Permanent Magnet Materials.** *Y. Liu*[1], H. Yu[1], Y. Wang[1], Q. Zhang[1] and M. Chen[1] *1. College of Electrical Engineering, Southeast University, Nanjing, China*

BF-08. **Dinamyc Magnetic Gear: Different Topologies and Magnetization and Demagnetization Assessment.** K. Marques de Andrade Júnior[1], C.G. da Costa Neves[2], A.F. Flores Filho[3] and *G. Teixeira de Paula*[1] *1. Universidade Federal de Goias Escola de Engenharia Eletrica Mecanica e de Computacao, Goiania, Brazil; 2. Universidade Federal de Pelotas, Pelotas, Brazil; 3. Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil*

BF-09. **Analysis of Magnetic Coupling Between Armature and Field Windings of Variable Flux Reluctance Machine.** *H. Gurleyen*[1] *1. Usak Universitesi, Usak, Turkey*

BF-10. **Investigating the Performance Potential of High Gear Ratio Coaxial Magnetic Gears.** *H. Wong*[1] and J. Bird[1] *1. Maseeh College of Engineering and Computer Science, Portland State University, Portland, OR, United States*

BF-11. **Design and Analysis of Dual-Stator Flux-Switching Permanent Magnet Machine-Compressor With Asymmetric Rotor Poles.** B. Li[1], J. Zhu[2], *C. Liu*[1] and Y. Li[1] *1. Hebei University of Technology, Tianjin, China; 2. The University of Sydney, Sydney, NSW, Australia*

BF-12. **A Transversely-Dislocated Brushless Double-Rotor Machine Based on Magnetic-Field Modulation for Contra-Rotating Propeller.** *Y. Wang*[1], Y. Sui[1], J. Liu[1], G. Liu[1], P. Zheng[1] and L. Sun[1] *1. School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China*

BF-13. **Design, Build and Test of a Magnetically Geared Generator for Wind Turbine Applications.** ***(Invited)*** *S.D. Calverley*[1], R. Dragan[1], G. Cooke[1] and D. Powell[1] *1. Magnomatics Ltd, Sheffield, United Kingdom*

Session BG
SURFACE MOUNTED AND INTERIOR MOUNTED PERMANENT MAGNET ELECTRICAL MACHINES

Thierry Lubin, Chair
Lorraine University, Nancy, France

BG-01. **Flooded Permanent Magnet Direct-Drive Generator for Tidal Turbines.** ***(Invited)*** F. Wani[1] and *H. Polinder*[1] *1. Maritime & Transport Technology, Technische Universiteit Delft, Delft, Netherlands*

BG-02. **Electromagnetic Performance Analysis of a New Hybrid Excitation Synchronous Generator With Decoupling Magnetic Field.** *C. Wang*[1], Z. Zhang[1], Y. Liu[1], X. Kong[1,2] and Y. Hua[1] *1. College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. Jiangsu Province Key Laboratory of Aerospace Power System, Nanjing, China*

BG-03. **Design of a Novel Axial-Radial Flux Permanent Magnet Machine With Halbach-Array Permanent Magnets.** *R. Huang*[1,2], C. Liu[1,2], Z. Song[1,2] and H. Zhao[1,2] *1. School of Energy and Environment, City University of Hong Kong, Hong Kong SAR, China; 2. Shenzhen Research Institute, City University of Hong Kong, Shenzhen, China*

BG-04. **Impact of Asymmetric and Symmetric Overhangs on Torque Quality and Axial Magnetic Force Computations in Surface Mounted PM Synchronous Motors.** M. Onsal[2], Y. Demir[2] and *M. Aydin*[1] *1. Kocaeli Universitesi, Kocaeli, Turkey; 2. MDS Motor Ltd., Kocaeli, Turkey*

BG-05. **Design Optimization for Torque Ripple Reduction Using Asymmetric Rotor in IPMSM Considering Forward and Reverse Directions.** *J. Park*[1], J. Kim[1], S. Park[1], S. Lee[1], K. Kim[1] and M. Lim[1] *1. Department of Automotive Engineering, Hanyang University, Seongdong-gu, The Republic of Korea*

BG-06. **A Novel Hybrid Excited Machine With H-Type Modular Stator and Consequent Pole PM Rotor.** *W. Ullah*[1], F. Khan[1], E. Sulaiman[2], B. Khan[1] and M. Umair[1] *1. Electrical and Computer Engineering, COMSATS Institute of Information Technology - Abbottabad Campus, Abbottabad, Pakistan; 2. Electrical Power, Universiti Tun Hussein Onn Malaysia, Batu Pahat, Malaysia*

BG-07. **A New Harmonic Current Injection Technique to Reduce Cogging Torque in Axial Flux Permanent Magnet Motors.** *M. Tetik Girgin*[2] and M. Aydin[1] *1. Kocaeli Universitesi, Kocaeli, Turkey; 2. Akim Metal Sanayi ve Ticaret A S, Istanbul, Turkey*

BG-08. **Dual Stator Drum Rotor Interior Permanent Magnet Synchronous Motor With Improvement in Torque Density, and Rotor Alignment.** *M.M. Zaid*[1,2], A. Waheed[1], H. Ahmad[1] and I. Sami[1] *1. Chung-Ang University, Seoul, The Republic of Korea; 2. R&D, Milim Syscon Co. Ltd, Songnam, The Republic of Korea*

BG-09. **Comparative Analysis of Axial-Radial, Axial, and Radial Flux Permanent Magnet Machines.** *R. Huang*[1,2], C. Liu[1,2], Z. Song[1,2] and H. Zhao[1,2] *1. School of Energy and Environment, City University of Hong Kong, Hong Kong SAR, China; 2. Shenzhen Research Institute, City University of Hong Kong, Shenzhen, China*

BG-10. **Design and Optimization of a Novel Low-Cost Hybrid-Pole Rotor for Spoke-Type Permanent Magnet Machine.** *J. Han*[1], Z. Zhang[1], C. Wang[1] and J. Huang[1] *1. College of Automation, Nanjing University of Aeronautics and Astronautics, Nanjing, China*

BG-11. **A New IPMSM With Hybrid Rotor Structure for Electrical Vehicle With Reduced Magnet Loss.** W. Cui[1], *L. Ren*[1], J. Zhou[1] and Q. Zhang[1] *1. Shanghai University, School of Mechatronic Engineering and Automation,Shanghai University, Shanghai, China*

BG-12. **A Novel Two-Step Flux Linkage Identification for PMSMs Considering Magnetic Saturation and Spatial Harmonics.** *Y. Zuo*[1], S. Afrasiabi[1] and C. Lai[1] *1. Electrical and Computer Engineering, Concordia University, Montreal, QC, Canada*

BG-13. **Design of a New Consequent-Pole Segmented Dual-Stator Permanent Magnet Machine.** *G. Qu*[1] and Y. Fan[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

BG-14. **Optimization of Pole Segmentation Technique Applied to Permanent Magnet Synchronous Machines to Reduce the Cogging Torque Peak.** H. Emerenciano Santos[1], K. Marques de Andrade Júnior[1], A.F. Flores Filho[2], C.G. da Costa Neves[3] and *G. Teixeira de Paula*[1] *1. EMC, Universidade Federal de Goias Escola de Engenharia Eletrica Mecanica e de Computacao, Goiania, Brazil; 2. Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; 3. Universidade Federal de Pelotas, Pelotas, Brazil*

BG-15. **Sinusoidal, Trapezoidal and Harmonic Injection PWM Techniques Applied to the Pole Segmentation of Permanent Magnet Synchronous Machine to Reduce the Torque Ripple.** K. Marques de Andrade Júnior[1], A.F. Flores Filho[2], C.G. da Costa Neves[3] and *G. Teixeira de Paula*[1] *1. EMC, Universidade Federal de Goias Escola de Engenharia Eletrica Mecanica e de Computacao, Goiania, Brazil; 2. Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; 3. Universidade Federal de Pelotas, Pelotas, Brazil*

Session BH
ADVANCES IN (SEMI)-ANALYTICAL AND NUMERICAL TECHNIQUES FOR DESIGN, AND INNOVATIVE DESIGNS

Pierre-Daniel Pfister, Chair
Zhejiang University, Hangzhou, China

BH-01. **Convolutional Neural Networks for Inverse Design of Magnetic Structures.** *S. Pollok*[1], R. Bjørk[1] and P.S. Jørgensen[1] *1. Department of Energy Conversion and Storage, Danmarks Tekniske Universitet, 2800 Kgs. Lyngby, Denmark*

BH-02. **Influence of Rotor Pole Number on Electromagnetic Performance of Hybrid-Magnetic-Circuit Variable Flux Memory Machine.** *Y. Ge*[1], H. Yang[1] and H. Lin[1] *1. Electrical Machines and Apparatus Technologies (EMAT), Nanjing, China*

BH-03. **Multicriteria Optimal Latin Hypercube Design-Based Surrogate-Assisted Design Optimization for a Permanent-Magnet Vernier Machine.** *Y. Ma*[1], Y. Xiao[2], J. Wang[1], L. Zhou[1] and Z. Zhu[2] *1. State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China; 2. Department of Electronics and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom*

BH-04. **Nonlinear Multi-Scale Model Order Reduction of Eddy-Current Problem.** *H. Eskandari*[1], J. Gyselinck[2] and T. Matsuo[1] *1. Kyoto University, Kyoto, Japan; 2. Universite Libre de Bruxelles, Bruxelles, Belgium*

BH-05. **Parametric Geometric Metamodel of Nonlinear Magnetostatic Problem Based on POD and RBF Approaches.** *A. Boumesbah*[1], T. Henneron[1] and S. Clénet[1] *1. Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Yncrea Hauts-de-France, ULR 2697 - L2EP, F -59000 Lille, France*

BH-06. **A New Permanent Magnet Biased Eddy Current Brake With Both AC and DC Windings for Low Speed Applications.** *M. Gulec*[1] and M. Aydin[1] *1. Kocaeli Universitesi, Kocaeli, Turkey*

BH-07. **Magnetic Energy Minimization for Suppressing Magnetic Field Intensity of Inductive Power Transfer Systems.** *Y. Narusue*[1] and H. Morikawa[1] *1. Graduate School of Engineering, The University of Tokyo, Bunkyo-ku, Japan*

BH-09. **Back-EMF Characteristics of Two-Degree-of-Freedom Rotary-Linear Flux-Switching PM Machine.** *P. Wang*[1], K. Liu[1], H. Zhang[1] and W. Hua[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

BH-10. **Influence of Rotor Pole Number on Electromagnetic Performance of Novel Asymmetric-Stator-Pole Flux Reversal PM Machine.** *C. Qian*[1], H. Yang[1] and H. Lin[1] *1. Southeast University, Nanjing, China*

BH-11. **Optimal IPT System Design Using Spiral Rectangular Coils for E-Tricycle Scooters Charging.** *E. Yildiriz*[1], S.B. Kemer[2] and B. Murat[3] *1. Duzce Universitesi, Duzce, Turkey; 2. NURIS Technology, Ankara, Turkey; 3. FARBA Lighting Facility, Kocaeli, Turkey*

ON-DEMAND SESSIONS

Session BI
ADVANCES IN (SEMI)-ANALYTICAL AND NUMERICAL TECHNIQUES FOR MODELING

Shuangxia Niu, Chair
The Hong Kong Polytechnic University, Kowloon, Hong Kong

BI-01. **Core Losses and AC Winding Losses in Finite-Element and Lumped-Parameter Analysis of PMSMs – Pragmatism Versus Number Crunching.** ***(Invited)*** *J. Gyselinck*[1] and R. Sabariego[2] *1. BEAMS, Universite Libre de Bruxelles, Bruxelles, Belgium; 2. ELECTA, Katholieke Universiteit Leuven, Leuven, Belgium*

BI-02. **Reluctance Network Model of Switched Reluctance Motor Considering Magnetic Hysteresis Behavior.** *Y. Hane*[1], K. Mitsuya[1] and K. Nakamura[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan*

BI-03. **Dynamic Hysteresis Modeling Considering Skin Effect for Magnetic Circuit Analysis.** *Y. Hane*[1] and K. Nakamura[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan*

BI-04. **Vector Hysteresis Modeling of a Variable Flux Reluctance Machine Combined With the Hybrid Analytical Modeling.** *D. Ceylan*[1], R. Zeinali[1], B. Daniels[1], K.O. Boynov[1] and E. Lomonova[1] *1. Department of Electrical Engineering, Technische Universiteit Eindhoven, Eindhoven, Netherlands*

BI-05. **Analytical Calculation for Magnetic Field in Spoke-Type Permanent Magnet Machines Based on a Rotor Magnetic Potential Model.** S. Wu[2], H. Wang[3], L. Guo[3], Z. Wang[3], Z. Song[2] and *T. Shi*[1] *1. Zhejiang University, Hangzhou, China; 2. Tianjin University, Tianjin, China; 3. Tiangong University, Tianjin, China*

BI-06. **A Surrogate Model Assisted With a Subdomain Model for Permanent-Magnet Machine.** *C. Tang*[1], P. Pfister[1] and Y. Fang[1] *1. Zhejiang University, Hangzhou, China*

BI-07. **Lagrange Based Model for Non-Linear Airgap Analytical Optimization in a Transverse Flux Motor, With Reference to an Electric Bicycle.** *B. Mukherjee*[1], J. Vannier[1] and F. Bernot[2] *1. Energie, CentraleSupelec, Gif-sur-Yvette, France; 2. FranceCol Technology, Tours, France*

BI-08. **3-D Analytical Modeling and Optimization of Axial Flux Coreless PM Motor.** *W. Qin*[1], F. Wang[1] and J. Zhao[1] *1. Electrical Engineering, Beijing Jiaotong University, Beijing, China*

BI-09. **Analytical Analysis and Optimization of Cogging Torque in Spoke-Type PM in-Wheel Motor Considering Rotor Slot Opening.** *Y. Hua*[1], Z. Zhang[1], C. Wang[1] and X. Kong[1,2] *1. Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. Jiangsu Province Key Laboratory of Aerospace Power System, Nanjing, China*

BI-10. **Genetic Algorithm Optimal Design of SMPMSM Using Analytical Subdomain Model.** *S.A. Mohd Shafri*[1], T. Tiang[1], D. Ishak[2], J. Leong[1], C. Tan[3], H. Ong[4] and M. Ahmad[1] *1. Faculty of Electrical Engineering Technology, Universiti Malaysia Perlis, Arau, Malaysia; 2. Universiti Sains Malaysia, Minden, Malaysia; 3. Wawasan Open University, Penang, Malaysia; 4. Universiti Malaysia Perlis, Arau, Malaysia*

ON-DEMAND SESSIONS

Session BJ
ELECTRIC DRIVE APPLICATIONS, TRANSFORMERS AND WIRELESS POWER TRANSFER I

ChaoQiang Jiang, Chair
University of Cambridge, Cambridge, United Kingdom

BJ-01. **New Core Loss Model for Ferrite Cores Based on a Meta-Material Approach.** *T. Dimier*[1] and J. Biela[1] *1. HPE / D-ITET, ETH Zurich, Zurich, Switzerland*

BJ-02. **Concept and Process Development Using Ex-Situ Fabricated High Density Interconnect Plugs for Circuit-Board Embedded Magnetic Components.** *D. Bowen*[1], D. Basu[2] and G. Stackhouse[2] *1. The Laboratory for Physical Sciences, College Park, MD, United States; 2. Electrical and Computer Engineering, The University of Maryland College Park, College Park, MD, United States*

BJ-03. **Prediction of Cylindrical Magnetic Shielding Performance by Considering the Magnetic Field Strength Inside the Material.** *M. Sakakibara*[1], G. Uehara[1] and Y. Adachi[1] *1. Kanazawa Institute of Technology, Kanazawa, Japan*

BJ-04. **A Novel Output Voltage Regulation Method for Three-Phase Three-Level Wireless Power Transfer Based on a Simplified System Model.** *Y. Liu*[1,2], C. Liu[1,2], X. Gao[1,2] and Y. Xiao[1,2] *1. School of Energy and Environment, City University of Hong Kong, Hong Kong SAR, China; 2. Shenzhen Research Institute, City University of Hong Kong, Shenzhen, China*

BJ-05. **Analysis of Highly Reliable Electric Drive System Based on Dual-Winding Fault-Tolerant Permanent Magnet Motor.** X. Jiang[1], *D. Wu*[1], L. Li[1] and Y. Li[1] *1. Nanjing University of Science and Technology, Nanjing, China*

BJ-06. **Iron Loss Calculation Based on Loss Surface Hysteresis Model and Its Verification.** *W. Li*[1], Y. Sun[1], X. Fan[1] and Q. Wu[1] *1. College of Electronic and Information Engineering, Tongji University, Shanghai, China*

BJ-07. **A Study on the Possibilities of Inductive Power Transfer Through Ferromagnetic Media.** *D. Kang*[1], H. Lee[1], D. Um[1], M. Kim[1], J. Jo[1] and G. Park[1] *1. Department of Electrical and Computer Engineering, Pusan National University, Kumjeong-ku, The Republic of Korea*

BJ-08. **Experimental Study of a Hybrid Bonding in Ferromagnetic Stacks for Electrical Machine Applications.** *A. Giraud*[1], M. Nomdedeu[1] and B. Nogarede[1] *1. NOVATEM, Toulouse, France*

BJ-09. **Magnetic Hysteresis: a Reliable Technique for Condition Monitoring of Magnetic Cores.** *H. Hamzehbahmani*[1] *1. Engineering, Durham University, Durham, United Kingdom*

BJ-11. **Additive Manufacturing for Soft Magnetic Materials.** *V. Martin*[1], F. Gillon[1], D. Najjar[2], A. Benabou[1], J. Witz[2], M. Hecquet[1] and P. Quaegebeur[2] *1. Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Junia, ULR 2697 - L2EP, Lille, France; 2. Univ. Lille, CNRS, Centrale Lille, UMR 9013 - LaMcube - Laboratoire de Mécanique, Multiphysique, Multiéchelle, Lille, France*

BJ-12. **Coupled Electromagnetic and Thermal Analysis of Permanent Magnet Rectifier Generator Based on LPTN.** *H. Wang*[1], Y. Jiang[1], D. Wang[1] and J. Chen[1] *1. The Key Laboratory of Science and Technology on Vessel Integrated Power System, Naval University of Engineering, Wuhan, China*

BJ-13. **Investigation of Balanced Bidirectional-Magnetization Effect of a Novel Hybrid-Magnet-Circuit Variable Flux Memory Machine.** *R. Tu*[1], H. Yang[1,2], H. Lin[1], Z. Zhu[3], S. Niu[2] and S. Lyu[1] *1. Southeast University, Nanjing, China; 2. The Hong Kong Polytechnic University, Kowloon, Hong Kong; 3. The University of Sheffield, Sheffield, United Kingdom*

BJ-14. **Impact of Hysteresis Phenomena in Time and Frequency Analysis for Inrush Currents in Power Transformers.** *S. Perna*[1], D. Lauria[1], A. Del Pizzo[1] and C. Visone[1] *1. Universita degli Studi di Napoli Federico II, Napoli, Italy*

ON-DEMAND SESSIONS

Session BK
VIBRATION ANALYSIS AND ENERGY HARVESTING APPLICATIONS

Mauro Zucca, Chair
INRIM, Torino, Italy

BK-01. **Vibration Analysis of the Multi-Unit Permanent Magnet Synchronous Machine in the non-Mechanical-Load Indirect-Testing Situation.** *D. Zeng*[1], J. Zou[2], Y. Xu[2] and Q. Wei[1] *1. Harbin Engineering University, Harbin, China; 2. Harbin Institute of Technology, Harbin, China*

BK-02. **A New Method to Control Intrinsic Localized Mode Using a Variable Magnetic Spring Structure.** *S. Lee*[1], M. Kato[2] and K. Hirata[1] *1. Division of Materials and Manufacturing Science, Osaka University, Suita, Japan; 2. Electrical and Electronics Systems, Ibaraki University, Mito, Japan*

BK-03. **Design Study of a Two-Dimensional Electromagnetic Vibration Energy Harvester.** *C. Imbaquingo*[1], C.R. Bahl[1], A.R. Insinga[1] and R. Bjørk[1] *1. Energy Conversion and Storage, Danmarks Tekniske Universitet, Lyngby, Denmark*

BK-04. **Spin-Orbit Torque Rectifier for Energy Harvesting From Weak Radio-Frequency.** *S. Sayed*[1], S. Salahuddin[1] and E. Yablonovitch[1] *1. Electrical Engineering and Computer Sciences, University of California Berkeley, Berkeley, CA, United States*

BK-05. **Design Optimization of Tapered Wideband Nonlinear Electromagnetic Vibration Energy Harvesters for Powering IoT.** *K. Paul*[1], A. Amann[2,3] and S. Roy[1,4] *1. Micro-Nano-systems Center, Tyndall National Institute, Cork, Ireland; 2. School of Mathematical Science, University College Cork, Cork, Ireland; 3. Photonics Centre, Tyndall National Institute, Cork, Ireland; 4. Department of Physics, University College Cork, Cork, Ireland*

ON-DEMAND SESSIONS

Session BP
PERMANENT MAGNET ELECTRICAL MACHINES FOR ELECTRIC VEHICLE (Poster Session)

Rong-Jie Wang, Chair
Stellenbosch University, Stellenbosch, South Africa

BP-01. **Research on the Influence of Harmonics Back-EMFs on the Flux-Weakening Performance of IPMSM.** *L. C*[1], J. Hu[1], K. Li[1] and J. Shang[1] *1. Harbin Institute of Technology, Harbin, China*

BP-02. **Design of Hybrid-Type PM Motor for Electric Vehicle Traction Using Trapezoidal Ferrite-PM to Improve Reluctance Torque.** *J. Park*[1], R. Tsunata[1], M. Takemoto[2], K. Orikawa[1] and S. Ogasawara[1] *1. Hokkaido University, Sapporo, Japan; 2. Okayama University, Okayama, Japan*

BP-03. **Design, Modelling, and Analysis of a Novel Series-Parallel-Connected Hybrid-PM Variable-Flux PMSM.** *G. Qiao*[1], P. Zheng[1], M. Wang[1], F. Liu[1] and Y. Liu[1] *1. Harbin Institute of Technology, Harbin, China*

BP-04. **A Design of IPMSM High-Power Electric Vehicles With Wide Field Weakening Control Region.** *C. Song*[1], I. Song[2], H. Shin[2] and C. Lee[2] *1. Taesung SNE, Seoul, The Republic of Korea; 2. Hanbat National University, Daejeon, The Republic of Korea*

BP-05. **Study of a High-Efficiency Series-Parallel-Connected Hybrid-PM Variable-Flux Permanent Magnet Synchronous Machine.** *G. Qiao*[1], P. Zheng[1], M. Wang[1], F. Liu[1] and Y. Liu[1] *1. Harbin Institute of Technology, Harbin, China*

BP-06. **Maximum Torque per Ampere Control for Variable-Flux PMSMs Considering the Influence of Magnetization State Adjustments and Load Condition Variations.** *G. Qiao*[1], P. Zheng[1], M. Wang[1], F. Liu[1] and Y. Liu[1] *1. Harbin Institute of Technology, Harbin, China*

BP-07. **Flux Intensifying Features of Permanent Magnet Assisted Synchronous Reluctance Motor With High Torque Density.** *D. Ngo*[1] and M. Hsieh[2] *1. Vinh University of Technology Education, Nghean, Vietnam; 2. Electrical Engineering, National Cheng Kung University, Tainan, Taiwan*

BP-08. **Torque Characteristics Investigation of a Flux-Controllable Permanent Magnet Motor Considering Different Flux-Leakage Operation Modes.** *H. Hu*[1], Z. Xiang[1], X. Zhu[1], S. Zheng[1] and W. Fan[1] *1. Jiangsu University, Zhenjiang, China*

BP-09. **Influence of MMF Space Harmonic on PM Eddy-Current Losses in a Modular Fault-Tolerant in-Wheel Motor Under Open-Circuit Faulty Operations.** *Y. Tang*[1], F. Chai[1], Y. Yu[1] and T. Chen[1] *1. Electrical Engineering, Harbin Institute of Technology, Harbin, China*

BP-10. **Comparative Study of Field Modulation Effects on Consequent-Pole PM Machines With Different Stator Slot Configurations.** *Y. Li*[1], H. Yang[1] and H. Lin[1] *1. Southeast University, School of Electrical Engineering, Nanjing, China*

BP-11. **A Study on the Electromagnetic Multi-Step Transmission Characteristics of Interior Permanent Magnet Synchronous Motor.** *C. Lee*[1], I. Song[1], H. Shin[1] and D. Kim[2] *1. Hanbat National University, Daejeon, The Republic of Korea; 2. Global Engineering, Hwaseong, Gyeonggi-do, The Republic of Korea*

BP-12. **Design Methodologies for Variable-Flux Machines for Fully Utilizing the Material Properties of the Magnet.** *F. Liu*[1], P. Zheng[1], M. Wang[1], G. Qiao[1] and S. Zhang[1] *1. School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China*

BP-13. **Current Map Refinement of Interior Permanent Magnet Synchronous Motor Using the Magnetic Flux Map Obtained by Experiment.** *J. Jung*[1], S. Chai[1], J. Park[1] and B. Lee[2] *1. Electrification Business Unit, Hyundai Mobis, Yoingin, The Republic of Korea; 2. Katech, Daegu, The Republic of Korea*

BP-14. **Torque-Speed Characteristics Evaluation for Permanent Magnet Synchronous Motors With Rectangular Conductors.** C. Huang[1,2], D. Meng[1] and *Y. Gong*[2] *1. Tongji University, Shanghai, China; 2. Schaeffler Group, Anting, Shanghai, China*

BP-15. **Performance Analysis of a PMASynRM Machine for Light Electric Vehicle.** V. Manescu Paltanea[1], *G. Paltanea*[1], I. Hantila[1], M. Maricaru[1], P. Minciunescu[2], B. Varaticeanu[2], L. Demeter[2] and M. Pesteri[2] *1. Electrical Engineering, Universitatea Politehnica din Bucuresti, Bucuresti, Romania; 2. Servomotor Division, ICPE S.A., Bucharest, Romania*

BP-16. **Torque Analysis of High Power Density Permanent Magnet Synchronous Machines by Considering Core Reluctance.** *C. Li*[1], J. Gao[1], W. Zhang[2], W. Zhou[1] and S. Huang[1] *1. College of Electrical and Information Engineering, Hunan University, Changsha, China; 2. Department of Electronic and Electrical Engineering, Changsha University, Changsha, China*

BP-17. **Optimized Rotor Shape for Reducing Torque Ripple and Electromagnetic Noise.** *H. Ge*[1], X. Qiu[1], B. Guo[1] and H. Wang[1] *1. Nanjing Normal University School of Electrical and Automation Engineering, Nanjing, China*

ON-DEMAND SESSIONS

Session BQ
HIGH-SPEED MACHINES AND ENERGY STORAGE MACHINES (Poster Session)

Chang-Hung Hsu, Co-Chair
Oriental Institute of Technology, New Taipei City, Taiwan
Christopher H. T. Lee, Co-Chair
Nanyang Technological University, Singapore, Singapore

BQ-01. **Kriging Surrogate Model-Based Design of Ultra-High-Speed Surface-Mounted Permanent Magnet Synchronous Motor Considering Stator Iron Loss and Rotor Eddy Current Loss.** *S. Im*[1], S. Lee[1], D. Kim[1], X. Gu[1], S. Shin[1] and M. Lim[1] *1. Automotive Engineering, Hanyang University, Seongdong-gu, The Republic of Korea*

BQ-02. **Torque Comparison Between Slotless and Slotted Ultra-High Speed AFPM Motors.** *W. Cheng*[1], G. Cao[1], Z. Deng[1], L. Xiao[1] and M. Li[1] *1. College of Science, Xi'an University of Science and Technology, Xi'an, China*

BQ-03. **Reduction of Torque Ripple and Rotor Eddy Current Losses by Closed Slots Design in a High-Speed PMSM for EHA Applications.** *Y. Hu*[1] *1. Nanjing Engineering Institute of Aircraft Systems, Nanjing, China*

BQ-04. **Optimization of a High-Speed PMSM Based on the Quantum Evolutionary Bat Algorithm and Deep Neural Network.** *X. Liu*[1] and B. Yuan[2] *1. Chongqing Normal University, Chongqing, China; 2. Chongqing University, Chongqing, China*

BQ-05. **Experimental Verification and Analytical Approach for Electromagnetic Characteristics of a High-Speed Permanent Magnet Motor With two Different Rotors and Winding Patterns.** *J. Woo*[1], T. Bang[1], H. Lee[1] and J. Choi[1] *1. Electrical Engineering, Chungnam National University, Daejeon, The Republic of Korea*

BQ-06. **Electromagnetic Loss Analysis of High-Speed Permanent Magnet Motors for High-Speed and High-Head Centrifugal Pump Using Co-Simulation Method With Controller.** *G. Jang*[1], C. Kim[1], H. Shin[1], D. Kwon[1] and J. Choi[1] *1. Chungnam National University, Daejeon, The Republic of Korea*

BQ-07. **Design and Optimization of a High-Speed Permanent Magnet Synchronous Machine for gas Compressors.** *Z. Yu*[1], F. Zhao[1] and J. Cao[2] *1. Harbin Institute of Technology Shenzhen, Shenzhen, China; 2. Harbin Institute of Technology, Harbin, China*

BQ-08. **A Novel High-Speed Dual-Stator Flux Switching Permanent Magnet Machine.** W. Yu[1], K. Liu[1], *W. Hua*[1], M. Hu[1], Z. Zhang[1] and J. Hu[1] *1. Southeast University, Nanjing, China*

BQ-09. **Design of High-Speed Permanent Magnet Synchronous Generator With Two Different Shaft Materials Considering Overhang Effect and Mechanical Characteristics.** *J. Lee*[1], T. Bang[1], K. Shin[2] and J. Choi[1] *1. Chungnam National University, Daejeon, The Republic of Korea; 2. Chonnam National University, Yeosu, The Republic of Korea*

BQ-10. **Characteristic Analysis and Experimental Study for Accurate Prediction of Electromagnetic Losses Considering Current Harmonics in High-Speed Permanent Magnet Synchronous Motors.** *K. Shin*[1], H. Park[2], T. Bang[3], H. Cho[3] and J. Choi[3] *1. Chonnam National University, Yeosu, The Republic of Korea; 2. Hyundai Mobis, Yong-in, The Republic of Korea; 3. Chungnam National University, Daejeon, The Republic of Korea*

BQ-11. **Accurate Calculation of Iron Loss of High Temperature and High Speed Permanent Magnet Synchronous Generator Under the Conditions of SVPWM Modulation.** *L. Zhuo*[1,2], D. Yang[2], R. Sun[2], D. Shi[2], J. Zou[1] and Y. Xu[1] *1. Electrical Engineering, Harbin Institute of Technology, Harbin, China; 2. National Engineering Research Center for Small and Special Precision Motors, Guizhou Aerospace Linquan Motor Co., Ltd, Guiyang, China*

BQ-12. **Current Waveform for Vibration Analysis of High-Speed Switched Reluctance Motor With Amorphous Alloy Core.** F. Chai[1], *Z. Li*[1], L. Chen[1] and Y. Wu[2] *1. Harbin Institute of Technology, Harbin, China; 2. Midea Welling Motor Technology, Shanghai, China*

BQ-13. **Research of a Hybrid Excitation Synchronous Machine Integrated With Magnetic Bearings.** *D. Yu*[1], C. Ye[1], C. Deng[1] and Y. Du[1] *1. Huazhong University of Science and Technology, Wuhan, China*

BQ-14. **Structure and Control of Modular Frequency-Multiplying Inverter With Low-Carrier-Ratio for High Speed Machine.** J. Yin[1], *W. Kong*[1], J. Wu[1], Q. Zhang[1], J. Zhang[1] and G. Han[2] *1. Zhengzhou University of Light Industry, Zhengzhou, China; 2. Xidian University, Xian, China*

BQ-15. **A Study on High Reliability Sensorless Control of High Speed Permanent Magnet Synchronous Motor Using Line Drive Method.** *S. Oh*[1], H. Kim[1], Y. Park[1], C. Kim[2], C. Jin[3] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea; 2. Electrical Engineering, Vision University of Jeonju, Jeonju, The Republic of Korea; 3. Electrical Engineering, Wonkwang University, Iksan, The Republic of Korea*

BQ-16. **Investigation of a Novel Homopolar Inductor Machine With Flux Memory for the Flywheel Energy Storage System.** *J. Yang*[1], S. Huang[1] and C. Ye[2] *1. Hunan University, Changsha, China; 2. Huazhong University of Science and Technology, Wuhan, China*

Session BR
SURFACE MOUNTED AND INTERIOR MOUNTED PERMANENT MAGNET ELECTRICAL MACHINES (Poster Session)

Smail Mezani, Chair
Université de Lorraine, Vandoeuvre lès Nancy CEDEX, France

BR-01. **Novel Dual-Stator Single Rotor Consequent Pole PM Machine.** *J. Yang*[1], S. Huang[1] and C. Ye[2] *1. Hunan University, Changsha, China; 2. Huazhong University of Science and Technology, Wuhan, China*

BR-02. **Comparative Studies of Winding Short-Circuit Currents of Six-Phase PMSMs With Different Armature Magnetomovtive Force Distributions.** *L. Cheng*[1], Y. Sui[1], P. Zheng[1], Z. Yin[1] and S. Yang[1] *1. Harbin Institute of Technology, Harbin, China*

BR-03. **Cogging Torque Dynamic Reduction Based on Regional Magnetic Compensation.** J. Gao[1], *Z. Xiang*[1], S. Huang[1] and L. Dai[1] *1. Hunan University, Changsha, China*

BR-04. **Hybrid Spoke-Type Permanent Magnet Synchronous Generator for Wind Power Generation System.** *D. Kim*[1], S. Kim[2], S. Song[3], I. Yang[1] and W. Kim[3] *1. Electrical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea; 2. Korea Electronics Technology Institute, Gwangju-si, The Republic of Korea; 3. Electrical Engineering, Gachon University, Seongnam, The Republic of Korea*

BR-05. **Comparison of Short Circuit and Irreversible Demagnetization Between Different Winding Connections in Surface-Mounted PM Machines.** *Y. Du*[1], L. Wu[1] and H. Zhan[1] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, China*

BR-06. **Analysis and Experimental Study for Electromagnetic and Mechanical Characteristic of Permanent Magnet Synchronous Machines According to Eccentricity.** *T. Bang*[1], K. Shin[3], J. Lee[1], H. Lee[1], H. Cho[2] and J. Choi[1] *1. Electrical Engnieering, Chungnam National University, Daejeon, The Republic of Korea; 2. Electric. Elctro. & Comm. Eng. Edu., Chungnam National University, Daejeon, The Republic of Korea; 3. Power System Engineering, Chonnam National University, Yeosu, The Republic of Korea*

BR-07. **Comparative Studies of Six-Phase PMSMs With Modular Stator Under Pre-Fault and Post-Fault Conditions.** *L. Cheng*[1], Y. Sui[1], P. Zheng[1], Z. Yin[1] and S. Yang[1] *1. Harbin Institute of Technology, Harbin, China*

BR-08. **Segmented Asymmetrical Stator Structure of PMSM to Reduce Torque Ripple.** *C. Liu*[1], J. Zou[1], Y. Xu[1], G. Yu[1] and L. Zhuo[1] *1. Harbin Institute of Technology, Harbin, China*

BR-09. **Comparison and Analysis of Dual-Winding Fault-Tolerant Permanent Magnet Motor for Aviation Fuel Pump Applications.** *J. Li*[1], X. Jiang[2], Y. Chen[2], W. Jiang[1] and W. Huang[1] *1. College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. College of Automation Engineering, Nanjing University of Science and Technology, Nanjing, China*

BR-10. **Research on Improving Magnetic Flux of Permanent Magnet Synchronous Generator Shell With Amorphous Alloy.** *C. Hsu*[1] *1. Mechanical Engineering, Oriental Institute of Technology, Panchiao, Taiwan*

BR-11. **Annual Energy Production Design Optimization for PM Generators Considering Maximum Power Point Trajectory of Wind Turbines.** W. Zhang[2], *L. Dai*[1], S. Huang[1] and J. Gao[1] *1. College of Electrical and Information Engineering, Hunan University, Changsha, China; 2. College of Electronic and Electrical Engineering, Changsha University, Changsha, China*

BR-12. **A Study on the Improvement of Powerfactor of LSPM Motor by Rotor bar Material and Stator Winding Considering Irreversible Demagnetization of Permanent Magnet.** *S. Lee*[1], D. Shin[1], W. Kim[1] and K. Lee[2] *1. Electrical Engineering, Gachon University, Seongnam, The Republic of Korea; 2. Intelligent Mechatronic Research Center, Korea Electronics Technology Institute, Seongnam, The Republic of Korea*

BR-13. **Study on the Design of Six Phase Surface Inset Permanent Magnet Synchronous Generator and Motor Considering the Power Factor and Torque Ripple.** *H. Kim*[1], Y. Park[1], W. Kim[2], C. Jin[3] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea; 2. Electrical Engineering, Gachon University, Seongnam, The Republic of Korea; 3. Electrical Engineering, Wonkwang University, Iksan, The Republic of Korea*

BR-14. **A Study on Improving the Power Density of Slotless Motor Applying 3D Printing Technology.** *Y. Park*[1], S. Oh[1], H. Kim[1], S. Kim[2] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea; 2. Electrical Engineering, Yuhan University, Bucheon, The Republic of Korea*

BR-15. **A Study on Improving Magnetization Performance of Spoke Type Motor Through Asymmetric Magnetization Method.** *M. Jeong*[1], K. Lee[2], H. Pyo[1], D. Nam[1] and W. Kim[1] *1. Gachon University, Seongnam, The Republic of Korea; 2. Hanyang University, Seongdong-gu, The Republic of Korea*

BR-16. **A Study on Electrical Power Steering Motor's 2-Stage Skew Shape Design to Reduce Cogging Torque and Torque Ripple.** *D. Shin*[1], S. Lee[1], S. Song[1], K. Kim[1] and W. Kim[1] *1. Electrical Engineering, Gachon University, Seongnam, The Republic of Korea*

BR-17. **A Study on Core Skew for Performance Improvement of Double-Layer Spoke Type PMSM.** *D. Nam*[1], K. Lee[2], H. Pyo[1], M. Jeong[1] and W. Kim[1] *1. Electrical Engineering, Gachon University, Seongnam, The Republic of Korea; 2. Hyundai Kia Motors Namyang Institute, Hwaseong, The Republic of Korea*

ON-DEMAND SESSIONS

Session BS
LINEAR MACHINES, ELECTROMAGNETIC ACTUATORS AND APPLICATIONS (Poster Session)

Mohamed Ibrahim, Co-Chair
Ghent University, Ghent, Belgium
Salvatore Perna, Co-Chair
University of Naples Federico II, Naples, Italy

BS-01. **Optimal Design of Short-Stroke Linear Oscillating Actuator for Minimization of Side Force by Using Response Surface Methodology.** *W. Kim*[1], C. Kim[1], H. Shin[1], S. Jeong[2] and J. Choi[1] *1. Electrical Engineering, Chungnam National University, Daejeon, The Republic of Korea; 2. LG Electronics, Yeongdeungpo-gu, The Republic of Korea*

BS-02. **Characteristics Analysis and Experimental Study on Reduction of Vibration and Noise in Permanent Magnet Synchronous Machines.** *K. Shin*[1], T. Bang[2] and J. Choi[2] *1. Chonnam National University, Yeosu, The Republic of Korea; 2. Chungnam National University, Daejeon, The Republic of Korea*

BS-03. **Design and Optimization of a Novel Dynamic Relieving-DC-Saturation Transverse Variable Flux Tubular Linear Memory Machine.** *Z. Li*[1], X. Zhang[2], S. Niu[1] and W. Fu[1] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. Shenzhen In-Drive Amperex Co. Ltd, Shenzhen, China*

BS-04. **Optimization of Detent Force in Linear Oscillatory Generator With Assisted Permanent Magnet and Stacking Effect for Stirling Engines Using Subdomain Analytical Method.** *K. Shin*[1], T. Bang[2], J. Choi[2], H. Cho[2], K. Lee[3] and S. Lee[3] *1. Chonnam National University, Yeosu, The Republic of Korea; 2. Chungnam National University, Daejeon, The Republic of Korea; 3. Korea Institute of Industrial Technology, Gwangju, The Republic of Korea*

BS-05. **A Novel Magnetic Actuator System for Appearance Inspection of Complex Iron Structures.** *H. Yaguchi*[1] and Y. Itoh[1] *1. Tohoku Gakuin University, Tagajo, Japan*

BS-06. **Force Control of a Bilateral Linear Permanent Magnet Switched Reluctance Motor.** *Y. Zou*[1] *1. Research Centre, Goal Technology (Shenzhen) Limited Company, Shenzhen, China*

BS-07. **Operating Characteristic Analysis and Verification of Short-Stroke Linear Oscillating Actuators Considering Mechanical Load.** *C. Kim*[1], D. Kwon[1], H. Shin[1], G. Jang[1], S. Jeong[2] and J. Choi[1] *1. Electrical engineering, Chungnam National University, Daejeon, The Republic of Korea; 2. LG Research and Development, Seoul, The Republic of Korea*

BS-08. **Design and Analysis of a High Thrust Linear Voice Coil Motor Using for the Stiffness Test of Linear Motor Servo System.** *H. Zhang*[1], B. Kou[1], Q. Ge[1] and Y. Liu[1] *1. Harbin Institute of Technology, Harbin, China*

BS-09. **Study on the Optimal Shape and Installation Position of the Damper Coils at the Low Velocity Range in Electrodynamic Suspension System.** *R. Yamamoto*[1], R. Betsunoh[1] and S. Ohashi[1] *1. Department of Electrical and Electronic Engineering, Kansai University, Suita, Japan*

BS-10. **Nonlinear Permanent Magnet Degradation Model and its Application in Magnetic System Optimization.** J. You[1], *X. Feng*[1], H. Liang[1], X. Tan[2] and H. Wang[1] *1. School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China; 2. Shaanxi Qunli Electric Co., Ltd, BaoJi, China*

BS-11. **Design of a Slim-Width Linear Vibration Motor Used for Automotive LCD Display Panel.** *Z. Jiang*[1], K. Park[1] and S. Hwang[1] *1. Mechanical engineering, Pusan National University, Busan, The Republic of Korea*

BS-12. **Novel Dual Coil Microspeaker With Reduced Back Volume.** *K. Park*[1], Z. Jiang[1] and S. Hwang[1] *1. Mechanical engineering, Pusan National University, Busan, The Republic of Korea*

BS-13. **Crawling Biopsy Robot Magnetically Actuated in Tubular Environments.** *E. Jung*[1], W. Lee[1], J. Nam[3] and G. Jang[2] *1. Mechanical Convergence Engineering, Hanyang University, Seongdong-gu, The Republic of Korea; 2. Mechanical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea; 3. Electronics and Information Engineering, Kwangwoon University, Nowon-gu, The Republic of Korea*

BS-14. **Development of Linear Oscillatory Actuator With 4 Poles and 8 Poles Movers.** *F. Kitayama*[1] and R. Kondo[1] *1. Ibaraki University, Mito, Japan*

BS-15. **Analysis of Magneto-Mechanical Coupled Effect on Electromagnetic Propulsion.** *Y. Yang*[1], P. Liu[1] and Q. Yin[2] *1. Nanjing University of Science and Technology, Nanjing, China; 2. Southwest Institute of Technical Physics, Chengdu, China*

ON-DEMAND SESSIONS

Session BT
VERNIER AND FLUX MODULATED MACHINES (Poster Session)

Xiao Chen, Chair
The University of Sheffield, Sheffield, United Kingdom

BT-01. **A Design Method of Multi-MMF Halbach PM Array and its Application in Flux Reversal Machines.** *H. Huang*[1], D. Li[1], X. Ren[1] and R. Qu[1] *1. Huazhong University of Science and Technology State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Wuhan, China*

BT-02. **Investigation of a Dual-Winding Dual-Flux-Concentrated Magnetic-Field Modulated Brushless Compound-Structure Machine.** *G. Liu*[1], P. Zheng[1,2], J. Bai[1], J. Liu[1] and Y. Wang[1] *1. School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China; 2. State Key Laboratory of Robotics and System, Harbin Institute of Technology, Harbin, China*

BT-03. **Design and Analysis of a New Partitioned Stator Hybrid-Excited Flux Reversal Machine With Dual-PM.** *Y. Meng*[1], S. Fang[1], Z. Pan[1] and L. Qin[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

BT-04. **Investigation of Consequent-Pole Flux-Switching Permanent Magnet Machines With Magnets in Stator Slot Opening.** *C. Chen*[1], D. Li[1] and R. Qu[1] *1. Huazhong University of Science and Technology, Wuhan, China*

BT-05. **Quantitative Identification of Airgap Flux Density Harmonics Contributing to Back-EMF in Dual-Permanent-Magnet-Excited Machine.** *Y. Shi*[1,2], L. Jian[2] and T. Ching[1] *1. Department of Electromechanical Engineering, University of Macau Faculty of Science and Technology, Taipa, China; 2. Southern University of Science and Technology Department of Electrical and Electronic Engineering, Shenzhen, China*

BT-06. **Design of a Axial-Modular Flux-Switching Permanent Magnet Machine.** *Y. Wang*[1], P. Su[1], Y. Shen[1] and Y. Li[1] *1. Hebei University of Technology School of Electrical Engineering, Tianjin, China*

BT-07. **A Novel Winding Switching Strategy of a Consequent-Pole Ferrite-PM Hybrid-Excited Machine for Electric Vehicle Application.** *J. Jiang*[1], X. Zhang[2] and S. Niu[1] *1. Electrical engineering department, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. Shenzhen In Drive Amperex Co. Ltd., Shenzhen, China*

BT-08. **Analysis of Axial Modular Flux Reversal Permanent Magnet Machine.** *Y. Shen*[1], P. Su[1], Y. Wang[1] and Y. Li[1] *1. Hebei University of Technology School of Electrical Engineering, Tianjin, China*

BT-09. **A Novel Brushless Dual-Electrical-Port Dual-Mechanical-Port Machine With Opening Stator Slot.** *Z. Liang*[1], X. Ren[1], D. Li[1] and R. Qu[1] *1. Huazhong University of Science and Technology, Wuhan, China*

BT-10. **Flux-Modulated DC-Saturation-Relieving Hybrid Reluctance Machine Using Zero-Sequence Current Excitation for Electric Vehicle Application.** *J. Jiang*[1], X. Zhao[1], S. Niu[1] and K. Wong[2] *1. Electrical engineering department, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. Division of Science, Engineering and Health Studies, The Hong Kong Polytechnic University, Hong Kong, Hong Kong*

BT-11. **Comparative Study of Winding Configuration on a Multi-Tooth Flux Switching Permanent Magnet Machine.** Z. Li[1], *G. Zhao*[1], W. Hua[2], X. Jiang[1] and P. Su[2] *1. School of Electrical and Automation Engineering, Nanjing Normal University, Nanjing, China; 2. Southeast University, Nanjing, China*

BT-12. **Development of Slot-PM-Assisted Reluctance Generator With Self-Excited DC Source for Stand-Alone Wind Power Generation.** *J. Jiang*[1], X. Zhao[1], S. Niu[1] and K. Wong[2] *1. Electrical engineering department, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. Division of Science, Engineering and Health Studies, The Hong Kong Polytechnic University, Hong Kong, Hong Kong*

BT-13. **A Novel Relieving-DC-Saturation Hybrid-Excited Machine With Skewed Permanent Magnets for Electric Vehicle Application.** *S. Wang*[1], S. Niu[1], X. Zhao[1] and K. Wong[2] *1. Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. Division of Science, Engineering and Health Studies, The Hong Kong Polytechnic University, Hong Kong, Hong Kong*

BT-14. **Influence of DC/AC Winding Split Ratio on Electromagnetic Performance of Hybrid Reluctance Machine With Synthetic Slot PM Excitation.** *S. Wang*[1], X. Zhao[1], S. Niu[1] and K. Wong[2] *1. Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. Division of Science, Engineering and Health Studies, The Hong Kong Polytechnic University, Hong Kong, Hong Kong*

BT-15. **Electromagnetic Performance Analysis and Comparison of Fractional-Slot Non-Overlapping Winding Dual-Rotor Axial Flux Permanent Magnet Vernier Machines With Segmented Stators.** *L. Jia*[1], M. Lin[1] and W. Le[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

BT-16. **Investigation on Electromagnetic Torque of a Flux-Switching Permanent Magnet Motor From Perspective of Flux Density Harmonic Deterioration Rate.** *Y. Pu*[1], Z. Xiang[1], M. Jiang[1] and X. Zhu[1] *1. Jiangsu University, Zhenjiang, China*

ON-DEMAND SESSIONS

Session BU
MAGNETIC GEARS AND VERNIER MACHINES (Poster Session)

Siavash Pakdelian, Chair
University of Massachusetts Lowell, Lowell, MA, United States

BU-01. **A High Torque Density Magnetic-Geared Dual-PM Split-Tooth Vernier Machine With Halbach Consequent Poles.** *H. Huang*[1], D. Li[1] and R. Qu[1] *1. Huazhong University of Science and Technology State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Wuhan, China*

BU-02. **Design of an Axial-Type Magnetic Gear With an Auxiliary Flux-Enhancing Structure.** H. Zhao[1,2], C. Liu[1,2], Z. Song[1,2] and *R. Huang*[1,2] *1. SEE, City University of Hong Kong, Kowloon, Hong Kong; 2. Shenzhen Research Institute, City University of Hong Kong, Shenzhen, China*

BU-03. **Design and Analysis of an Effective Fault-Tolerant Dual-Winding Axial-Flux Magnetic-Geared Machine for in-Wheel Electric Vehicle.** *Y. Chen*[1], W. Fu[1], S. Ho[1] and S. Niu[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

BU-04. **Design and Comparison Study of a Yokeless Magnetic Gear With Trapezoidal Halbach PM Array for Electric Vehicle Driving.** *Y. Chen*[1], W. Fu[1], S. Ho[1] and S. Niu[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

BU-05. **Design and Analysis of a Novel Active Magnetic Gear for Low-Speed Large-Torque Applications.** *Y. Chen*[1], W. Fu[1], S. Ho[1] and S. Niu[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

BU-06. **Design and Analysis of a Ferrite-Assisted Hybrid Reluctance Machine for Electric Vehicle Propulsion.** *W. Wang*[1], X. Zhao[1] and S. Niu[1] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

BU-07. **Design and Implementation of New Axial-Radial Bevel Magnetic Gear Based on Magnetic 3D Printing.** *P. Huang*[1], H. Huang[1], I. Jiang[1], T. Chang[1] and M. Tsai[1,2] *1. Electrical Motor Technology Research Center, National Cheng Kung University, Tainan, Taiwan; 2. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*

BU-08. **Series Coupled Coaxial Magnetic Gear Design for High Gear Ratio and High Torque Density.** *E. Park*[1], S. Jung[2] and Y. Kim[1] *1. Chosun University, Gwangju, The Republic of Korea; 2. Sungkyunkwan University College of Engineering, Suwon, The Republic of Korea*

BU-09. **Topology Optimization of the Reluctance Trans-Rotary Magnetic Gear.** R. Safarpour[1] and *S. Pakdelian*[1] *1. Electrical and Computer Engineering, University of Massachusetts Lowell, Lowell, MA, United States*

BU-10. **Hybrid Excitation Dual Stator/Rotor Armature Winding Vernier Machine With Alternate Stator PM.** *S. Jia*[1], S. Feng[1], D. Liang[1] and X. Dong[1] *1. Xi'an Jiaotong University, Xi'an, China*

BU-11. **A Novel Permanent Magnet Generator With Dual-Electric and Dual-Mechanical Port for Stand-Alone AC/DC Power Supply System.** Q. Lin[1], *S. Niu*[1], X. Zhao[1], F. Cai[2] and W. Fu[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Xiamen Tungsten Co Ltd, Xiamen, China*

BU-12. **Analysis of Split-Tooth Stator-Slot Permanent-Magnet Machines With Different PM Arrangements.** L. Cao[1], K. Chau[1], C. Lee[2] and *T. Yang*[1] *1. University of Hong Kong, Hong Kong; 2. Nanyang Technological University, Singapore, Singapore*

BU-13. **A Novel Split-Teeth Vernier Pseudo-Direct-Drive Permanent-Magnet Machine With Concentrated Winding.** *Q. Gan*[1], P. Pfister[1] and Y. Fang[1] *1. Zhejiang University, Hangzhou, China*

BU-14. **Design of a Quasi-Halbach Permanent Magnet Vernier Machine.** W. Guendouz[1], *A. Tounzi*[2] and T. Rékioua[1] *1. Université Béjaia, Béjaia, Algeria; 2. Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Junia, ULR 2697 - L2EP, Lille, France*

BU-15. **Design and Analysis of Novel Split-Pole Fault-Tolerant Vernier Permanent Magneic Machine.** B. Xu[1], Q. Wu[1], *J. Ma*[1], X. Liu[1], L. Wu[1], L. Qiu[1], J. Zhang[1] and Y. Fang[1] *1. Zhejiang University, Hangzhou, China*

BU-16. **Analysis of a Novel Dual-PM Vernier Machine With High Torque Density and Low Torque Ripple and Unbalanced Force.** *J. Huang*[1], W. Fu[1] and S. Niu[1] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, HongKong, Hong Kong*

BU-17. **Analysis of 12 Slots Novel DC-Biased Dual-PM Vernier Machines With Slot-Opening PMs.** *J. Huang*[1], W. Fu[1] and S. Niu[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong*

BU-18. **A Novel Approach for Power Factor Improvement in Dual-Stator Vernier Permanent Magnet Machines.** *Q. Lin*[1], S. Niu[1], X. Zhao[1], F. Cai[2] and W. Fu[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Xiamen Tungsten Co Ltd, Xiamen, China*

BU-19. **Comparative Study of Novel Dual Stator Machines Having Different Biased PM Configurations.** X. Zhang[3], *H. Yang*[2,1] and S. Niu[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Southeast University, Nanjing, China; 3. Shenzhen In Drive Amperex Co. Ltd., Shenzhen, China*

Session BV
WOUND ROTOR, AXIAL FLUX AND MEMORY MOTORS (Poster Session)

Mi-Ching Tsai, Co-Chair
National Cheng Kung University, Tainan, Taiwan
Jen-Yuan (James) Chang, Co-Chair
National Tsing Hua University, Hsinchu, Taiwan

BV-01. **Analysis of Inter-Turn Short-Circuit Faults of Axial Split Phase Permanent Magnet Synchronous Motors.** F. Chai[1] and *L. Geng*[1] *1. Harbin Institute of Technology, Harbin, China*

BV-02. **A Hybrid Excitation Axial Flux Permanent Magnet Generator for Direct Drive Wave Energy Conversion.** *Y. Li*[1], L. Huang[1], M. Chen[1], P. Tan[1], Y. Liu[1] and M. Hu[1] *1. Department of Electrical Engineering, Southeast University, Nanjing, China*

BV-03. **Axial-Flux Permanent Magnet Machine Application Research With Strap-Wire Technique and Difference Analysis of Rotor Eddy-Current Loss Between Simulation and Test.** R. Pei[1] and *H. Zhang*[1] *1. Electrical Engineering, Shenyang University of Technology, Shenyang, China*

BV-04. **Electromagnetic Analysis and Efficiency Improvement of Axial-Flux Permanent Magnet Motor With Yokeless Stator by Using Grain-Oriented Silicon Steel Material.** *J. Hou*[1], W. Geng[1], Q. Li[1] and Z. Zhang[2] *1. College of Automation Engineering, Nanjing University of Science and Technology, Nanjing, China; 2. College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China*

BV-05. **Quantitative Comparison of Magnetic-Differential Double-Rotor Stator-Permanent-Magnet Motors for Electric Vehicles.** *T. Yang*[1], K. Chau[1], T. Ching[2], L. Cao[1] and H. Wang[1] *1. Electrical & Electronic Engineering, The University of Hong Kong, Hong Kong; 2. Faculty of Science and Technology, University of Macau, Taipa, Macao*

BV-06. **A Novel Wound Field Switched Flux Machine With Zero-Sequence Field Current Excitation.** X. Zhang[3], *H. Yang*[1,2] and S. Niu[2] *1. Electrical Engineering, Southeast University, Nanjing, China; 2. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 3. Henzhen In Drive Amperex Co. Ltd., Shenzhen, China*

BV-07. **Prediction of Power Generation Performance of Wound Rotor Synchronous Generator Using Nonlinear Magnetic Equivalent Circuit Method.** *D. Kwon*[1], C. Kim[1], K. Shin[2] and J. Choi[1] *1. Chungnam National University, Daejeon, The Republic of Korea; 2. Chonnam National University, Gwangju, The Republic of Korea*

BV-08. **Research on Optimal Design of Commutation Performance of Starter-Generator Used in Aero-Engine.** *R. Sun*[1], H. Peng[1], G. Huang[1], D. Shi[1] and L. Zhuo[1,2] *1. National Engineering Research Center for Small and Special Precision Motors, Guizhou Aerospace Linquan Motor Co., Ltd, Guiyang, China; 2. Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China*

BV-09. **Comparative Study of MW Class Superconducting Machines According to Shielding and Electromagnetic Structures Based on Analytical Method.** *K. Shin*[1], T. Bang[2], H. Cho[2] and J. Choi[2] *1. Chonnam National University, Yeosu, The Republic of Korea; 2. Chungnam National University, Daejeon, The Republic of Korea*

BV-10. **A Novel Asymmetric-PM Variable Flux Memory Machine With Anti-Demagnetization Barrier Design.** *W. Liu*[1], H. Yang[1] and H. Lin[1] *1. Southeast University, Nanjing, China*

ON-DEMAND SESSIONS

Session BW
DESIGN AND CONTROL OF RELUCTANCE MACHINES AND INDUCTION MACHINES (Poster Session)

Duc-Kien Ngo, Co-Chair
Vinh University of Technology Education, Vinh, Vietnam
Po-Wei Huang, Co-Chair
National Cheng Kung University, Tainan City, Taiwan

BW-01. **Withdrawn**

BW-02. **Torque Ripple Optimization for Synchronous Reluctance Motors Based on a Virtual Permanent Magnet Harmonic Machine.** *Y. Xu*[1], C. Di[1], X. Bao[1] and D. Xu[1] *1. Hefei University of Technology, Hefei, China*

BW-03. **Multi-Physic Fields Surrogate-Assisted Optimization of a Permanent Magnet Assisted Synchronous Reluctance Motor.** *K. Shuai*[1], J. Wang[1], Z. Ling[2], C. Cheng[2], J. Zheng[2], L. Zhou[1] and Y. Ma[1] *1. State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology School of Electrical and Electronic Engineering, Wuhan, China; 2. State Grid Hubei Electric Power Research Institute, Wuhan, China*

BW-04. **Experimental Determination of Equivalent Iron Loss Resistance for Prediction of Iron Losses in a Switched Reluctance Machine.** A. Memon[1], *S. Bukhari*[2,3] and J. Ro[3] *1. Mehran University of Engineering and Technology, Jamshoro, Pakistan; 2. Sukkur IBA University, Sukkur, Pakistan; 3. Chung-Ang University, Seoul, The Republic of Korea*

BW-05. **Research on Sliding Mode DITC Based on Gray Wolf Optimization Algorithm for SRM.** *L. Feng*[1], X. Sun[1] and J. Zhu[2] *1. Jiangsu University, Zhenjiang, China; 2. University of Sydney, Sydney, NSW, Australia*

BW-06. **Multiphysics and Two-Step Multi-Fidelity Optimization for a Switched Reluctance Motor.** *B. Wan*[1], X. Sun[1] and J. Zhu[2] *1. Jiangsu University, Zhenjiang, China; 2. University of Sydney, Sydney, NSW, Australia*

BW-07. **System Level Sequential Subspace Design Optimization of Switched Reluctance Motor Drive Systems Based on Space Reduction Strategy.** *K. Diao*[1], X. Sun[1] and J. Zhu[2] *1. Jiangsu University, Zhenjiang, China; 2. University of Sydney, Sydney, NSW, Australia*

BW-08. **Unified Control for Switched Reluctance Motors for Electric Vehicles.** *X. Tang*[1], X. Sun[1] and J. Zhu[2] *1. Jiangsu University, Zhenjiang, China; 2. University of Sydney, Sydney, NSW, Australia*

BW-09. **Development of a Dual-Ferrite-Assisted DC-Saturation-Relieving Hybrid Reluctance Machine for Electric Propulsion.** *W. Wang*[1], X. Zhao[1] and S. Niu[1] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

BW-10. **Optimization of Stator Construction for Weight Reduction of Axial-Field Dual-Rotor Segmented Switched Reluctance Machine.** *W. Sun*[1], Q. Li[1], L. Sun[1], Y. Wan[1] and X. Jiang[1] *1. Department of Electrical Engineering, School of Automation, Nanjing University of Science and Technology, Nanjing, China*

BW-11. **Design and Optimization of Starting Capability of a Line-Start Synchronous Reluctance Motor.** *Y. Hu*[1,2], B. Chen[1,2], Y. Xiao[2], J. Shi[2], X. Li[2] and L. Li[3] *1. State Key Laboratory of Air-conditioning Equipment and System Energy Conservation, Zhuhai, China; 2. Gree Electric Appliances, Inc., Zhuhai, China; 3. Harbin Institute of Technology, Harbin, China*

BW-12. **A Study on Analysis and Design of Line-Start Synchronous Reluctance Motor Considering Rotor Slot Opening and Bridges.** *H. Kim*[1], Y. Park[1], S. Oh[1] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seongdong-gu, The Republic of Korea*

BW-13. **Suspension Characteristics for a Novel Three-Pole Bearingless Switched Reluctance Motor.** *X. Ye*[1], Z. Wang[1] and L. Mo[1] *1. Huaiyin Institute of Technology, Huaian, China*

BW-14. **A Wireless Three-Phase Switched Reluctance Motor Using Single Receiver.** *H. Wang*[1], K. Chau[1], C. Lee[2], X. Tian[1] and T. Yang[1] *1. Electrical and Electronic Engineering, University of Hong Kong, Hong Kong; 2. Electrical and Electronic Engineering, Nanyang Technological University, Singapore, Singapore*

BW-15. **Coupling Method of Circuit Equation and Magnetic Field Distribution for Characterization of Induction Motors by Coordinate Transformation.** *Y. Kim*[1] *1. Department of Electrical and Electronic Engineering, Joongbu University - Inno-Media Campus, Goyang, The Republic of Korea*

BW-16. **A Primary-Controlled Wireless Single-Phase Induction Motor Using Secondary Self-Drive Half-Bridge Inverter.** *H. Wang*[1], K. Chau[1], C. Lee[2], X. Tian[1] and T. Yang[1] *1. Electrical and Electronic Engineering, University of Hong Kong, Hong Kong; 2. Electrical and Electronic Engineering, Nanyang Technological University, Singapore, Singapore*

BW-17. **Influence of Driving Mode on Loss of Doubly Salient Brushless DC Motor With Rectangular Wire Winding.** J. Zhang[1], *Y. Xia*[1], Z. Zhang[1], X. Chen[1] and M. Zhang[1] *1. College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China*

TUESDAY LIVE Q&A SESSIONS
3:00 PM EUROPE CEST

Session CA
SPIN CONVERSION EFFICIENCY BY VARIOUS METHODS TOWARDS DEVICE APPLICATIONS

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

CA-01. **Electrical Generation of Spin Currents.** ***(Invited)*** *A.D. Kent*[1], C. Safranski[2], J. Xu[1] and J.Z. Sun[2] *1. Center for Quantum Phenomena, Department of Physics, New York University, New York, NY, United States; 2. IBM T. J. Watson Research Center, New York, NY, United States*

CA-02. **Unconventional Spin Currents in Obliquely Magnetized Magnetic Films.** ***(Invited)*** *B. Hillebrands*[1,2], D. Bozhko[3], H. Musiienko-Shmarova[1,2], V. Tyberkevych[4], A.N. Slavin[4], I. Syvorotka[5] and A.A. Serga[1,2] *1. Physics, Technische Universitat Kaiserslautern, Kaiserslautern, Germany; 2. Research Center OPTIMAS, Kaiserslautern, Germany; 3. Physics, Colorado State University, Fort Collins, CO, United States; 4. Physics, Oakland University, Rochester, MI, United States; 5. Department of Crystal Physics and Technology, Scientific Research Company "Carat", Lviv, Ukraine*

CA-03. **Spin Current Generation Driven by Ferromagnetic Resonance.** ***(Invited)*** *T. Mewes*[1] and C. Mewes[1] *1. Physics & Astronomy, The University of Alabama System, Tuscaloosa, AL, United States*

CA-04. **Transverse Thermoelectric Conversion Based on Spin Caloritronics.** ***(Invited)*** *K. Uchida[1] 1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan*

CA-05. **Berry Curvature and Semimetals.** ***(Invited)*** *C. Felser[1]*, Y. Sun[1] and C. Shekhar[1] *1. Chemical Physics of Solids, Max-Planck-Gesellschaft, Dresden, Germany*

CA-06. **Spin Transport Driven by Emergent Magnetic Fields.** ***(Invited)*** *M. Matsuo[1] 1. Kavli Institute for Theoretical Sciences, University of Chinese Academy of Sciences, Beijing, China*

ON-DEMAND SESSIONS

Session CB
SPIN INJECTION AND SPIN TRANSFER TORQUES

Tao Wang, Chair
Huazhong University of Science and Technology, Wuhan, China

CB-01. **Local Control of the Exchange Bias by Current in a Pt/Co/NiO Structure.** *M. Stebliy[1]*, A. Kolesnikov[1], M. Bazrov[1], A. Ognev[1], A. Davydenko[1], E. Stebliy[1], X. Wang[2], C. Wan[2], C. Fang[2], M. Zhao[2], X. Han[2] and A.S. Samardak[1] *1. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

CB-02. **Very Large Domain Wall Velocities Driven by Spin Transfer Torque in Ferrimagnetic Mn_4N Compounds.** ***(Invited)*** S. Ghosh[1], T. Komori[2], A. Hallal[1], J.A. Peña Garcia[3], T. Gushi[2], T. Hirose[2], H. Mitarai[2], H. Okuno[4], J. Vogel[3], M. Chshiev[1], J. Attané[1], L. Vila[1], T. Suemasu[2] and *S. Pizzini[3] 1. SPINTEC, UGA-CNRS-CEA, Grenoble, France; 2. University of Tsukuba, Tsukuba, Japan; 3. Institut Néel, UGA-CNRS, Grenoble, France; 4. IRIG-MEM, CEA, Grenoble, France*

CB-03. **Optically Detected Spin-Orbit Torque Ferromagnetic Resonance in an in-Plane Magnetized Ellipse.** *P.S. Keatley[1]*, K. Chatzimpaloglou[1], T. Manago[1,2], P. Androvitsaneas[1], T. Loughran[1], R.J. Hicken[1], G. Mihajlović[3], L. Wan[3], Y. Choi[3] and J. Katine[3] *1. Department of Physics and Astronomy, University of Exeter College of Engineering Mathematics and Physical Sciences, Exeter, United Kingdom; 2. Department of Applied Physics, Fukuoka University, Fukuoka, Japan; 3. San Jose Research Center, Western Digital Corp, San Jose, CA, United States*

CB-04. **High-Precision Measurement Method of Magnetic Field Induced by Spin- Accumulated Electrons in FeCoB Nanomagnet.** *V. Zayets[1] 1. Platform Photonics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

CB-05. **Tuning the Spin-Orbit Interaction in Germanium for Spin Generation, Detection and Manipulation.** ***(Invited)***
T. Guillet[1], C. Zucchetti[2], A. Marchionni[2], A. Hallal[3], A. Marty[3], C. Vergnaud[3], G. Isella[2], H. Jaffrès[4], N. Reyren[4], J. George[4], M. Chshiev[3], M. Finazzi[2], A. Masseboeuf[3], H. Okuno[5], F. Bottegoni[2], A. Fert[4] and M. Jamet[3] *1. Institut Catala de Nanociencia i Nanotecnologia, Bellaterra, Spain; 2. Physics, Politecnico di Milano, Milano, Italy; 3. IRIG-SPINTEC, CEA Grenoble, Grenoble, France; 4. UMR CNRS Thales, Palaiseau, France; 5. IRIG-MEM, CEA Grenoble, Grenoble, France*

CB-06. **Theory of Spin-Orbit Torque and Dzyaloshinskii-Moriya Interaction in van der Walls Magnets.** *A. Manchon*[1], S. Laref[2], I. Smaili[2], J.H. Garcia[3], K. Kim[4], U. Schwingenschlogl[2] and S. Roche[3] *1. Aix-Marseille Universite, Marseille, France; 2. King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 3. Institut Catala de Nanociencia i Nanotecnologia, Bellaterra, Spain; 4. Korea Institute of Science and Technology, Seongbuk-gu, The Republic of Korea*

ON-DEMAND SESSIONS

Session CC
SPIN ORBIT TORQUES

Shiheng Liang, Co-Chair
Hubei University, Wuhan, China
Kaiming Cai, Co-Chair
IMEC, Leuven, Belgium

CC-01. **Spin-Orbit Magnetic State Readout in Scaled Ferromagnetic/Heavy Metal Nanostructures.** ***(Invited)***
V. Pham[1,3], I. Groen[1], S. Manipatruni[2], W. Choi[1], D.E. Nikonov[2], E. Sagasta[1], C. Lin[2], T. Gosavi[2], A. Marty[3], L. Hueso[1], I.A. Young[2] and F. Casanova[1] *1. CIC nanoGUNE, San Sebastian, Spain; 2. Components Research, Intel Corp., Hillsboro, OR, United States; 3. Spintec, CEA-CNRS, Grenoble, France*

CC-02. **Pulse-Width and Thermal Effects on Field-Free Memristive Spin-Orbit Torque Switching.** *W. Liao*[1], T. Chen[1], Y. Hsiao[1] and C. Pai[1,2] *1. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Center of Atomic Initiative for New Materials, National Taiwan University, Taipei, Taiwan*

CC-03. **Modulation of Thermal Stability and Spin-Orbit Torque in IrMn/CoFeB/MgO Structures Through Atom Thick W Insertion.** *D. Xiong*[1], S. Peng[1], J. Lu[1], W. Li[1], H. Wu[2], Z. Li[1], H. Cheng[1], Y. Wang[1], C.H. Back[3], K. Wang[2] and W. Zhao[1] *1. Beihang University, Beijing, China; 2. University of California Los Angeles, Los Angeles, CA, United States; 3. Technische Universitat Munchen, Munchen, Germany*

CC-04. **Benchmarking of Spin-Orbit Torque Switching Efficiency in PtCu Alloys.** *C. Hu*[1] and C. Pai[1] *1. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan*

CC-05. **Characterization of Spin-Orbit Torque Efficiency in Magnetic Heterostructures With Perpendicular Magnetic Anisotropy via Spin Torque Ferromagnetic Resonance.** *J. Wei*[1], C. He[1], X. Wang[1], H. Xu[1], Y. Liu[1], Y. Guang[1], C. Wan[1], J. Feng[1], G. Yu[1] and X. Han[1] *1. Institute of Physics, Beijing, China*

CC-06. **A two-Terminal Planar Memory Device Controlled by Spin-Orbit Torques.** *C. Avci*[1], C. Lambert[1] and P. Gambardella[1] *1. Department of Materials, ETH Zurich, Zurich, Switzerland*

CC-07. **Spin-Orbit Torque Switching of Synthetic Antiferromagnetic Layer by Metallic Bilayers With Opposite Spin Hall Angles.** *D. Zhang*[1], H. Li[2] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota Twin Cities, Minneapolis, MN, United States; 2. Chemical Engineering and Materials Science, University of Minnesota Twin Cities, Minneapolis, MN, United States*

CC-08. **Second Harmonic Study of the Self-Spin-Orbit Torques in Ferrimagnetic Materials.** *H. Damas*[1], D. Céspedes-Berrocal[1,5], D. Maccariello[3], A.Y. Arriola Córdova[5], E. Martin[1], J. Bello[1], P. Tang[4], P. Vallobra[1], Y. Xu[1], S. Migot[1], J. Ghanbaja[1], S.F. Zhang[4], S. Mangin[1], C. Panagopoulos[2], V. Cros[3], M. Hehn[1], S. Petit-Watelot[1], A. Fert[3] and J. Rojas-Sanchez[1] *1. Institut Jean Lamour, Universite de Lorraine, Nancy, France; 2. Nanyang Technological University School of Physical and Mathematical Sciences Division of Physics and Applied Physics, Singapore, Singapore; 3. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 4. Department of Physics, University of Arizona, Tucson, AZ, United States; 5. Universidad Nacional de Ingenieria, Lima, Peru*

CC-09. **Spin-Orbit Torque in Naturally Oxidized Ta-O/Co-Fe-B/Mg-O/Ta Structures.** *T. Nguyen*[1,2], S. DuttaGupta[1,3], Y. Saito[4], V. De Zoysa Karunathilaka[3], S. Fukami[1,3], S. Ikeda[1,4], T. Endoh[1,4] and Y. Endo[1,5] *1. Center for Science and Innovation Spintronics (Core Research Cluster), 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. Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan; 5. Graduate School of Engineering, Tohoku University, Sendai, Japan*

CC-10. **Efficient Spin-Orbit Torque Generation in Semiconducting WTe_2 With Hopping Transport.** *C. Peng*[1], W. Liao[1], T. Chen[1] and C. Pai[1,2] *1. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Center of Atomic Initiative for New Materials, National Taiwan University, Taipei, Taiwan*

CC-11. **Magnetic Layer Thickness Dependence of Spin-Orbit Torques in Pt / Co / Al / (Pt | Ta) Skyrmion Magnetic Multilayers.** *S. Krishnia*[1], F. Ajejas[1], Y. Sassi[1], N. Reyren[1], S. Collin[1], J. George[1], H. Jaffrès[1], V. Cros[1] and A. Fert[1] *1. Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, Palaiseau, France*

CC-12. **Detection of Spin-Orbit Torques for in-Plane Magnetized Heterostructures by Utilizing Spin Hall Effective Field.** *Y. Liu*[1], T. Chen[1], T. Lo[1], T. Tsai[1], S. Yang[2], Y. Chang[2], J. Wei[2] and C. Pai[1,3] *1. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Electronic and Optoelectronic System Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Center of Atomic Initiative for New Materials, National Taiwan University, Taipei, Taiwan*

CC-13. **Engineering the Spin-Orbit Torques and Interfacial Dzyaloshinkii-Moriya Interaction by Stacking Order in Tb/Co Ferrimagnetic Multilayers.** *M. Martini*[1,2], C. Avci[2], S. Tacchi[3], C. Lambert[2] and P. Gambardella[2] *1. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 2. Department of Materials, ETH Zurich, Zurich, Switzerland; 3. Istituto Officina dei Materiali del CNR (CNR-IOM), Perugia, Italy*

CC-14. **Spin Hall Magnetoresistence and Spin Orbit Torque Efficiency in (Pt,Ta)/FeCoB Bilayers.** *M. Kuepferling*[1], A. Magni[1], A. Sola[1], V. Basso[1], G. Soares[1], W. Skowronski[2], S. Lazarski[2], K. Grochot[2], M.V. Khanjani[3] and J. Langer[3] *1. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. AGH University of Science and Technology, Krakow, Poland; 3. Singulus Technologies AG, Kahl am Main, Germany*

ON-DEMAND SESSIONS

Session CD
SPIN HALL EFFECTS

Yi Wang, Chair
Dalian University of Technology, Dalian, China

CD-01. **Spin Current Enhancement by Inserting Ultra-Thin Magnetic Layer at Interface Between YIG and Pt.** ***(Invited)*** *H. Yuasa*[1] *1. Kyushu University, Fukuoka, Japan*

CD-02. **Spin to Charge Conversion in the Topological Insulator HgTe and in STO-Based two-Dimensional Electron gas.** ***(Invited)*** *J. Attané*[1] *1. Spintec, University Grenoble Alpes, Grenoble, France*

CD-03. **Spin Hall Conductivity Enhancement of Tungsten by Copper Alloying.** *B. Coester*[1], G.D. Wong[1], X. Zhan[1,2], J. Tang[2], W. Gan[1] and W. Lew[1] *1. School of Physical & Mathematical Sciences, Nanyang Technological University College of Science, Singapore, Singapore; 2. MIIT Key Laboratory of Advanced Metallic and Intermetallic Materials Technology, School of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing, China*

CD-04. **High-Throughput Techniques for Measuring the Spin Hall Effect.** *M. Meinert*[8], B. Gliniors[1], O. Gueckstock[2,5], T. Seifert[2,5], L. Liensberger[3,6], M. Weiler[7,3], S. Wimmer[4], H. Ebert[4] and T. Kampfrath[2,5] *1. Faculty of Physics, Universitat Bielefeld, Bielefeld, Germany; 2. Department of Physics, Freie Universitat Berlin, Berlin, Germany; 3. Walther-Meissner-Institut fur Tieftemperaturforschung, Garching, Germany; 4. Department Chemie, Ludwig-Maximilians-Universitat Munchen, Munchen, Germany; 5. Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany; 6. Physik-Department, Technische Universitat Munchen, Munchen, Germany; 7. Fachbereich Physik, Technische Universitat Kaiserslautern, Kaiserslautern, Germany; 8. Department of Electrical Engineering and Information Technology, Technische Universitat Darmstadt, Darmstadt, Germany*

CD-05. **Magnetization-Dependent Inverse Spin Hall Effect at Perpendicular Magnetized Tb-Co/Pt Interface.** *A. Yagmur*[1], H. Awano[1] and K. Tanabe[1] *1. Toyota Technological Institute, Nagoya, Japan*

CD-06. **Role of the Interfacial Asymmetric Spin Scattering at Ferromagnet-Pt Interfaces.** V. Pham[1], *M. Cosset-Cheneau*[1], A. Brenac[1], O. Boulle[1], A. Marty[1], J. Attané[1] and L. Vila[1] *1. SPINtronique et Technologie des Composants, Grenoble, France*

CD-07. **Effect of Ta Crystallite Size on Spin-Mixing Conductance of $Ta/Ni_{80}Fe_{20}$ Bilayer Structure.** *S. K*[1], M. Talluri[1], B. Paikaray[1], J. Pala[1] and C. Murapaka[1] *1. Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad, Hyderabad, India*

CD-08. **Spin to Charge Conversion at $LaAlO_3/SrTiO_3$ Interface States.** *A. El Hamdi*[1], M. Boselli[2], J. Chauleau[1], S. Gariglio[2], J. Triscone[2] and M. Viret[1] *1. SPEC, CEA, CNRS, Université Paris-Saclay, CEA Saclay, Gif-sur-Yvette, France; 2. Département de Physique de la Matière Quantique, University of Geneva, Geneva, Switzerland*

CD-09. **Non-Conventional Spin Hall Effect in YPt Alloy.** *T. Shirokura*[1], K. Fujiwara[1] and P.N. Hai[1,2] *1. Tokyo Institute of Technology, Tokyo, Japan; 2. Tokyo University, Tokyo, Japan*

CD-10. **Charge-to-Spin Conversion in Perpendicularly Magnetized Ferromagnetic Materials.** *Y. Hibino*[1], T. Taniguchi[1], K. Yakushiji[1], A. Fukushima[1], H. Kubota[1] and S. Yuasa[1] *1. Research Center for Emerging Computing Technologies, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

CD-11. **Independence of the Inverse Spin Hall Effect With the Magnetic Phase in Thin NiCu Films.** *P. Noël*[1], S. Varotto[2,3], M. Cosset-Cheneau[2], C. Grezes[2], Y. Fu[2], F. Binda[1], C. Murer[1], C. Avci[1], C. Lambert[1], P. Warin[2], A. Brenac[2], C. Rinaldi[3], J. Jacquot[4], S. Gambarelli[4], V. Baltz[2], L. Vila[2], J. Attané[2] and P. Gambardella[1] *1. DMAT, ETH Zurich, Zurich, Switzerland; 2. SPINtronique et Technologie des Composants, Grenoble, France; 3. Politecnico di Milano Dipartimento di Fisica, Milano, Italy; 4. CEA SYMMES, Grenoble, France*

CD-12. **Interface Optical Spin Generation in a Ferromagnet/Heavy Metal Heterostructure.** *S. Iihama*[1,2], K. Ishibashi[3,4] and S. Mizukami[4,2] *1. Frontier Research Institute for Interdisciplinary Sciences (FRIS), Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network (CSRN), Tohoku University, Sendai, Japan; 3. Department of Applied Physics, Tohoku University, Sendai, Japan; 4. Advanced Institute for Materials Research (AIMR), Tohoku University, Sendai, Japan*

CD-13. **Measurement of the Spin Absorption Anisotropy in Lateral Spin Valves.** *M. Cosset-Cheneau*[1], L. Vila[1], G. Zahnd[1], D. Gusakova[1], V. Pham[1], C. Grezes[1], X. Waintal[2], A. Marty[1], H. Jaffrès[3] and J. Attané[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Pheliqs, Grenoble, France; 3. CNRS-THALES, Palaiseau, France*

ON-DEMAND SESSIONS

Session CE
SPIN CURRENTS

Dushyant Kumar, Chair
National University of Singapore, Singapore

CE-01. **Impact of Thermal Conductivity in Insulators on Thermally Induced Spin Currents. *(Invited)*** *T. Kuschel*[1] *1. Physics, Universitat Bielefeld, Bielefeld, Germany*

CE-02. **Controlling Spin Current Polarization Through non-Collinear Antiferromagnetism. *(Invited)*** *T. Nan*[1] *1. Institute of Microelectronics, Tsinghua University, Beijing, China*

CE-03. **Spin Current Induced by a Surface Plasmon Polariton.** T. Wijaya[1], D. Oue[2], M. Matsuo[4], Y. Ito[3], K. Elphick[5], *D. Lloyd*[5], H. Uchida[3], M. Inoue[3] and A. Hirohata[5] *1. Graduate School of Engineering, The University of Tokyo, Bunkyo-ku, Japan; 2. Imperial College London, London, United Kingdom; 3. Toyohashi University of Technology, Toyohashi, Japan; 4. Chinese Academy of Sciences, Beijing, China; 5. University of York, York, United Kingdom*

CE-04. **Injection, Transport, Detection, and Modulation of Magnon Spin Currents in Magnetic Insulators.** *S. Velez*[1], J. Gao[1], J. Gomez-Perez[2], C. Lambert[1], L. Hueso[2], M. Fiebig[1], F. Casanova[2] and P. Gambardella[1] *1. Department of Materials, ETH Zurich, Zurich, Switzerland; 2. CIC nanoGUNE, Donostia-San Sebastian, Spain*

CE-05. **Magnon Transport in Three-Terminal YIG/Pt Nanostructures Studied by dc and ac Detection Techniques.** *J. Gückelhorn*[1,2], T. Wimmer[1,2], S. Geprägs[1], H. Huebl[1,2], R. Gross[1,2] and M. Althammer[1,2] *1. Magnetism and Spintronics, Walther-Meissner-Institut fur Tieftemperaturforschung, Garching, Germany; 2. Physik Department, Technische Universitat Munchen, Munchen, Germany*

CE-06. **Ultra-low Power Domain Wall Device for Spin-Based Neuromorphic Computing.** *D. Kumar*[1], H. Chung[2], J. Chan[1], T. Jin[1], C. Poh[1], S. Lim[2], R. Sbiaa[3] and S. Piramanayagam[1] *1. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; 2. Agency for Science Technology and Research, Singapore, Singapore; 3. Physics, Sultan Qaboos University, Muscat, Oman*

CE-07. **Spin-Injection-Generated Shock Waves and Solitons in a Ferromagnetic Nanowire.** *M. Hu*[1], E. Iacocca[2] and M. Hoefer[1] *1. Applied Mathematics, University of Colorado Boulder, Boulder, CO, United States; 2. Department of Mathematics, Physics, and Electrical Engineering, Northumbria University, Newcastle upon Tyne, United Kingdom*

CE-08. **Magnetic and Spintronic Properties of Scandium Substituted Terbium Iron Garnet Thin Films.** *B. Khurana*[1], J. Bauer[1] and C. Ross[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States*

CE-09. **Seebeck-Driven Colossal Transverse Thermoelectric Generation.** *W. Zhou*[1], K. Yamamoto[1], A. Miura[1], R. Iguchi[1], Y. Miura[1], K. Uchida[1,2] and Y. Sakuraba[1,3] *1. National Institute for Materials Science, Tsukuba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Japan Science & Technology Agency, PRESTO, Kawaguchi, Japan*

CE-10. **Relaxation Process of Spin-Polarized Quasiparticles in a Superconducting Nb Wire.** *T. Iwahori*[1], K. Mizokami[1], R. Matsuda[1], K. Ohnishi[1] and T. Kimura[1] *1. Physics, Kyushu University, Fukuoka, Japan*

CE-11. **Theoretical Study on Four-Fold Symmetric Anisotropic Magnetoresistance Effect in Cubic Single-Crystal Ferromagnetic Model.** *Y. Yahagi*[1], D. Miura[1] and A. Sakuma[1] *1. Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Japan*

CE-12. **Strong Enhancement of the Orbital Rashba Effect in Cu Film by Surface Oxidization.** *D. Go*[2,3], D. Jo[1], T. Gao[4,5], K. Ando[4,5], S. Blügel[2], H. Lee[1] and Y. Mokrousov[2,3] *1. Department of Physics, Pohang University of Science and Technology, Pohang, The Republic of Korea; 2. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Julich GmbH, Julich, Germany; 3. Institute of Physics, Johannes Gutenberg Universitat Mainz, Mainz, Germany; 4. Department of Applied Physics and Physico-Informatics, Keio University, Yokohama, Japan; 5. Keio Institute of Pure and Applied Sciences (KiPAS), Keio University, Yokohama, Japan*

Session CF
CONVENTIONAL STT-MRAM MATERIALS, DEVICES AND TECHNOLOGY

Guohan Hu, Chair
IBM, Yorktown Heights, NY, United States

CF-01. **Reliable High Density STT-MRAM Products.** ***(Invited)*** *G. Shimon*[1], H.K. Lee[1], S. Ikegawa[1], S. Aggarwal[1], B. Hughes[1], F.B. Mancoff[1], J. Janesky[1], J. Sun[1], K. Nagel[1] and M. DeHerrera[1] *1. Technology R&D, Everspin Technologies Inc, Chandler, AZ, United States*

CF-02. **Embedded STT-MRAM for 14nm CMOS Node Cache Applications.** ***(Invited)*** *M. Rizzolo*[1] *1. International Business Machines Corp, Albany, NY, United States*

CF-03. **Perpendicular Magnetic Tunnel Junctions With Reference Layer Based on Four Anti-Ferromagnetically Coupled Co/Pt Layers.** *H. Honjo*[1], S. Miura[1], K. Nishioka[1], H. Nagauma[1,3], T. Watanabe[1], Y. Noguchi[1], T. Nguyen[1,3], M. Yasuhira[1], S. Ikeda[1,4] and T. Endoh[1,2] *1. Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 4. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan*

CF-04. **Giant Perpendicular Magnetic Anisotropy Enhancement in MgO-Based Magnetic Tunnel Junction by Using Co/Fe Composite Layer.** *L. Vojáček*[1,2]*, F. Ibrahim[1], A. Hallal[1], B. Dieny[1] and M. Chshiev[1,3] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Stredoevropsky Technologicky Institut, Brno, Czechia; 3. Institut Universitaire de France, Paris, France*

CF-05. **Effect of Magnetic Coupling Between two CoFeB Layers on Thermal Stability in Perpendicular Magnetic Tunnel Junctions With MgO/CoFeB/Insertion Layer/CoFeB/MgO Free Layer.** *K. Nishioka*[1], S. Miura[1], H. Honjo[1], H. Nagauma[1,3], T. Nguyen[1,3], S. Ikeda[1,3] and T. Endoh[1,2] *1. Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan*

CF-06. **Towards Spintronic Memory Without Platinum Group Metals (PGMs) for Improved Sustainability.** *A. Palomino*[1], J. Marty[2], S. Auffret[1], I. Joumard[1], R. Sousa[1], I. Prejbeanu[1], B. Ageron[2] and B. Dieny[1] *1. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-SPINTEC, Grenoble, France; 2. Laboratoire CERAG, Univ. Grenoble Alpes, Saint Martin d'Hères, France*

CF-07. **SAF Based on Co/Ni Multilayers With Improved Annealing Tolerance for Sustainable Pt-Free Reference Layer of STT-MRAM.** *A. Palomino*[1], M. Mansueto[1], S. Auffret[1], I. Joumard[1], L. Vila[1], R. Sousa[1], I. Prejbeanu[1] and B. Dieny[1] *1. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-SPINTEC, Grenoble, France*

CF-08. **Correlation of Interfacial Perpendicular Magnetic Anisotropy and Interlayer Exchange Coupling in CoFe/W/CoFe Structures.** *J. Chen*[1,2], S. Peng[1,2], D. Xiong[1,2], H. Cheng[1,2], H. Zhou[1,2], Y. Jiang[1,2], J. Lu[1,2], W. Li[1,2] and W. Zhao[1,2] *1. Fert Beijing Institute, BDBC, Beihang University, Beijing, China; 2. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China*

CF-09. **Spin Torque Switching of Perpendicular Magnetic Tunnel Junction Nanopillars at Cryogenic Temperatures.** *L. Rehm*[1], G. Wolf[2], B. Kardasz[2], E. Cogulu[1], Y. Chen[1], M. Pinarbasi[2] and A.D. Kent[1] *1. Physics, New York University, New York, NY, United States; 2. Spin Memory Inc, Fremont, CA, United States*

CF-10. **The Effect of Reduced Exchange Interactions on Switching of Perpendicular Magnetic Tunnel Junctions.** *J. Beik Mohammadi*[1] and A.D. Kent[2] *1. Loyola University New Orleans, New Orleans, LA, United States; 2. New York University, New York, NY, United States*

CF-11. **Modelling and Optimization of Double Magnetic Tunnel Junctions With Switchable Assistance Layer for High Performance STT-MRAM Applications.** *D. Sanchez Hazen*[1,2], S. Auffret[1], I. Joumard[1], L. Vila[1], L.D. Buda-Prejbeanu[1,2], R. Sousa[1], I. Prejbeanu[1] and B. Dieny[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Institut Polytechnique de Grenoble, Grenoble, France*

CF-12. **Demonstration of BEOL-Compatible Double Magnetic Tunnel Junction PSTT-MRAM Devices for Low Power Computing.** *S. Rao*[1], R. Carpenter[1], S. Couet[1], S. Van Beek[1], M. Perumkunnil[1], N. Jossart[1], B. O' Sullivan[1], S. Kundu[1], W. Kim[1], K. Garello[2], L. Souriau[1], F. Yasin[1], S. Houshmand Sharifi[1], L. Goux[1], D. Crotti[1] and G.S. Kar[1] *1. IMEC, Leuven, Belgium; 2. SPINtronique et Technologie des Composants, Grenoble, France*

ON-DEMAND SESSIONS

Session CG
EXPLORATORY STT/SOT MRAM MATERIALS, DEVICES AND TECHNOLOGY

Shunsuke Fukami, Co-Chair
Tohoku University, Sendai, Japan
Lin Xue, Co-Chair
Applied Materials Inc, Santa Clara, CA, United States

CG-01. **Ultra-Small Shape-Anisotropy Magnetic Tunnel Junctions Below 10 nm - Material, Device Engineering, and Performance.** ***(Invited)*** *B. Jinnai*[1], J. Igarashi[1], S. Fukami[1] and H. Ohno[1] *1. Tohoku University, Sendai, Japan*

CG-02. **Crossover of Magnetization Reversal Mode With Thickness and Diameter in Shape-Anisotropy Magnetic Tunnel Junctions.** *J. Igarashi*[1], B. Jinnai[2], K. Watanabe[1], S. Fukami[1,3] and H. Ohno[1,3] *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan*

CG-03. **Magnetization Reversal Driven by Spin-Transfer-Torque in sub-20 nm Perpendicular Shape Anisotropy Magnetic Tunnel Junctions.** *N. Caçoilo*[1], S. Lequeux[1], A. Palomino[1], N. Strelkov[1], B. Dieny[1], R. Sousa[1], O. Fruchart[1], I.L. Prejbeanu[1] and L.D. Buda-Prejbeanu[1] *1. Univ.Grenoble Alpes, CEA, CNRS, Grenoble INP, SPINTEC, Grenoble, France*

CG-04. **Resonance-Enhanced Exchange Coupling for Voltage-Controlled Magnetization Switching.** *S. Sayed*[1,2], C. Hsu[1], N. Roschewsky[1], S. Yang[3] and S. Salahuddin[1,2] *1. Electrical Engineering and Computer Sciences, University of California Berkeley, Berkeley, CA, United States; 2. Materials Sciences Division, E O Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. IBM Almaden Research Center, San Jose, CA, United States*

CG-05. **Magnetic Reversal and Critical Current Transparency of CoFeB Superconductor-Ferromagnet-Superconductor Heterostructures.** *M. Loving*[1], T. Ambrose[1], E. Din[1], S. Keebaugh[1], D. Miller[1], R. Pownall[1], N. Rizzo[1], A. Sidorov[1] and N. Siwak[1] *1. Northrop Grumman Mission Systems, Linthicum, MD, United States*

CG-06. **Current-Induced Crystallisation in Heusler Alloy Films.** W. Frost[1], K. Elphick[1], M. Samiepour[1] and *A. Hirohata*[1] *1. University of York, York, United Kingdom*

CG-07. **Advanced MTJ and SOT Technology for AI and Automobile Applications.** ***(Invited)*** *T. Endoh*[1,2] *1. Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan*

CG-08. **Effect of Insertion Layer on Reducing Switching Current Density in Spin-Orbit Torque Magnetic Tunnel Junction.** *L. Huang*[1], J. Lourembam[1], D.M. Repaka[1], J. Qiu[1], S. Yap[1], Y. Toh[1] and S. Lim[1] *1. Institute of Materials Research and Engineering, Singapore, Singapore*

CG-09. **Spin Orbit Torque Driven Multi-Level Switching in He^+ Irradiated W-CoFeB-MgO Hall Bars With Perpendicular Anisotropy.** X. Zhao[1,2], M. Sall[3], J. Langer[4], B. Ocker[4], G. Jakob[5], M. Klaui[5], W. Zhao[1] and *D. Ravelosona*[2,3] *1. Beihang University, Beijing, China; 2. Centre National de la Recherche Scientifique, Paris, France; 3. Spin-Ion Technologies, Palaiseau, France; 4. Singulus, Kahl am Main, Germany; 5. Johannes Gutenberg Universitat Mainz, Mainz, Germany*

CG-10. **All-Electrical Manipulation of Magnetization in Magnetic Tunnel Junction via Spin–Orbit Torque.** W. Kong[1], *C. Wan*[1], X. Wang[1] and X. Han[1] *1. Chinese Academy of Sciences Institute of Physics, Beijing, China*

CG-11. **Evaluation of Read Disturbance Reduction Effect by SOT-MRAM Bi-Directional Read on Device Size Dependence.** *Y. Kishi*[1], A. Yamada[1], M. Ke[1] and T. Kawahara[1] *1. Department of Electrical Engineering, Faculty of Engineering, Tokyo University of Science, Shinjuku-ku, Japan*

CG-12. **Multi-bit Spin-Orbit Torque Device for High Density MRAM.** *R. Mishra*[1,3], T. Kim[2], J. Park[2] and H. Yang[3] *1. Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi, India; 2. Department of Electrical Engineering, Korea University, Seoul, The Democratic People's Republic of Korea; 3. Department of Electrical and Computer Engineering, National University of Singapore, Singapore*

CG-13. **Voltage-Gate Assisted Spin-Orbit Torque MRAM for High-Density and Low Power Embedded Applications.** ***(Invited)*** Y. Wu[1], K. Garello[2], W. Kim[1], M. Gupta[1], M. Perumkunnil[1], S. Van Beek[1], R. Carpenter[1], S. Rao[1], F. Yasin[1], K.K. Vudya Sethu[1,3], V. Kateel[1,3], D. Crotti[1], *S. Couet*[1] and G.S. Kar[1] *1. IMEC, Leuven, Belgium; 2. SPINtronique et Technologie des Composants, Grenoble, France; 3. ESAT, KU Leuven, Leuven, Belgium*

ON-DEMAND SESSIONS

Session CP
SPINTRONICS FUNDAMENTALS (Poster Session)

Xin Fan, Co-Chair
University of Denver Division of Natural Sciences and Mathematics, Denver, CO, United States
Shuyuan Shi, Co-Chair
Beihang University, Beijing, China

CP-01. **Domain Wall Device With a Graded Anisotropy Field as Artificial Neuron for Neuromorphic Computing.** *W. Mah*[1], T. Jin[1], D. Kumar[1] and S. Piramanayagam[1] *1. SPMS, Nanyang Technological University, Singapore, Singapore*

CP-02. **Study on the Critical State of Two-Dimensional Resonators Topological Insulator.** *W. Wang*[1,2], W. Mo[1,2], F. Jin[1,2], K. Dong[1,2], J. Song[1,2] and Y. Hui[1,2] *1. School of Automation, China University of Geosciences, Wuhan, China; 2. China University of Geosciences, Wuhan, Hubei key Laboratory of Advanced Control and Intelligent Automation for Complex Systems, Wuhan, China*

CP-03. **Large Spin-Orbit Torque Efficiency in Epitaxial $L1_2$ $PtMn_3$ / Py Heterostructures.** *L. Yu*[1], M. Oogane[1,3], M. Tsunoda[2,3] and Y. Ando[1,3] *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 3. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

CP-04. **Unconventional Magnetoresistance Induced by Sperimagnetism of GdFeCo.** *J. Park*[1], Y. Hirata[2], J. Kang[1], S. Lee[1], S. Kim[3], C. Phuoc[4], J. Jeong[4], J. Park[5], S. Park[5], Y. Jo[5], A. Tsukamoto[6], T. Ono[2,7], S. Kim[1] and K. Kim[1] *1. Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon, The Republic of Korea; 2. Institute for Chemical Research, Kyoto University, Kyoto, Japan; 3. Department of Physics, University of Ulsan, Ulsan, The Republic of Korea; 4. Department of Materials Science and Engineering, Chungnam National University, Daejeon, The Republic of Korea; 5. Center for Scientific Instrumentation, Korea Basic Science Institute, Daejeon, The Republic of Korea; 6. College of Science and Technology, Nihon University, Funabashi, Japan; 7. Center for Spintronics Research Network (CSRN), Graduate school of Engineering Science, Osaka University, Osaka, Japan*

CP-05. **Large Low Magnetic Field Magnetocapacitance Effect and Spin Accumulation in Graphene Oxide.** S. Singh[1], M. R[1], B. Hiremath[1], B. Kori[1], S. Kumar[1], Y. Bitla[2] and *R.S. Joshi*[1] *1. Physics, Central University of Karnataka, Gulbarga, India; 2. Physics, Central University of Rajasthan, Ajmer, India*

CP-06. **Magnetotransport Phenomena in Topological Insulator / Superconductor Bi_2Te_3/Nb Bilayer and Trilayer Thin Films.** A. Pilidi[1], T. Speliotis[1] and *G. Litsardakis*[2] *1. Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos", Athens, Greece; 2. Electrical & Computer Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece*

CP-07. **Evidence of Magnetization Switching by Anomalous Spin Hall Torque in NiFe.** T. Ma[1], *C. Wan*[1], X. Wang[1], W. Yang[1], C. Guo[1], C. Fang[1], M. Zhao[1], J. Dong[1], Y. Zhang[1] and X. Han[1] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

CP-08. **Enhancement of the Spin Hall Magnetoresistance in Ta/Pt/ $Ni_{80}Fe_{20}$/MgO(100) Heterostructures by Competing Spin Currents.** *H. Jiang*[1], K. Wang[1], Y. Hui[1], K. Dong[1], W. Mo[1], J. Song[1] and F. Jin[1] *1. China University of Geosciences School of Automation, Wuhan, China*

CP-09. **Enhancement of Acoustic Spin Pumping by Acoustic Distributed Bragg Reflector Cavity.** *Y. Hwang*[1], J. Puebla[2], M. Xu[1], A. Lagarrigue[2], K. Kondou[2] and Y. Otani[1,2] *1. Institute of Solid State Physics, Tokyo University, Kashiwa, Japan; 2. RIKEN Center for Emergent Physical Characteristics, Wako, Japan*

CP-10. **Influence of the Spin Pumping Induced Inverse Spin Hall Effect on Spin-Torque Ferromagnetic Resonance Measurements.** *Q. Liu*[1], Y. Zhang[3], L. Sun[1,2], B. Miao[1,2], X. Wang[3] and H. Ding[1,2] *1. Physics, Nanjing University, Nanjing, China; 2. Collaboration Innovation Center of Advanced Microstructures, Nanjing, China; 3. Physics, Hong Kong University of Science and Technology School of Science, Hong Kong, China*

CP-11. **Determination of Spin Torque Efficiency in Ferromagnetic Metals via Spin-Torque Ferromagnetic Resonance.** *W. Yang*[1], J. Wei[1], C. Wan[1], Y. Xing[1], Z. Yan[1], X. Wang[1], C. Fang[1], C. Guo[1], G. Yu[1] and X. Han[1] *1. Chinese Academy of Sciences, Institute of Physics, University of Chinese Academy of Sciences, BeiJing, China*

CP-12. **Quantitative Estimation of Thermoelectric Contributions in Spin Pumping Signals Through Microwave Photoresistance Measurements.** *J. Cheng*[1], K. He[1], M. Yang[1], Q. Liu[1], R. Yu[1], L. Sun[1,2], J. Ding[3], B. Miao[1,2], M. Wu[3] and H. Ding[1,2] *1. Nanjing University, Nanjing, China; 2. Collaborative Innovation Center of Advanced Microstructures, Nanjing, China; 3. Colorado State University, Fort Collins, CO, United States*

CP-13. **Qualitative Evaluation of the Temperature Dependence of Dynamical Spin Injection in CoFeB/Pt/CoFeB Trilayer Thin Films.** *S. Obinata*[1], R. Iimori[1] and T. Kimura[1] *1. Physics, Kyushu University, Fukuoka, Japan*

CP-14. **Direct Magneto-Optical Observation of Current-Induced Spin Accumulation in InAs two-Dimensional Electron gas (2DEG) Structure.** *W. Lee*[1], S. Kim[2,3], K. Lee[1], H. Koo[2,3] and G. Choi[4] *1. Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon, The Republic of Korea; 2. KU-KIST Graduate School of Converging Science and Technology, Seongbuk-gu, The Republic of Korea; 3. Korea Institute of Science and Technology, Seongbuk-gu, The Republic of Korea; 4. Department of Energy Science, Sungkyunkwan University College of Natural Science, Suwon, The Republic of Korea*

CP-15. **Spin Seebeck Effect in Antiferromagnetic PtMn/YIG(Yttrium Iron Garnet) Thin Films.** *S. Ranjbar*[1], A. Yagmur[1], M. Al-Mahdawi[3], M. Oogane[2,3], Y. Ando[2,3], K. Tanabe[1] and H. Awano[1] *1. Toyota Technological Institute, Nagoya, Japan; 2. Tohoku University - Aobayama Campus, Sendai, Japan; 3. Center for Science and Innovation in Spintronics (Core Research Cluster), Organization for Advanced Studies, Tohoku University, Sendai, Japan*

CP-16. **Annealing Temperature Dependence of Longitudinal Spin Seebeck Voltage in YIG Films Prepared by sol-gel Spin Coating Method.** *K. Yamada*[1], S. Masaki[1] and M. Shima[1] *1. Chemistry and Biomolecular Science, Gifu University, Gifu, Japan*

Session CQ
NOVEL IMAGING AND MEASUREMENT TECHNIQUES I (Poster Session)

Jose Mardegan, Chair
DESY, Hamburg, Germany

CQ-01. **Calibration of a Coil Array Geometry Using an X-ray Computed Tomography.** *D. Oyama*[1], Y. Adachi[1], M. Higuchi[1] and G. Uehara[1] *1. Applied Electronics Laboratory, Kanazawa Institute of Technology, Kanazawa, Japan*

CQ-02. **Residual Flux Density Measurement Method of the Single-Phase Transformer Based on Phase Difference.** *Y. Ren*[1,2] *1. Hebei University of Technology State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 2. Hebei University of Technology, Tianjin, China*

CQ-03. **Three-Dimensional Magnetic Field Gradient Imaging of Permanent Magnet by Alternating Magnetic Force Microscopy: Transformation of Measuring Magnetic Field Direction Based on MFM tip Transfer Function.** *H. Saito*[1], S. Wada[1] and T. Matsumura[1] *1. Graduate School of Engineering Science, Akita University, Akita, Japan*

CQ-04. **Inverse Problem Analysis in Magnetic Nanoparticle Tomography With Minimum Variance Spatial Filter.** *N. Okamura*[1], T. Sasayama[1] and T. Yoshida[1] *1. Kyushu University, Fukuoka, Japan*

CQ-05. **Estimation of Magnetocardiography Current Sources Using Multiple Spatial Filters.** *K. Kobayashi*[1], M. Iwai[1], Y. Ono[1] and W. Sun[2] *1. Iwate University, Morioka, Japan; 2. Kindai University, Hiroshima, Japan*

CQ-06. **Magnetic Properties Measurement and Analysis of Electrical Steel Sheet Under Cutting Influence.** *Y. Li*[1], Y. Fu[1], Y. Dou[1], C. Zhang[1] and K. Zhang[1] *1. Hebei University of Technology, Tianjin, China*

CQ-07. **Localized Magnetic Properties Measurement of Interlocking Core Laminations.** *Y. Li*[1], K. Zhang[1], Y. Dou[1], Y. Fu[1] and C. Zhang[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

CQ-08. **3D Magnetic Structure of Domain Walls in Soft Magnetic Racetracks by MFM and X-ray Microscopy.** J. Hermosa[1,2], A. Hierro Rodriguez[1,2], J. Martín[1,2], A. Sorrentino[3], M. Velez[1,2], E. Pereiro[3], *C. Quiros*[1,2] and S. Ferrer[3] *1. Physics Dept., Universidad de Oviedo, Oviedo, Spain; 2. Centro de Investigacion en Nanomateriales y Nanotecnologia, El Entrego, Spain; 3. ALBA Synchrotron, Cerdanyola del Vallès, Spain*

CQ-09. **Research on Mid-Distance High-Efficiency Wireless Power Transmission System Using Class E Amplifier.** N. Zhang[1], Y. Zhang[1], *S. Ning*[2], S. Wang[1], B. Lai[3] and T. Zhu[1] *1. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2. School of Electronic Information and Artificial Intelligence, Shaanxi University of Science and Technology, Xi'an, China; 3. Quanzhou Experimental Middle School, Quanzhou, China*

CQ-10. **Estimation of the Focality of Coils and Quality of Stimulation of Biological Tissues During Transcranial Magnetic Stimulation.** *I.C. Carmona*[1], O.F. Afuwape[2], D.C. Jiles[2] and R.L. Hadimani[1,3] *1. Dept. of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Dept. of Electrical & Computer Engineering, Iowa State University, Ames, IA, United States; 3. Dept. of Biomedical Engineering, Virginia Commonwealth University, Richmond, VA, United States*

CQ-11. **Steel Ball Sorting Based on Electromagnetic Induction Using Eddy Current Technique.** *D. Dao*[1], J. Jeng[1], C. Dinh[1], V. Doan[1], T. Pham[1] and H. Nguyen[1] *1. Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan*

ON-DEMAND SESSIONS

Session CR
NOVEL IMAGING AND MEASUREMENT TECHNIQUES II (Poster Session)

Chuanpu Liu, Chair
Colorado State University, Boulder, CO, United States

CR-01. **Study on Sensor and Analysis Area in the Signal Source Estimation by Spatial Filter for Magnetocardiogram.** *M. Iwai*[1], S. Narita[1], W. Sun[2] and K. Kobayashi[1] *1. Iwate University, Morioka, Japan; 2. Kinki University, Higashiosaka, Japan*

CR-02. **Influence of the Earth's Magnetic Field on the Diagnosis of Steel Rope With the use of MFAM Technology.** *P. Mazurek*[1] *1. Department of Machinery Engineering and Transport, AGH University of Science and Technology, Krakow, Poland*

CR-03. **Adaptive Suppression of Mode Mixing in CEEMD Based on Genetic Algorithm for Motor Bearing Fault Diagnosis.** *Z. Ke*[1], C. Di[1] and X. Bao[1] *1. School of Electrical Engineering and Automation, Hefei University of Technology, Hefei, China*

CR-04. **Diamagnetic Susceptibility of a Single Particle Detected From its Parabolic Movement Caused by Magnetic Field Gradient and Terrestrial Gravity.** *K. Hisayoshi*[1], S. Jinnouchi[1], C. Uyeda[1] and K. Terada[1] *1. Earth & Space Science, Osaka University, Toyonaka, Japan*

CR-05. **"ULMAG – Ultimate Magnetic Characterization," a Novel Experimental Setup for the Beamline ID12 at the European Synchrotron Radiation Facility (ESRF).** *A. Aubert*[1], K. Skokov[1], G. Gomez[2], I. Radulov[1], F. Wilhelm[3], A. Rogalev[3], H. Wende[2], O. Gutfleisch[1] and K. Ollefs[2] *1. Technische Universitat Darmstadt, Darmstadt, Germany; 2. Universitat Duisburg-Essen, Duisburg, Germany; 3. ESRF, Grenoble, France*

CR-06. **Magnetic Anisotropy Detected in a Small Crystal by Observing its Rotational Oscillation Caused by a Ferrite Magnetic Circuit.** *C. Uyeda*[2], S. Sugiura[2], K. Hisayoshi[1] and K. Terada[1] *1. Osaka University, Suita, Japan; 2. Osaka University, Osaka, Japan*

CR-07. **Design of Transcranial Magnetic Stimulation Coils for Mouse With Improved Stimulus Focus and Intensity.** *H. Yu*[1], B. Du[1], G. Xu[1] and L. Guo[1] *1. Hebei University of Technology, Tianjin, China*

CR-08. **Study on the Multi-Coil Data Fusion Based on Planar Eddy Current Coil in Non-Destructive Testing.** N. Zhang[1], Z. Ma[1], *S. Ning*[2], S. Wang[1], X. Xu[1], Y. Zhang[1], Y. Du[1] and H. Qiu[1] *1. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2. School of Electronic Information and Artificial Intelligence, Shaanxi University of Science and Technology, Xi'an, China*

CR-09. **Magnetization Measurement System With Giant Magnetoresistance Zero-Field Detector.** *V. Doan*[1], J. Jeng[1], H. Nguyen[1], C. Dinh[1], D. Dao[1] and T. Pham[1] *1. Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung City 807618, Taiwan*

CR-10. **A Matching Method for Magnetic Anomaly Signals Under Low Signal-to-Noise.** J. Qiu[1] and *J. Ou*[1] *1. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

CR-11. **Design of Stable Biphasic Pulsed Magnetic Fields for Portable Diagnostic Applications.** N. Prabhu Gaunkar[1], W. Theh[1], *N. Bouda*[1] and M. Mina[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA, United States*

Session CS
MAGNETIC MODELLING
(Poster Session)

Benjamin Ducharne, Chair
Institut National des Sciences Appliquees de Lyon,
Villeurbanne, France

CS-01. **Dynamical Rearrangements of 3D Vortex Structures in Moving Domain Walls in Continuous and Antidot Patterned Permalloy Films.** *V.V. Zverev*[1,2] and I. Izmozherov[2]
1. Department of Theoretical Physics and Applied Mathematics, Ural'skij federal'nyj universitet imeni pervogo Prezidenta Rossii B N El'cina, Ekaterinburg, Russian Federation; 2. Institut fiziki metallov imeni M N Miheeva Ural'skogo otdelenia Rossijskoj akademii nauk, Ekaterinburg, Russian Federation

CS-02. **Numerical Simulation of the Structure and Dynamics of Magnetic Vortices and Solitons in Multilayer Ferromagnetic Nanostructures.** *K. Samsonov*[1], S. Stepanov[2], G. Antonov[2], A. Ekomasov[2], R. Kudryavtsev[3], A. Gumerov[2], K. Zvezdin[4] and E.G. Ekomasov[1,2] *1. Department of Physical Processes and Systems Modeling, University of Tyumen, Tyumen, Russian Federation; 2. Department of Theoretical Physics, Bashkir State University, Ufa, Russian Federation; 3. Institute of Molecule and Crystal Physics UFIC RAS, Ufa, Russian Federation; 4. A. M. Prohorova Institute of General Physics, RAN, Moscow, Russian Federation*

CS-03. **Angular Remanence and Anisotropy Orientation Distribution in Nickel Films on $LiNbO_3$.** *S.A. Mathews*[1] and N. Charipar[1] *1. Materials Science and Technology Division, US Naval Research Laboratory, Washington, DC, United States*

CS-04. **Transverse Susceptibility of Nickel Thin Films With Uniaxial Anisotropy.** *S.A. Mathews*[1], C. Musi[2] and N. Charipar[1] *1. Materials Science and Technology Division, US Naval Research Laboratory, Washington, DC, United States; 2. Nova Research Inc, Alexandria, VA, United States*

CS-05. **Application of an Improved Interpolating Element-Free Galerkin Method in Magnetic Field Calculation.** *F. Yang*[1] and C. Gu[1] *1. Huazhong University of Science and Technology School of Electrical and Electronic Engineering, Wuhan, China*

CS-06. **An Improved Hysteresis Model Based on Bouc-Wen Model Under Quasi-Static and Dynamic Magnetizations.** *Y. Li*[1], Y. Li[1], Z. Lin[1], Z. Cheng[2] and Y. Tian[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 2. R&D Center, Baoding Tianwei Group Co., Ltd, Baoding, China*

CS-07. **Circular Polarized Vortex Beam Generating Based on Leaky-Wave Antenna With Substrate Integrated Waveguide.** *Q. Zhang*[1], W. Chen[1], Y. Zhao[1] and J. Fu[1]
1. Harbin Institute of Technology, Harbin, China

CS-08. **Field Computation in Media Exhibiting Hysteresis Using Hopfield Neural Networks.** *A. Adly*[2] and S. Abd-El-Hafiz[1] *1. Engineering Mathematics and Physics Dept., Cairo University, Giza, Egypt; 2. Elect. Power Engineering Dept., Cairo University, Giza, Egypt*

CS-09. **Magnetic Properties and Moment Field Motion Determined by the Shape of the Magnetic Nanowire.** *Y. Chen*[1] and B. Stadler[2] *1. CEMS, University of Minnesota, Minneapolis, MN, United States; 2. ECE, University of Minnesota, Minneapolis, MN, United States*

CS-10. **Magnetic Characteristic Analysis of High Temperature Superconductors by the Elemental Operator Model.** W. Xu[1], *N. Duan*[2], S. Wang[2] and J. Zhu[3] *1. State Grid Shaanxi Electric Power Company Construction Branch, Xi'an, China; 2. Xi'an Jiaotong University, Xi'an, China; 3. University of Sydney, Sydney, NSW, Australia*

CS-11. **Iron Loss Calculation of non-Oriented Silicon Steel Considering Hysteresis Using Fourier Series Expansion.** H. Zhao[1], *Y. Gao*[1], W. Guan[2], K. Muramatsu[3] and H. Hamzehbahmani[4] *1. Oita University, Oita, Japan; 2. Wuhan University, Wuhan, China; 3. Saga University, Saga, Japan; 4. Durham University, Durham, United Kingdom*

CS-12. **3D Simulations of Domain Wall Structure and Hysteresis in Cobalt Films With Columnar Defects.** *V.V. Zverev*[1,2] and I. Izmozherov[2] *1. Department of Theoretical Physics and Applied Mathematics, Ural'skij federal'nyj universitet imeni pervogo Prezidenta Rossii B N El'cina, Ekaterinburg, Russian Federation; 2. Institut fiziki metallov imeni M N Miheeva Ural'skogo otdelenia Rossijskoj akademii nauk, Ekaterinburg, Russian Federation*

CS-13. **Quantitative Analysis of Buried Pipeline Corrosion Under Dynamic Electromagnetic Interference in DC-Subway.** *Z. Cai*[1], X. Liu[1] and x. Zhang[1] *1. School of Electrical and Automation Engineering, East China JiaoTong University, Nanchang, China*

CS-14. **Precision Improvement by Superconvergent Patch Recovery Method on Intensity Calculation of Electromagnetic Field.** *N. Zhang*[1], P. Song[1], S. Ning[2], S. Wang[1], X. Xu[1], Z. Ma[1], Y. Zhang[1] and H. Qiu[1] *1. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2. School of Electronic Information and Artificial Intelligence, Shaanxi University of Science and Technology, Xi'an, China*

Session DA
2D MATERIALS FOR SPINTRONICS

Hyunsoo Yang, Chair
National University of Singapore, Singapore

DA-01. **Ultra-Thin Heusler Films and Lamellae That Host non-Collinear Spin Textures.** ***(Invited)*** *S. Parkin[1,2] 1. NISE, Max Planck Institute for Microstructure Physics, Halle (Saale), Germany; 2. Martin-Luther-Universitat Halle-Wittenberg, Halle, Germany*

DA-02. **Spin-Orbit Torque in van der Waals Heterostructures of Magnetic Two-Dimensional Materials.** ***(Invited)*** *B. Nikolić[1] 1. University of Delaware, Newark, DE, United States*

DA-03. **Spin-Orbit Proximity Phenomena in Van der Waals Heterostructures.** ***(Invited)*** L.A. Benitez[2], W. Savero Torres[2], J.F. Sierra[2], M.V. Costache[2], J.H. Garcia[2], S. Roche[1,2] and *S.O. Valenzuela[1,2] 1. Institucio Catalana de Recerca i Estudis Avancats, Barcelona, Spain; 2. Institut Catala de Nanociencia i Nanotecnologia, Bellaterra, Spain*

DA-04. **Optimization of Spin to Charge Transduction Efficiency for Magnetic State Readout.** ***(Invited)*** T. Gosavi[1], *E.S. Walker*[1], K. Oguz[1], C. Lin[1], J. Plombon[1], H. Li[1], D.E. Nikonov[1], S. Clendenning[1] and I.A. Young[1] *1. Components Research, Intel Corp, Hillsboro, OR, United States*

DA-05. **Significant Dzyaloshinskii-Moriya Interaction in Two-Ddimensional Janus Structures and its Electrically Control in 2D Magnetoelectric Multiferroics.** ***(Invited)*** *H. Yang[1] 1. Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo 315201, China*

DA-06. **Electrical and Chemical Control of Magnetism in Layered Ferromagnetic Semiconductors.** ***(Invited)*** *G. Eda[1] 1. National University of Singapore, Singapore*

Session DB
SPINS IN GRAPHENE OTHER 2D MATERIALS

Ivan Vera-Marun, Chair
The University of Manchester, Manchester, United Kingdom

DB-01. **Magnetic Nano/Microfibres With Highly Oriented van der Waals CrI_3 Inclusions by Electrospinning.** *V. Bayzi Isfahani*[1], J. Filipe Horto Belo da Silva[2], L. Boddapati[3], A. Gomes Rolo[1], R. Maria Ferreira Baptista[1], F. Leonard Deepak[3], J. Pedro Esteves de Araújo[2], E. de Matos Gomes[1] and B. Gonçalves Almeida[1] *1. Centro de Física das Universidades do Minho e Porto, Departamento de Física, Universidade do Minho, Braga, Portugal; 2. FIMUP - Instituto de Física de Materiais avançados, Nanotecnologia e Fotónica, Universidade do Porto, Universidade do Porto, Porto, Portugal; 3. Nanostructured Materials Group, International Iberian Nanotechnology Laboratory (INL), International Iberian Nanotechnology Laboratory, Braga, Portugal*

DB-02. **Spin Filtering Manipulation in WS_2-Based Magnetic Tunnel Junctions.** *V. Zatko*[1], J. Peiro[1], M. Galbiati[1], S.M. Dubois[2], P. Brus[3], B. Servet[3], J. Charlier[2], M. Och[4], C. Mattevi[4], F. Godel[1], A. Vecchiola[1], K. Bouzehouane[1], S. Collin[1], F. Petroff[1], A. Fert[1], B. Dlubak[1] and P. Seneor[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Universite catholique de Louvain, Louvain-la-Neuve, Belgium; 3. Thales Research and Technology France, Palaiseau, France; 4. Imperial College London, London, United Kingdom*

DB-03. **Spin Valves With Exfoliated 2D Materials: MoS_2.** *M. Galbiati*[1,2], F. Godel[2], A. Vecchiola[2], V. Zatko[2], S. Tatay[1], R. Galceran[2], S. Mañas-Valero[1], M. Piquemal-Banci[2], M. Martin[2], A. Forment-Aliaga[1], E. Coronado[1], B. Dlubak[2] and P. Seneor[2] *1. Universitat de Valencia Institut de Ciencia Molecular, Paterna, Spain; 2. Unite Mixte de Physique CNRS/ Thales, Palaiseau, France*

DB-04. **Intrinsic 2DXY Ferromagnetism in a van der Waals Monolayer Grown by Molecular Beam Epitaxy.** *A. Bedoya PInto*[1], J. Ji[1], A. Pandeya[1], P. Gargiani[2], M. Valvidares[2], P. Sessi[1], F. Radu[3], K. Chang[1,4] and S. Parkin[1] *1. Max-Planck-Institut fur Mikrostrukturphysik, Halle, Germany; 2. Consorcio para la Construccion Equipamiento y Explotacion del Laboratorio de Luz Sincrotron, Barcelona, Spain; 3. Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Berlin, Germany; 4. Beijing Academy of Quantum Information Sciences, Beijing, China*

DB-05. **High Spin Hall Conductivity in Large-Area Type-II Dirac Semimetal $PtTe_2$.** *H. Xu*[1], J. Wei[1], X. Han[1] and G. Yu[1] *1. Beijing National Laboratory for Condensed Matter Physics, Chinese Academy of Sciences, Beijing, China*

DB-06. **Coexistence of Topological and Rashba States in Ferroelectric SnTe.** L. Nessi[5], A. Novati[5], M. Cantoni[5], S. Cecchi[1], G. Vinai[2], D. Mondal[2], J. Fujii[2], I. Vobornik[2], R. Calarco[3], R. Bertacco[5], S. Picozzi[4] and *C. Rinaldi*[5] *1. Epitaxy, Paul-Drude-Institut fur Festkorperelektronik, Berlin, Germany; 2. IOM-CNR, Istituto Officina dei Materiali Consiglio Nazionale delle Ricerche, Trieste, Italy; 3. CNR-IMM, Consiglio Nazionale delle Ricerche, Roma, Italy; 4. CNR-SPIN, Consigli Nazionale delle Ricerche, Chieti, Italy; 5. Physics, Politecnico di Milano, Milano, Italy*

DB-07. **Bulk-Like Magnetic Moments in Epitaxial Two-Dimensional Superlattices.** *J. Sun*[1], S. Liu[2,3], F. Xiu[2,3] and W. Liu[1] *1. Electronic Engineering, Royal Holloway University of London, Egham, United Kingdom; 2. State Key Laboratory of Surface Physics and Department of Physics, Fudan University, Shanghai, China; 3. Institute for Nanoelectronic Devices and Quantum Computing, Fudan University, Shanghai, China*

DB-08. **Critical Fluctuations Induced g-Factor Anisotropy in the Two-Dimensional Ferromagnetic Insulators $CrXTe_3$ (X=Si, Ge).** *Z. Li*[1,2], D. Xu[1,2], X. Li[1,2], H. Liao[1,3], X. Xi[1], Y. Yu[1,4] and W. Wang[1,3] *1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. University of Chinese Academy of Sciences Education Foundation, Beijing, China; 3. Songshan Lake Library, Dongguan, China; 4. Wuhan Institute of Physics and Mathematics Chinese Academy of Sciences, Wuhan, China*

DB-09. **Spin-Orbit Driven Effects in Graphene-FM Systems.** A. Gudín Holgado[1,2], J.M. Diez[1,2], P. Olleros-Rodríguez[1], F. Ajejas[1], A. Anadón[1], I. Arnay[1], R. Guerrero[1], J. Camarero[1,2], R. Miranda[1,2] and *P. Perna*[1] *1. Nanoscience, Instituto Madrileno de Estudios Avanzados, Madrid, Spain; 2. Instituto Nicolás Cabrera & IFIMAC, Universidad Autonoma de Madrid, Madrid, Spain*

DB-10. **Room-Temperature Ferromagnetism in 2D vdW Fe_3GeTe_2 and its Potential Application.** *T. Nie*[1] *1. Beihang University, Beijing, China*

DB-11. **Electrical Resistivity, Galvanomagnetic and Optical Properties of WTe_2 Single Crystal.** *A. Domozhirova*[1], S. Naumov[1], A. Makhnev[1], E. Shreder[1], S. Podgornykh[1], E. Marchenkova[1], V. Chistyakov[1], J. Huang[2] and V. Marchenkov[1,3] *1. M.N. Mikheev Institute of Metal Physics, UB RAS, Ekaterinburg, Russian Federation; 2. National Cheng Kung University, Tainan, Taiwan; 3. Ural Federal University, Ekaterinburg, Russian Federation*

Session DC
SPINS IN TOPOLOGICAL INSULATORS AND 2D MATERIALS

Claudia Felser, Chair
Max-Planck-Gesellschaft, Dresden, Germany

DC-01. **Magnetotransport and ARPES Studies of Large-Area Sb_2Te_3 and Bi_2Te_3 Topological Insulators Grown by MOCVD on Si.** *L. Locatelli*[1,2], A. Kumar[1], R. Cecchini[1], E. Longo[1,2], M. Rimoldi[1], P. Tsipas[3], A. Dimoulas[3], M. Longo[1] and R. Mantovan[1] *1. Material science, Consiglio Nazionale delle Ricerche, Agrate Brianza, Italy; 2. Material science, Universita degli Studi di Milano-Bicocca, Milano, Italy; 3. Material science, Ethniko Kentro Ereunas Physikon Epistemon Demokritos, Athena, Greece*

DC-02. **Role of Ising Superconductivity in the Transition-State Enhancement of Magnon Spin to Quasiparticle Charge Conversion Efficiency.** *K. Jeon*[1], K. Cho[1], A. Chakraborty[1], J. Jeon[1], J. Yoon[1], H. Han[1] and S. Parkin[1] *1. Max Planck Institute of Microstructure Physics, Halle / Saale, Germany*

DC-03. **Room Temperature Nonlinear Hall Effect and Wireless RF Rectification in Weyl Semimetal $TaIrTe_4$.** *D. Kumar*[1], C. Hsu[1], R. Sharma[1], T. Chang[2,3], P. Yu[4], J. Wang[5,6], G. Eda[5,6], G. Liang[1] and H. Yang[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore; 2. National Cheng Kung University, Tainan, Taiwan; 3. Center for Quantum Frontiers of Research & Technology (QFort), National Cheng Kung University, Tainan, Taiwan; 4. State Key Laboratory of Optoelectronic Materials and Technologies, School of Materials Science and Engineering, Sun Yat-Sen University, Guangzhou, China; 5. Centre for Advanced 2D Materials, National University of Singapore, Singapore; 6. Department of Physics, National University of Singapore, Singapore*

DC-04. **Charge Spin Conversion in Topological Materials and Heterostructures.** ***(Invited)*** *S.P. Dash*[1] *1. Microtechnology and Nanoscience, Chalmers University of Technology, Gothenburg, Sweden*

DC-05. **Strain-Tailored Magnetic Anisotropy and Dzyaloshinskii-Moriya Interaction at $MoS_2/Fe_4N(111)$ Interface.** *J. Jiang*[1] and W. Mi[1] *1. Department of Applied Physics, Tianjin University, Tianjin, China*

DC-06. **Anomalous Transport in Magnetic Topological Materials.** *Y. Sun*[1], E. Liu[1,2], J. Noky[1], Q. Xu[1], L. Muechler[3], K. Manna[1], S. Guin[1], J. Brink[4] and C. Felser[1] *1. Max-Planck-Institut fur Chemische Physik fester Stoffe, Dresden, Germany; 2. Chinese Academy of Sciences Institute of Physics, Beijing, China; 3. The Flatiron Institute, New York, NY, United States; 4. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany*

DC-07. **Nonlinear Anomalous Hall Effect in van der Waals Ferromagnet.** *J. Zhou*[1] and J. Charlier[1] *1. Institute of Condensed Matter and Nanosciences, Universite catholique de Louvain, Louvain-la-Neuve, Belgium*

DC-08. **Tunable Electronic and Magnetic Properties of Two-Dimensional Janus Magnetic Materials.** *R. Li*[1], H. Bai[1] and W. Mi[1] *1. Department of Applied Physics, Tianjin University, Tianjin, China*

DC-09. **Correlation of Magnetic Properties of van der Waals Itinerant Magnet Fe_3GeTe_2 Using Magnetometry and Raman Spectroscopy.** *D. Sagkovits*[1,2], M. Cubukcu[1,3], T. Vincent[1,4], S. Khan[2,3], H. Kurebayashi[2,3] and O. Kazakova[1] *1. National Physical Laboratory, Teddington, United Kingdom; 2. London Centre for Nanotechnology, London, United Kingdom; 3. University College London, London, United Kingdom; 4. Royal Holloway University of London, Egham, United Kingdom*

DC-10. **Direct Observation of Tunable Magnetic Domains in Noncentrosymmetric Ferromagnetic Weyl Semimetal CeAlSi.** *B. Xu*[1], J.D. Franklin[1], A. Jayacody[1], H. Yang[2], F. Tafti[2] and I. Sochnikov[1] *1. Physics, University of Connecticut, Storrs, CT, United States; 2. Physics, Boston College, Chestnut Hill, MA, United States*

DC-11. **Unidirectional Spin-Hall Magnetoresistance in HgTe Topological Insulator - Ferromagnet Heterostructures.** *C. Grezes*[1], J. Papin[2], M. Cosset-Cheneau[1], P. Noël[1,3], Y. Fu[1], A. Brenac[1], P. Ballet[4], T. Meunier[2], J. Attané[1] and L. Vila[1] *1. CEA Grenoble, SPINtronique et Technologie des Composants, Grenoble, France; 2. Institut NEEL, Grenoble, France; 3. ETH Zurich, Zurich, Switzerland; 4. CEA Grenoble, LETI, Grenoble, France*

DC-12. **Evolution of the THz Emission Signal as a Function of the Interface Quality Between Fe and Large-Area Topological Insulator Sb_2Te_3 on Si.** L. Locatelli[1,2], G. Bierhance[3], O. Gueckstock[3], A. Kumar[1], E. Longo[1,2], M. Alia[1], R. Cecchini[1], M. Longo[1], T. Kampfrath[3] and *R. Mantovan*[1] *1. IMM Unit of Agrate Brianza, Consiglio Nazionale delle Ricerche, Agrate Brianza (MB), Italy; 2. Material Science, Universita degli Studi di Milano-Bicocca, Milano, Italy; 3. Physical Chemistry, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany*

DC-13. **2D Magnetic Crystals: Can we Probe Magnetic Order? Theoretical Study of vdW Layered $MnPS_3$ Crystals Exhibiting Large Exciton Binding Energy.** *M. Birowska*[1], P.E. Faria Junior[2] and J. Fabian[2] *1. University of Warsaw, Uniwersytet Warszawski, Warszawa, PL, academic, Warsaw, Poland; 2. Universitat Regensburg, Regensburg, Germany*

Session DD
MAGNETISM IN CURVILINEAR AND CYLINDRICAL GEOMETRIES

Oksana Chubykalo-Fesenko, Chair
Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain

DD-01. **Curvilinear Magnetism.** ***(Invited)*** *D.D. Sheka[1] 1. Faculty of Radiophysics, Electronics and Computer Systems, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*

DD-02. **Micromagnetic Description of Symmetry-Breaking Effects in Curvilinear Ferromagnetic Shells.** D.D. Sheka[1], *O. Pylypovskyi[2,3]*, P. Landeros[4,5], A. Kakay[2] and D. Makarov[2] *1. Taras Shevchenkp National University of Kyiv, Kiiv, Ukraine; 2. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Kyiv Academic University, Kyiv, Ukraine; 4. Universidad Tecnica Federico Santa Maria, Valparaiso, Chile; 5. Center for the Development of Nanoscience and Nanotechnology (CEDENNA), Santiago, Chile*

DD-03. **Magnetic Phase Diagrams and Helicity Control of Reversal Modes in Ferromagnetic Nanotubes.** H. Salinas[1], J. Restrepo[1] and *O. Iglesias[2,3] 1. Instituto de Física, Universidad de Antioquia, Medellin, Colombia; 2. Condensed Matter Physics, Universitat de Barcelona, Barcelona, Spain; 3. IN2UB, Barcelona, Spain*

DD-04. **Spin-Polarised Current Bloch Point Manipulation.** *M. Beg[1]*, M. Lang[1] and H. Fangohr[2,1] *1. Faculty of Engineering and Physical Sciences, University of Southampton, Southampton, United Kingdom; 2. Max Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany*

DD-05. **Time Resolved Imaging of ŒRsted Field Induced Magnetization Dynamics in Cylindrical Magnetic Nanowires.** *M. Schöbitz[1,2]*, S. Finizio[3], A. De Riz[1], J. Hurst[1], J. Toussaint[4], C. Thirion[4], D. Gusakova[1], J. Bachmann[2], J. Raabe[3] and O. Fruchart[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Inorganic Chemistry, Friedrich-Alexander-Universitat Erlangen-Nurnberg, Erlangen, Germany; 3. Paul Scherrer Institut, Villigen, Switzerland; 4. Institut NEEL, Grenoble, France*

DD-06. **Mechanism of Current-Assisted Bloch-Point Wall Stabilization for Ultra Fast Dynamics.** A. De Riz[1], J. Hurst[1], M. Schöbitz[1,2], C. Thirion[3], J. Bachmann[2,4], J. Toussaint[3], O. Fruchart[1] and *D. Gusakova[1] 1. Univ. Grenoble Alpes, CNRS, CEA, IRIG-SPINTEC, Grenoble, France; 2. Friedrich-Alexander-Universitat Erlangen-Nurnberg, Erlangen, Germany; 3. Neel Institute, Univ. Grenoble Alpes, CNRS, Grenoble, France; 4. Institute of Chemistry, St. Petersburg State University, St. Petersburg, Russian Federation*

DD-07. **Micromagnetics of Chemical Barriers Inserted Within Permalloy Cylindrical Nanowires: Towards the Control of Domain Wall Motion.** *L. Álvaro Gómez*[1,2], M. Schöbitz[1], C. Fernández González[2,3], S. Ruiz Gómez[6], I. Andersen[7], N. Mille[5], J. Hurst[1], M. Foerster[6], L. Aballe[6], R. Belkhou[5], J. Toussaint[4], L. Cagnon[4], C. Thirion[4], A. Masseboeuf[1], D. Gusakova[1], L. Pérez García[3,2] and O. Fruchart[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Fundacion IMDEA Nanociencia, Madrid, Spain; 3. Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 4. Institut NEEL, Grenoble, France; 5. Synchrotron SOLEIL, Gif-sur-Yvette, France; 6. Sincrotron ALBA, Barcelona, Spain; 7. Centre d'Elaboration de Materiaux et d'Etudes Structurales, Toulouse, France*

DD-08. **Theoretical Study of Current Induced Domain Wall Motion in Magnetic Nanotubes With Azimuthal Magnetization.** *J. Hurst*[1], A. De Riz[1], M. Stano[2], J. Toussaint[3], O. Fruchart[1] and D. Gusakova[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Stredoevropsky technologicky institut, Brno, Czechia; 3. Institut NEEL, Grenoble, France*

DD-09. **Dynamic State Transitions in Vortex-Based Magnetic Tunnel Junctions for High Frequency Data Transmission.** *A. Jenkins*[1], L. San Emeterio Alvarez[1], L. Benetti[1], L. Martins[1], P.P. Freitas[1] and R. Ferreira[1] *1. Spintronics, International Iberian Nanotechnology Laboratory, Braga, Portugal*

DD-10. **Heusler-Compound Nanocontact Vortex Oscillators.** *J. Létang*[1], C. de Melo[2,3], C. Guillemard[2,4], A. Vecchiola[5], S. Petit-Watelot[2], M. Yoo[1], T. Devolder[1], K. Bouzehouane[5], V. Cros[5], S. Andrieu[2] and J. Kim[1] *1. Centre de Nanosciences et de Nanotechnologies, Orsay, France; 2. Institut Jean Lamour, Nancy, France; 3. Laboratoire Materiaux Optiques Photonique et Systemes, Metz, France; 4. Synchrotron SOLEIL, Gif-sur-Yvette, France; 5. Unite Mixte de Physique CNRS/Thales, Palaiseau, France*

ON-DEMAND SESSIONS

Session DE
MULTIFERROICS AND MAGNETOELECTRIC MATERIALS

Julius de Rojas, Chair
Universitat Autonoma de Barcelona, Barcelona, Spain

DE-01. **The Crucial Role of Stoichiometry to get Ultra-low Magnetic Damping in Heusler Compounds.** *S. Andrieu*[1], C. Guillemard[1,2], S. Petit-Watelot[1] and F. Bertran[3] *1. Institut Jean Lamour, universite de lorraine, Nancy, France; 2. ALBA synchrotron, Barcelona, Spain; 3. SOLEIL synchrotron, Saint Aubin, France*

DE-02. **Electronic Transport Properties of Antiperovskite Mn_4N Epitaxial Films.** *Z. Zhang*[1] and W. Mi[1] *1. Department of Applied Physics, Tianjin University, Tianjin, China*

DE-03. **Transport Properties of Co_2MnSi Heusler Compounds.** *C. de Melo*[1,2], C. Guillemard[1,3], V. Palin[1], J. Rojas-Sanchez[1], S. Petit-Watelot[1] and S. Andrieu[1] *1. Institut Jean Lamour, Nancy, France; 2. Laboratoire Materiaux Optiques Photonique et Systemes, Metz, France; 3. Synchrotron SOLEIL, Gif-sur-Yvette, France*

DE-04. **Enhancement of the Anomalous Nernst Effect in Polycrystalline Co_2MnGa/AlN Multilayers.** *J. Wang*[1,2], Y. Lau[1,2], W. Zhou[3], T. Seki[1,2], Y. Sakuraba[3,4], T. Kubota[1,2], K. Ito[1,2] and K. Takanashi[1,2] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. CSRN, Tohoku University, Sendai, Japan; 3. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan; 4. PRESTO, Japan Science and Technology Agency, Tokyo, Japan*

DE-05. **Enhancement of $L2_1$-Atomic Order and Spin-Polarization in Co_2MnZ (Z = Ge, Sn) Heusler Thin Films by low-Temperature Annealing Process.** *V.K. Kushwaha*[1], Y. Sakuraba[1], T. Nakatani[1], T. Sasaki[1], I. Kurniawan[1] and K. Hono[1] *1. Research Center for Magnetic and Spintronic Materials, National Institute for Material Science, Tsukuba, Japan*

DE-06. **Growth of Ruddlesden–Popper $(CaO)(CaMnO_3)_n$ Thin Films by Laser Ablation Deposition.** *B. Machado da Silva*[1], J. Oliveira[1], T. Rebelo[1,3], P. Rocha-Rodrigues[2], P. Lekshmi[2], A.L. Lopes[2], J. Pedro Esteves de Araújo[2], F. Leonard Deepak[3] and B. Gonçalves Almeida[1] *1. Centro de Física da Universidade do Minho e o Centro de Física da Universidade do Porto, Universidade do Minho, Braga, Portugal; 2. Dep. Física e Astronomia, Universidade do Porto Instituto de Fisica dos Materiais Instituto de Nanociencia e Nanotecnologia, Porto, Portugal; 3. International Iberian Nanotechnology Laboratory, Braga, Portugal*

DE-07. **Interfacial Corrugation and Magnetism of Freestanding $LaMnO_{3+\delta}$ Thin Films.** Q. Lu[1], *P.P. Balakrishnan*[2], A. Grutter[2] and X. Zhai[3] *1. University of Science and Technology of China Hefei National Laboratory for Physical Sciences at the Microscale, Hefei, China; 2. NIST Center for Neutron Research, Gaithersburg, MD, United States; 3. ShanghaiTech University School of Physical Science and Technology, Shanghai, China*

DE-08. **Ferromagnetism in C-Doped ZnO Powder: the Role of Oxygen Vacancies and Carbon Defects.** *S. Akbar*[1,2], S. S. K. Hasanain[3,5], M. Jamil[3], G. Jaffari[3], S. Shah[4] and P. Rudolf[2] *1. Katholieke Universiteit Leuven, Leuven, Belgium; 2. Rijksuniversiteit Groningen Faculty of Science and Engineering, Groningen, Netherlands; 3. Physics department, Qaid-i-Azam University, Islamabad, Pakistan; 4. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 5. COMSTECH Secretariat, Islamabad, Pakistan*

DE-09. **Electronic Properties and Electronic Structure of Co_2YSi (Y = Ti, v, Cr, Mn, Fe, Co, Ni) Heusler Alloys.** *A. Semiannikova*[1], Y. Perevozchikova[1], A. Lukoyanov[1,2], E. Shreder[1], A. Makhnev[1], P. Korenistov[1] and V. Marchenkov[1,2] *1. Institut fiziki metallov imeni M N Miheeva Ural'skogo otdelenia Rossijskoj akademii nauk, Ekaterinburg, Russian Federation; 2. Ural'skij federal'nyj universitet imeni pervogo Prezidenta Rossii B N El'cina, Ekaterinburg, Russian Federation*

Session DF
MULTIFERROICS AND MAGNETOELECTRIC PHENOMENA

Pan He, Chair
Fudan University, Shanghai, China

DF-01. **Domain Walls in Antiferromagnetic Samples With non-Trivial Surface Topography.** *O. Pylypovskyi*[1,2], N. Hedrich[3], K. Wagner[3], A.V. Tomilo[4], B.J. Shields[3], T. Kosub[1], D.D. Sheka[4], D. Makarov[1] and P. Maletinsky[3] *1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Kyiv Academic University, Kyiv, Ukraine; 3. Universitat Basel, Basel, Switzerland; 4. Taras Shevchenkp National University of Kyiv, Kyiv, Ukraine*

DF-02. **Oxygen vs. Nitogen Magneto-Ionics.** *J. de Rojas*[1], A. Quintana[2], A. Lopeandía[1], J. Salguero[3], B. Muñiz[3], F. Ibrahim[4], M. Chshiev[4,5], A. Nicolenco[1], M. Liedke[6], M. Butterling[6], A. Wagner[6], L. Henderick[7], J. Dendooven[7], C. Detavernier[7], V. Sireus[1], L. Abad[8], C.J. Jensen[2], K. Liu[2], J. Nogues[9,10], J. Costa-Krämer[3], E. Menéndez[1] and J. Sort[1,10] *1. Physics, Universitat Autonoma de Barcelona, Barcelona, Spain; 2. Physics, Georgetown University, Washington, DC, United States; 3. Instituto de Micro y Nanotecnología (CNM-CSIC), Tres Cantos, Spain; 4. Univ. Grenoble Alpes, CEA, CNRS, Spintec, Grenoble, France; 5. Institut Universitaire de France, Paris, France; 6. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 7. Solid State Sciences, Universiteit Gent, Gent, Belgium; 8. Institut de Microelectrònica de Barcelona, (CNM-CSIC), Bellaterra, Spain; 9. Institut Catala de Nanociencia i Nanotecnologia, Bellaterra, Spain; 10. Institucio Catalana de Recerca i Estudis Avancats, Barcelona, Spain*

DF-03. **Magneto-Ionic Effect in Iron Triad Nanostructures With Different Shapes and Composition.** M. Kutuzau[1], *M. Nichterwitz*[1,2], S. Honnali[1], D. Wolf[1], S. Schneider[3], K. Nielsch[1,4] and K. Leistner[1] *1. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 2. Physical Chemistry, Technische Universitat Dresden, Dresden, Germany; 3. Dresden Center for Nanoanalysis, Technische Universitat Dresden, Dresden, Germany; 4. Institute of Material Science, Technische Universitat Dresden, Dresden, Germany*

DF-04. **The Impact of Stress on the Magnetoelectric Coupling Between a Multilayered Ferromagnet and a Ferroelectric Single Crystal.** L. Garten[1], K. Bussmann[1], P. Finkel[1] and *M. Staruch*[1] *1. US Naval Research Laboratory, Washington, DC, United States*

DF-05. **Structural Transformation, Magnetization Reversal Along With Magnetic Switching Effect in Cr Doped $GdMnO_3$ Perovskite.** *P. Tiwari*[1] and C. Rath[1] *1. Materials Science, Indian Institute of Technology BHU Varanasi, Varanasi, India*

DF-06. ***in-Situ*** **Single Crystal Synchrotron X-ray Diffraction Study on the Structure of Multiferroic Antiferromagnet $Ba_2MnGe_2O_7$ From low- to High-Temperature.** *R. Dutta*[1], H. Thoma[2], D. Vadim[3], D. Chernyshov[3], B. Nafradi[4], T. Masuda[5] and V. Hutanu[1] *1. Institute of Crystallography, RWTH Aachen University and Julich Centre for Neutron Science (JCNS) at Heinz Maier-Leibnitz Zentrum (MLZ), 85748, Garching, Germany; 2. Julich Centre for Neutron Science (JCNS) at Heinz Maier-Leibnitz Zentrum (MLZ), 85748, Garching, Germany; 3. Swiss-Norwegian Beam Lines at ESRF, rue Jules Horowitz, FR-38042, Grenoble Cedex 9, France; 4. Ecole Polytechnique Federale de Lausanne, Laboratory of Nanostructures and Novel Electronic Materials, 1015 Lausanne, Swaziland; 5. International Graduate School of Arts and Sciences, Yokohama City University, Yokohama, Kanagawa 236-0027, Japan*

DF-07. **Magnetoelectric Excitations in the Polar Antiferromagnets Ni-Based Tellurates $a_{3-x}B_xTeO_6$ (a, B = Ni, Mn, Co, x=1-2).** *S. Skiadopoulou*[1,2], M. Retuerto[3], F. Borodavka[2], C. Kadlec[2], F. Kadlec[2], M. Greenblatt[3] and S. Kamba[2] *1. School of Physics, CRANN, Trinity College Dublin Faculty of Engineering Mathematics and Science, Dublin, Ireland; 2. Dielectrics, Institute of Physics of the Czech Academy of Science, Praha, Czechia; 3. Chemistry and Chemical Biology, Rutgers The State University of New Jersey, New Brunswick, NJ, United States*

DF-08. **New Insight About the Magnetic Order in Peculiar Multiferroic $Ba_2CoGe_2O_7$ by Revealing the Sign of the Dzyaloshinskii-Moriya Interaction by Polarized Neutron Diffraction.** *H. Thoma*[1] and V. Hutanu[1,2] *1. Jülich Centre for Neutron Science (JCNS) at Heinz Maier-Leibnitz Zentrum (MLZ), Forschungszentrum Julich GmbH, Garching, Germany; 2. Institute of Crystallography, Rheinisch-Westfalische Technische Hochschule Aachen, Aachen, Germany*

DF-09. **Magnetic Phases and Chirality Control in Magnetic Multiferroics $Nd_{0.8}Tb_{0.2}Mn_2O_5$ by the Neutron Scattering.** *I. Zobkalo*[1], S. Gavrilov[1], A. Matveeva[1], A. Sazonov[2,4], S. Barilo[3] and V. Hutanu[2,4] *1. Condenced Matter Research Department, FGBU Petersburg Nuclear Physics Institute named after B P Konstantinov, Gatcina, Russian Federation; 2. Institute of Crystallography, RWTH Aachen University, Aachen, Germany; 3. Scientific-Practical Materials Research Centre NAS of Belarus, Minsk, Belarus; 4. Jülich Centre for Neutron Science at Heinz Maier- Leibnitz Zentrum, Garching, Germany*

DF-10. **Enhanced Strain-Induced Magnetoelectric Coupling in Polarization-Free Fe/$BaTiO_3$ Heterostructures.** *C. Amorim*[1], J.S. Amaral[1] and V.S. Amaral[1] *1. Universidade de Aveiro CICECO, Aveiro, Portugal*

DF-11. **Magnetoelectric Coupling and Spin-Canting in $FeCr_2O_4$ Ferrimagnet.** *K. Vasin*[1] and M. Eremin[1] *1. Department of Quantum Electronics and Radiospectroscopy, Kazan Federal University Institute for Physics, Kazan, Russian Federation*

DF-12. **Development and Analysis of Highly-Efficient Magnetoelectric Cobalt Ferrite/Barium Titanate Composites Using a Scalable Synthesis Technique.** *F. Safi Samghabadi*[1], L. Chang[2,3], M. Khodadadi[1,3] and D. Litvinov[2,3] *1. Materials science and engineering, University of Houston System, Houston, TX, United States; 2. Department of Electrical & Computer Engineering, University of Houston System, Houston, TX, United States; 3. Center for Integrated Bio & Nano Systems, University of Houston System, Houston, TX, United States*

ON-DEMAND SESSIONS

Session DG
SPIN LIQUIDS AND NOVEL SPIN SYSTEMS

Shawn Pollard, Chair
The University of Memphis, Memphis, TN, United States

DG-01. **Micromagnetic Simulations of Magnetization Reversal in Kagome Artificial Spin ice.** *B.M. Cecchi*[1], M.F. Velo[1] and K. Pirota[1] *1. Universidade Estadual de Campinas Instituto de Fisica Gleb Wataghin, Campinas, Brazil*

DG-02. **Withdrawn**

DG-03. **The Impact of the Intralayer and Interlayer Magnetism on the Electronic Properties of vdW Heterostructure $NiPS_3$/$FePS_3$ – a Theoretical Approach.** *K. Kotur*[1] and M. Birowska[1] *1. University of Warsaw, Uniwersytet Warszawski, Warszawa, PL, academic, Warsaw, Poland*

DG-04. **Neutron Scattering Revealing Kagome Spin Ice in a Frustrated Intermetallic Compound.** *H. Deng*[1], K. Zhao[2], H. Chen[3], K. Ross[3], V. Petricek[4], G. Guenther[5], M. Russina[5], V. Hutanu[1] and P. Gegenwart[2] *1. Institute of Crystallography, RWTH Aachen University and Jülich Centre for Neutron Science (JCNS) at Heinz Maier-Leibnitz Zentrum (MLZ), Garching, Germany; 2. Experimentalphysik VI, Center for Electronic Correlations and Magnetism, Universitat Augsburg, Augsburg, Germany; 3. Department of Physics, Colorado State University, Fort Collins, CO, United States; 4. Institute of Physics, Czech National Academy of Science, Praha, Czechia; 5. Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Berlin, Germany*

DG-05. **Withdrawn**

DG-06. **Numerical Studies of Spin Glasses in the Frame of Edwards-Anderson Model.** *A. Rybin*[1,2], A.O. Korol[1,2], D. Kapitan[1,2], E. Vasiliev[1,2], M. Padalko[1,2], K. Soldatov[1,2], Y. Shevchenko[1,2], A. Makarov[1,2] and V.Y. Kapitan[1,2] *1. Far Eastern Federal University, Vladivostok, Russian Federation; 2. Far Eastern Post, Russian Academy of Sciences, Vladivostok, Russian Federation*

DG-07. **Two Magnetic Compensation Compositions in $Mn_{4-x}Co_xN$ Epitaxial Films at Room Temperature Proved by X-ray Magnetic Circular Dichroism.** *H. Mitarai*[1], T. Komori[1], T. Hirose[1], K. Ito[2,3], K. Toko[1], L. Vila[4], J. Attané[4], K. Amemiya[5] and T. Suemasu[1] *1. Inst. of Appl. Phys., Univ. of Tsukuba, Tsukuba, Japan; 2. IMR, Tohoku Univ., Sendai, Japan; 3. CSRN, Tohoku Univ., Sendai, Japan; 4. Univ. Grenoble Aples, CEA, CNRS, Spintec, Grenoble, France; 5. IMSS, KEK, Tsukuba, Japan*

DG-08. **Surprises in the Phase Diagram of two Impurities on Flat-Band Hosts Coupled by Genuine RKKY Interaction.** *K.P. Wójcik*[1,2] and J. Kroha[1] *1. Physikalisches Institut, Rheinische Friedrich-Wilhelms-Universitat Bonn, Bonn, Germany; 2. Institute for Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

DG-09. **Anomalous Electronic and Magnetic Properties of Noncentrosymmetric $YbCoC_2$.** D. Salamatin[1], N. Martin[2], V. Sidorov[1], *N. Chtchelkatchev*[1], M. Magnitskaya[1], J. Guo[3], C. Huang[3], L. Sun[3] and A. Tsvyashchenko[1] *1. Institute for High Pressure Physics RAS, Troitsk, Russian Federation; 2. Commissariat a l'energie atomique et aux energies alternatives Siege administratif, Gif-sur-Yvette, France; 3. Chinese Academy of Sciences Institute of Physics, Beijing, China*

DG-10. **The Influence of Electron-Withdrawing Groups on the Relaxation Time of Field-Induced Er(III) Single Molecule Magnets.** I.A. Kühne[2], K. Esien[1], C. Pauly[2], H. Müller-Bunz[2], *S. Felton*[1] and G.G. Morgan[2] *1. School of Mathematics and Physics, Queen's University Belfast, Belfast, United Kingdom; 2. University College Dublin College of Science, Dublin, Ireland*

DG-11. **Dynamical Freezing in an Artificial Kagome ice Magnet.** *N. Rougemaille*[1], V. Schanilec[1] and B. Canals[1] *1. Institut NEEL, Grenoble, France*

ON-DEMAND SESSIONS

Session DP
MULTIFERROICS AND MAGNETOELECTRICS: PHENOMENA, MATERIALS AND TRANSPORT (Poster Session)

Stella Skiadopoulou, Chair
The University of Dublin Trinity College, Dublin, Ireland

DP-01. **Effect of Mixing the low-Valent Transition Metal Atoms Y = Sc, Ti, v, Cr, Mn and Fe on the Properties of Quaternary Heusler Compounds $Co_{2-x}Y_xFeSi$ ($0 \le x \le 1$).** *R. Mahat*[1], S. KC[1], U. Karki[1], J. Law[2], V. Franco[2], I. Galanakis[3], A. Gupta[4] and P. LeClair[1] *1. Physics and Astronomy, The University of Alabama, Tuscaloosa, AL, United States; 2. Dpto. Fsica de la Materia Condensada ICMSE-CSIC, Universidad de Sevilla, Sevilla, Spain; 3. Department of Materials Science, University of Patras, Patras, Greece; 4. Department of Chemistry and Biochemistry, The University of Alabama, Tuscaloosa, AL, United States*

DP-02. **Observation of Room-Temperature Magnetoresistance in Graphene/$CoFe_2O_4$ Nanocomposite.** *S. Roy*[2,1], I. Sivakumar[2], F. Francis[2], V. G. V.[2] and A. Subramanian[2] *1. Manipal Academy of Higher Education, Manipal, India; 2. Centre for Nano and Soft Matter Sciences, Bangalore, India*

DP-03. **Highly Nonlinear Magnetoelectric Effect in Buckled Honeycomb Antiferromagnetic $Co_4Ta_2O_9$.** N. Lee[1], D. Oh[1], S. Choi[2,3], J. Moon[1], *J. Kim*[1], H. Shin[1], K. Son[4], J. Nuss[2], V. Kiryukhin[3] and Y. Choi[1] *1. Department of Physics, Yonsei University, Seodaemun-gu, The Republic of Korea; 2. Max Planck Institute for Solid State Research, Stuttgart, Germany; 3. Department of Physics and Astronomy, Rutgers The State University of New Jersey, New Brunswick, NJ, United States; 4. Max-Planck-Institut fur Intelligente Systeme, Stuttgart, Germany*

DP-04. **Polarity Dependence of Change in Electric Polarization (Magnetization) Induced by Magnetic (Electric) Fields in $CaBaM_4O_7$(*M*=Co, Fe) Single Crystals.** *T. Shirasaki*[1], H. Endo[1], M. Noda[1], M. Akaki[2], H. Kuroe[1] and H. Kuwahara[1] *1. Phys.Div., Jochi University, Chiyoda-ku, Japan; 2. Molecular Photoscience Reserch Center, Kobe University, Kobe, Japan*

DP-05. **Anisotropic and Nonlinear Magnetodielectric Effects in Orthoferritre ErFeO3 Single Crystals.** *H. Shin*[1], D. Oh[1], J. Kim[1], Y. Choi[1] and N. Lee[1] *1. Physics, Yonsei University, Seodaemun-gu, The Republic of Korea*

DP-06. **Structural and Electromagnetic Characteristics of La-Sr Manganite With Paired Substitution of Zn and Ti for Manganese Depending on Oxygen Content.** *V. Karpasyuk*[1], A. Badelin[1], Z. Datskaya[1], I. Derzhavin[1] and S. Estemirova[2,1] *1. Astrakhan State University, Astrakhan, Russian Federation; 2. Institute for metallurgy UrO RAN, Ekaterinburg, Russian Federation*

DP-07. **Withdrawn**

DP-08. **High-Temperature Martensitic Transformation in Pr-Sr Manganites.** *Y.E. Samoshkina*[1], M.V. Rautskii[1], D.S. Neznakhin[2], E. Stepanova[2], N. Andreev[3] and V. Chichkov[3] *1. Federal Research Center KSC SB RAS, Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 2. Ural Federal University, Institute of Natural Sciences and Mathematics, Yekaterinburg, Russian Federation; 3. National Research Technological University "MISiS", Moscow, Russian Federation*

DP-09. **Effects of a Molecular C60 Interfaces on the Spin Hall Magnetoresistance of YIG/PtMn.** *S. Alotibi*[1], B. Hickey[1], M. Ali[1] and O. Céspedes[1] *1. University of Leeds, Leeds, United Kingdom*

DP-10. **Magneto-Transport Study on Topological Chiral Semimetal CoSi.** *S. Monga*[1], R. Rawat[1] and R.K. Gopal[1] *1. Indian Institute of Science Education and Research Mohali, Mohali, India*

DP-11. **Explore the Large Bohr-Magneton on a Half-Heusler BeMnN.** *R. Zhang*[1], Y. Zeng[2], X. She[1], Y. Zou[1], R. Huang[1] and C. Fong[3] *1. Nanjing University, Nanjing, China; 2. Hangzhou Dianzi University, Nanjing, China; 3. University of California Davis, Davis, CA, United States*

DP-12. **Strain Modulated Structure Distortion and Magnetic Properties of Orthorhombic $LuMnO_3$ Thin Films.** *A. Zhang*[1], H. Cao[1], Y. Tang[1] and X. Wu[2] *1. Hohai University, Nanjing, China; 2. Nanjing Univeristy, Nanjing, China*

ON-DEMAND SESSIONS

Session DQ
INTERACTIONS IN COMPLEX MAGNETS (Poster Session)

Hao Deng, Chair
Rheinisch-Westfalische Technische Hochschule Aachen, Garching, Germany

DQ-01. **Effect of Doping on Ferromagnetic and Superconducting Properties of Ni_2NbSnZ ($Z = Ga$, Ge, and Sb) Heusler Alloy.** *S. Nalevanko*[1,2], L. Galdun[2,3], M. Varga[2], A. Dzubinska[2], M. Reiffers[4], J. Kačmarčík[5] and R. Varga[2,3] *1. Intitute of Physics, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 2. CPM - TIP, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 3. RVmagnetics, a. s., Kosice, Slovakia; 4. Fac. Hum. and Nat. Sci., Presovska univerzita v Presove, Presov, Slovakia; 5. Centre of Low Temperature Physics, Institute for Experimental Physics, Slovak Academy of Science, Kosice, Slovakia*

DQ-02. **Non Magnetic-Magnetic Transition in Cr3A(a=as,Ga) and Thier Transition Metal Doped Compounds.** *H.K. Krarcha*[1] and A. Ferroudj[2] *1. Earth Sciences and Universe Institute, Universite Batna 2, Fesdis, Algeria; 2. Department of physics, Universite Batna 2, Fesdis, Algeria*

DQ-03. **Phase States and Critical Properties of a Dilute Magnet With Frustration.** *D. Yasinskaya*[1], V. Ulitko[1], Y. Panov[1] and A. Moskvin[1] *1. Institute of Natural Sciences and Mathematics, Ural'skij federal'nyj universitet imeni pervogo Prezidenta Rossii B N El'cina, Ekaterinburg, Russian Federation*

DQ-04. **Specific Heat of $YbMn_6Ge_{6-x}Sn_x$ Compounds.** *P. Haraux*[1], L. Eichenberger[1], L. Diop[1] and T. Mazet[1] *1. Institut Jean Lamour, Nancy, France*

DQ-05. **Exact Spin Dynamics of High Spin Nanoscale Molecular Magnetic Clusters.** *O. Ciftja*[1] *1. Physics, Prairie View A&M University, Prairie View, TX, United States*

DQ-06. **Structural and Magnetic Properties of Cathode Materials Substituted With Transition Metal Based on $NaFeO_2$.** *S. Jung*[1], H. Choi[1] and C. Kim[1] *1. Department of physics, Kookmin University, Seongbok-gu, The Republic of Korea*

DQ-07. **Synthesis, Structural, and MöSsbauer Studies of Tavorite $LiFePO_4F$ Cathode Material.** *H. Choi*[1], S. Jung[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, The Republic of Korea*

DQ-08. **Magnetic Properties of Quasi-Two-Dimensional Oxyborates $(Ni,Cu)_2MnBO_5$ With Ludwigite Structure.** *S.N. Sofronova*[1], E. Moshkina[1], E. Eremin[1] and M. Molokeev[1] *1. L.V. Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russian Federation*

DQ-09. **Signatures of Long Range Dipolar Interactions in Artificial Square ice.** *O. Brunn*[1,2], Y. Perrin[1], B. Canals[1] and N. Rougemaille[1] *1. Institut NEEL, Grenoble, France; 2. Institute for Scientific Instruments, Czech Academy of Science, Brno, Czechia*

DQ-10. **Estimation of Exchange Interaction in a Kondo Lattice System.** *S. Pandey*[1], V. Siruguri[1] and R. Rawat[1] *1. University Grants Commission Department of Atomic Energy Consortium for Scientific Research, Mumbai, India*

DQ-11. **Are Field Demagnetized, Athermal, Artificial Square ice Magnets Stochastic Systems?** *O. Brunn*[1,2], B. Canals[1] and N. Rougemaille[1] *1. Institut NEEL, Grenoble, France; 2. Institute for Scientific Instruments, Czech Academy of Science, Brno, Czechia*

WEDNESDAY LIVE Q&A SESSIONS
2:30 PM EUROPE CEST

Session ZA
IEEE MAGNETICS SOCIETY AWARD CEREMONY

Bernard Dieny, Co-Chair
Spintec, Grenoble, France
Juergen Fassbender, Co-Chair
HZDR, Dresden, Germany

Welcome

Awards Presentation by the IEEE Magnetics Society

WEDNESDAY LIVE Q&A SESSIONS
4:00 PM EUROPE CEST

Session ZA
PLENARY SESSION

Bernard Dieny, Chair
Spintec, Grenoble, France

ZA-01. **Antiferromagnetism: Celebrating 50 Years Since the Nobel Prize.** ***(Invited)*** *I.K. Schuller*[1] *1. Center for Memory and Recording Research (CMRR); Center for Advanced Nanoscience (CAN), University of California San Diego, La Jolla, CA, United States*

ZA-02. **From Spin-Resolved Atomic-Resolution Imaging to Magnetic Materials and Devices by Design.** ***(Invited)*** *R. Wiesendanger*[1] *1. Dept. of Physics, Universitat Hamburg, Hamburg, Germany*

WEDNESDAY
5:00 PM EUROPE CEST

LIVE Q&A SESSIONS

Session EA
SPIN ANGULAR MOMENTUM TRANSPORT: SPIN WAVES PUSHING NEW FRONTIERS

Timo Kuschel, Co-Chair
Bielefeld University, Bielefeld, Germany
Matthias Althammer, Co-Chair
Walther-Meißner-Institut, Garching, Germany

EA-01. **Non-Stationary Thickness Profiles of Spin Wave Modes Propagating in Obliquely Magnetized Magnetic Films.** ***(Invited)*** C. Trevillian[1], V. Tyberkevych[1] and *A.N. Slavin*[1] *1. Physics, Oakland University, Rochester, MI, United States*

EA-02. **Spin Waves and Spin Currents.** ***(Invited)*** *S. Demokritov*[1], B. Divinskiy[1], I. Borisenko[1], V.E. Demidov[1] and S. Urazhdin[2] *1. Institute for Applied Physics, Westfalische Wilhelms-Universitat Munster, Munster, Germany; 2. Emory University, Atlanta, GA, United States*

EA-03. **Pure Spin Current and Spin Hall Effect in Antiferromagnetic Insulators.** ***(Invited)*** *K. Shen*[1] *1. Department of Physics, Beijing Normal University, Beijing, China*

EA-04. **Long Range Coupling of Magnetic Bilayers by Coherent Phonons.** ***(Invited)*** *K. An*[1], A. Litvinenko[1], R. Kohno[1], A. Fuad[1], R. Lopes Seeger[1], V.v. Naletov[1,2], L. Vila[1], U. Ebels[1], G. de Loubens[3], H. Hurdequint[3], N. Beaulieu[4], J. Ben Youssef[4], N. Vukadinovic[5], G.E. Bauer[6], A.N. Slavin[7], V. Tyberkevych[7] and O. Klein[1] *1. Université Grenoble Alpes, CEA, CNRS, Grenoble INP, Spintec, Grenoble, France; 2. Institute of Physics, Kazan Federal University, Kazan, Russian Federation; 3. Service de Physique de l'Etat Condense, Gif Sur Yvette, France; 4. Laboratoire des Sciences et Techniques de l'Information de la Communication et de la Connaissance, Brest, France; 5. Dassault Aviation, Saint-Cloud, France; 6. Institute for Materials Research and WPI-AIMR and CSRN, Tohoku University, Tohoku, Japan; 7. Oakland University, Rochester, MI, United States*

EA-05. **Spin Waves in YIG-Semiconductor Heterostructures.** ***(Invited)*** *S. Nikitov*[1,2] and M. Morozova[2,3] *1. Kotelnikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences, Moscow, Russian Federation; 2. Moscow Institute of Physics and Technology National Research University, Dolgoprudnyj, Russian Federation; 3. N. G. Cernysevskogo Saratov National State Research University, Saratov, Russian Federation*

EA-06. **3D Imaging of Topologically Stabilized Spin Textures in Nanostructured Materials – Towards Ultrafast Imaging of Spin Transport.** ***(Invited)*** *E. Cating-Subramanian*[1], A. Rana[2], Y. Lo[2], C. Liao[1], C. Bevis[1], X. Lu[2], P. Johnsen[1], S. Ryan[1], J. Miao[2], H. Kapteyn[1] and M. Murnane[1] *1. JILA, University of Colorado Boulder, Boulder, CO, United States; 2. University of California Los Angeles, Los Angeles, CA, United States*

ON-DEMAND SESSIONS

Session EB
FUNDAMENTAL MAGNONIC PHENOMENA

Benjamin Jungfleisch, Chair
University of Delaware, Newark, DE, United States

EB-01. **Curvilinear Antiferromagnetism: Current State and Perspectives.** ***(Invited)*** *O. Pylypovskyi*[1,2] *1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Kyiv Academic University, Kyiv, Ukraine*

EB-02. **Strongly Nonlinear Ferromagnetic Resonance of Bi-Doped YIG Nanodisks.** *I. Ngouagnia Yemeli*[1], D. Gouéré[2], H. Merbouche[2], T. Srivastava[2,1], H. Hurdequint[1], V. Cros[2], M. Muñoz[3], S. Sangiao[4], J. De Teresa[4], O. Klein[5], A. Anane[2] and G. de Loubens[1] *1. Service de Physique de l'Etat Condense, Gif Sur Yvette, France; 2. Unite Mixte de Physique CNRS/ Thales, Palaiseau, France; 3. Instituto de Micro y Nanotecnología (CNM-CSIC), Madrid, Spain; 4. Universidad de Zaragoza Departamento de Fisica de la Materia Condensada, Zaragoza, Spain; 5. SPINtronique et Technologie des Composants, Grenoble, France*

EB-03. **Observation of Higgs and Goldstone Spin-Wave Modes in Weak Magnetic Stripes.** M. Grassi[1], M. Geilen[2], K. Ait Oukaci[3], Y. Henry[1], D. Lacour[3], D. Stoeffler[1], M. Hehn[3], P. Pirro[2] and *M. Bailleul*[1] *1. Institut de Physique et Chimie des Matériaux de Strasbourg, CNRS, Universite de Strasbourg, Strasbourg, France; 2. Fachbereich Physik and Landesforschungszentrum OPTIMAS, Technische Universitat Kaiserslautern, Kaiserslautern, Germany; 3. Institut Jean Lamour, CNRS, Universite de Lorraine, Nancy, France*

EB-04. **Space-Quasiperiodic and Time-Chaotic Parametric Patterns in a Magnonic Quasicrystal Active Ring Resonator.** *S.V. Grishin*[1], O.I. Moskalenko[1], A.N. Pavlov[1], D.V. Romanenko[1], A.V. Sadovnikov[1], Y.P. Sharaevskii[1], I.V. Sysoev[1], T.M. Medvedeva[2], E.P. Seleznev[3] and S. Nikitov[4] *1. N. G. Cernysevskogo Saratov National State Research University, Saratov, Russian Federation; 2. Institute of Higher Nervous Activity and Neurophysiology, Moscow, Russian Federation; 3. V. A. Kotelnikova Institute of radiotechnology and electronics of the Russian Academy of Science in Saratov, Saratov, Russian Federation; 4. V. A. Kotelnikova Institute of radiotechnology and electronics of the Russian Academy of Science in Moscow, Moscow, Russian Federation*

EB-05. **Phase Noise Considerations in Magnon Based Parametric Excitations.** *A. Venugopal*[1] and R. Victora[1] *1. Department of Electrical Engineering and Computer Science, University of Minnesota, Minneapolis, MN, United States*

EB-06. **Bosonic Bott Index and Disorder-Induced Topological Transitions of Magnons.** *X. Wang*[1], A. Brataas[2] and R. Troncoso[2] *1. Hunan University, Changsha, China; 2. Norwegian Technical and Natural Sciences University, Trondheim, Norway*

EB-07. **Inelastic Scattering of Spin Wave Beam at the Edge Localized Spin Waves and Second Harmonic Generation of Spin Waves.** *P. Gruszecki*[1], K. Guslienko[2,3], I. Lyubchanskii[4,5] and M. Krawczyk[1] *1. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland; 2. Depto. Física de Materiales, Universidad del País Vasco UPV/EHU, San Sebastian, Spain; 3. IKERBASQUE, The Basque Foundation for Science, Bilbao, Spain; 4. Donetsk Institute for Physics and Engineering (branch in Kharkiv) of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine; 5. Faculty of Physics, V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*

EB-08. **Evolution of Room-Temperature Magnon gas Toward Coherent Bose-Einstein Condensate.** *T.B. Noack*[1], V.I. Vasyuchka[1], A. Pomyalov[2], V.S. L'vov[2], A.A. Serga[1] and B. Hillebrands[1] *1. Fachbereich Physik and Landesforschungszentrum OPTIMAS, Technische Universitat Kaiserslautern, Kaiserslautern, Germany; 2. Department of Chemical and Biological Physics, Weizmann Institute of Science, Rehovot, Israel*

EB-09. **Investigation of Caustic Spin Wave Beams in Soft Thin Films.** *A. Wartelle*[1], T. Taniguchi[1] and C.H. Back[1] *1. Technische Universitat Munchen, Munchen, Germany*

EB-10. **A Model for Description of Linear Properties and Stability of Bose-Einstein Condensate of Magnons at Room Temperature.** *P. Artemchuk*[1], V. Tyberkevych[1] and A.N. Slavin[1] *1. Department of Physics, Oakland University, Rochester, MI, United States*

EB-11. **Effect of the Local Exchange Invariance on the Magnetization Dynamics in a Ferromagnet.** *P. Ansalone*[1], S. Perna[2], C. Serpico[2], M. d'Aquino[2], V. Scalera[2] and V. Basso[1] *1. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Universita degli Studi di Napoli Federico II, Napoli, Italy*

EB-12. **Stationary State of Bose-Einstein Condensate of Magnons: Theory and Experiment.** *G. Li*[1], H. Jia[1] and V. Pokrovsky[1] *1. Department of Physics and Astronomy, Texas A&M University System, College Station, TX, United States*

EB-13. **Novel Transport Properties of Viscous-Fluid Type Magnon in Magnetic Thin Film.** Y. Li[1], Y. Wang[1] and *J. Zhang*[1] *1. School of Physics, Tongji University, Shanghai, China*

EB-14. **Oscillating Behavior of Inverse Faraday Effect in $YFeO_3$.** *A.A. Voronov*[1,2], D. Ignatyeva[1,3], A. Zvezdin[2,4] and V.I. Belotelov[1,2] *1. Faculty of Physics, Lomonosov Moscow State University, Moscow, Russian Federation; 2. Russian Quantum Center, Moscow, Russian Federation; 3. Physics and Technology Institute, V.I. Vernadsky Crimean Federal University, Simferopol, Russian Federation; 4. Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russian Federation*

Session EC
HYBRID MAGNONIC STRUCTURES

Mathias Weiler, Chair
Technische Universitat Kaiserslautern, Kaiserslautern, Germany

EC-01. **Nonreciprocity and Unconventional Singularities in Cavity Magnonics.** ***(Invited)*** *Y. Wang*[2,1], Y. Yang[1], J. Rao[1], Y. Gui[1] and C. Hu[1] *1. University of Manitoba, Winnipeg, MB, Canada; 2. Zhejiang University, Hangzhou, China*

EC-02. **Magnon Fluxonics.** ***(Invited)*** *O. Dobrovolskiy*[1] *1. Universitat Wien, Wien, Austria*

EC-03. **Magneto-Rotation Coupling Inducing Nonreciprocal Surface Acoustic Waves.** *M. Xu*[1,3], K. Yamamoto[2,3], J. Puebla[3], K. Baumgaertl[4], B. Rana[3], K. Miura[6], H. Takahashi[6], D. Grundler[4,5], S. Maekawa[3,2] and Y. Otani[1,3] *1. Tokyo University Institute for Solid State Physics, Ibaraki, Japan; 2. Japan Atomic Energy Agency, Naka-gun, Japan; 3. RIKEN Institute for Physical and Chemical Research, Wako, Japan; 4. Institute of Materials (IMX), School of Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; 5. Institute of Microengineering (IMT), School of Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; 6. Research and Development Group, Hitachi Ltd, Tokyo, Japan*

EC-04. **Strain Mediated Tunable Spin-Wave Transport in Magnonic Crystal YIG/PZT and YIG/GaAs Structures.** *A.V. Sadovnikov*[1], E. Beginin[1], A. Grachev[1], A. Stognijj[1], S.E. Sheshukova[1] and S. Nikitov[1] *1. Magnonics, N. G. Cernyesevskogo National Research University in Saratov, Saratov, Russian Federation*

EC-05. **Reconfigurable Spin-Wave Propagation in Magnetic Stripe Domains in Hybrid System.** *K. Szulc*[1], S. Tacchi[2], P. Gruszecki[1], F. Valdes Bango[3], C. Quiros[3,4], A. Hierro Rodriguez[3], J. Diaz[3,4], J. Martín[3,4], M. Velez[3,4], G. Carlotti[5], M. Krawczyk[1] and L. Alvarez Prado[3,4] *1. Faculty of Physics, Uniwersytet im Adama Mickiewicza w Poznaniu, Poznan, Poland; 2. Sede Secondaria di Perugia, Istituto Officina dei Materiali Consiglio Nazionale delle Ricerche, Perugia, Italy; 3. Departamento de Fisica, Universidad de Oviedo, Oviedo, Spain; 4. Centro de Investigacion en Nanomateriales y Nanotecnología (CINN), Consejo Superior de Investigaciones Cientificas, Oviedo, Spain; 5. Dipartimento di Fisica e Geologia, Università di Perugia, Perugia, Italy*

EC-06. **Velocity Modulation of Surface Acoustic Waves via Einstein-de Haas Effect.** S. Tateno[1], Y. Kurimune[1], M. Matsuo[2,4], K. Yamonoi[1] and *Y. Nozaki*[1,3] *1. Dept. of Physics, Keio University, Yokohama, Japan; 2. Kavli Institute for Theoretical Sciences, University of Chinese Academy of Sciences, Beijing, China; 3. Center for Spintronics Research Network, Keio University, Yokohama, Japan; 4. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*

EC-07. **Confined Magnetoelastic Waves in Thin Waveguides.** *F. Vanderveken*[1,2], j. Mulkers[3], J. Leliaert[3], B. Van Waeyenberge[3], B. Soree[1,2], O. Zografos[1], F. Ciubotaru[1] and C. Adelmann[1] *1. IMEC, Leuven, Belgium; 2. Katholieke Universiteit Leuven, Leuven, Belgium; 3. Universiteit Gent, Gent, Belgium*

EC-08. **The Interaction Between Surface Acoustic Waves and Spin Waves: the Role of Anisotropy and Spatial Profiles of the Modes.** N.K. Babu[1], A. Trzaskowska[1], P. Graczyk[2], G. Centala[1], S. Mieszczak[1], H. Glowinski[2], M. Zdunek[1], S. Mielcarek[1] and *J.W. Klos*[1] *1. ISQI, Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland; 2. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

EC-09. **Analytical Model for Unitary Magnon-Mediated Quantum Gates in Hybrid Magnon-Photon Systems.** *C. Trevillian*[1] and V. Tyberkevych[1] *1. Physics, Oakland University, Rochester, MI, United States*

EC-10. **Topological Magnon-Polaron in a two-Dimensional Ferromagnet.** *G. Go*[1], S. Kim[2] and K. Lee[2] *1. Korea University, Seongbuk-gu, The Republic of Korea; 2. Korea Advanced Institute of Science and Technology, Daejeon, The Republic of Korea*

EC-11. **Focused SAWs Enhance Nonlinearity in ADFMR.** *D.A. Bas*[1], P. Shah[1] and M. Page[1] *1. Air Force Research Laboratory, Wright-Patterson AFB, OH, United States*

EC-12. **Study of a new Type of Excitation in the Multiferroic Magnetoelectric Compound $GdMn_2O_5$, the Electromagnon.** *A. Vaunat*[1], V. Balédent[1], P. Roy[2], S. Petit[3], M. Lepetit[4] and P. Foury[1] *1. Laboratoire de Physique des Solides, Laboratoire de Physique des Solides, Orsay, Île-de-France, FR, academic/physics, Orsay, France; 2. Synchrotron SOLEIL, Gif-sur-Yvette, France; 3. Laboratoire Leon Brillouin, Gif-sur-Yvette, France; 4. Institut NEEL, Grenoble, France*

EC-13. **Magnetodynamic Properties of FeGaB/Al_2O_3 Multilayer Thin Film Stack for Microwave Applications.** Y. Karampuri[1], *W. Yuxi*[1] and W. Tao[1] *1. ShanghaiTech University, Shanghai, China*

ON-DEMAND SESSIONS

Session ED
MAGNON SPINTRONICS

Satoshi Iihama, Co-Chair
Tohoku University, Sendai, Japan
Sergiu Ruta, Co-Chair
University of York, York, United Kingdom

ED-01. **Reconfigurable Magnonics Using Self-Biased Reprogrammable Nanomagnetic Structures.** ***(Invited)*** *A. Haldar*[1] and A.O. Adeyeye[2] *1. Physics, Indian Institute of Technology Hyderabad, Hyderabad, India; 2. Physics, Durham University, Durham, United Kingdom*

ED-02. **Voltage-Controlled Magnonic Crystal at the Sub-Micron Scale.** H. Merbouche[1], *I. Boventer*[1], V. Haspot[1], S. Fusil[1], V. Garcia[1], D. Gouéré[1], C. Carrétéro[1], A. Vecchiola[1], R. Lebrun[1], P. Bortolotti[1], L. Vila[2], M. Bibes[1], A. Barthélémy[1] and A. Anane[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. CEA, CNRS Grenoble INP, Spintec, Universite Grenoble Alpes, Grenoble, France*

ED-03. **Micromagnetic Simulations of Spin Waves Propagation by SOT in a Bi-YIG Waveguide.** *A. El Kanj*[1], H. Merbouche[1], D. Gouéré[1], I. Boventer[1], R. Lebrun[1], P. Bortolotti[1], V. Cros[1] and A. Anane[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France*

ED-04. **Short-Range Thermal Magnon Diffusion in Magnetic Garnet.** K. An[1], *R. Kohno*[1], N. Thiery[1], D. Reitz[5], L. Vila[1], V.v. Naletov[1,2], N. Beaulieu[3], J. Ben Youssef[3], G. de Loubens[4], Y. Tserkovnyak[5] and O. Klein[1] *1. CEA, CNRS, Spintec, Universite Grenoble Alpes, Grenoble, France; 2. Institute of Physics, Kazan Federal University, Kazan, Russian Federation; 3. LabSTICC, CNRS, Universite de Bretagne Occidentale, Brest, France; 4. SPEC, CEA-Saclay, CNRS, Universite Paris-Saclay, Gif-sur-Yvette, France; 5. Department of Physics and Astronomy, University of California Los Angeles, Los Angeles, CA, United States*

ED-05. **Spin-Wave Emission From Vortex Cores Under Static Magnetic Bias Fields.** *S. Mayr*[1,2], L. Flajšman[3,4], S. Finizio[1], A. Hrabec[1,2], M. Weigand[5], J. Förster[6], H. Stoll[6], L. Heyderman[1,2], M. Urbánek[3], S. Wintz[1,6] and J. Raabe[1] *1. Paul Scherrer Institut, Villigen, Switzerland; 2. Department of Materials, ETH Zurich, Zurich, Switzerland; 3. CEITEC BUT, Brno University of Technology, Brno, Czechia; 4. Department of Applied Physics, Aalto University, Aalto, Finland; 5. Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Berlin, Germany; 6. Max-Planck-Institute Stuttgart, Stuttgart, Germany*

ED-06. **Parity-Controlled Spin-Wave Excitations in Synthetic Antiferromagnets.** *A. Sud*[1,2], Y. Koike[3], S. Iihama[3], C.W. Zollitsch[2], S. Mizukami[3] and H. Kurebayashi[1,2] *1. Electronic and Electrical Engineering, University College London, London, United Kingdom; 2. London Centre for Nanotechnology, London, United Kingdom; 3. Tohoku National University, Sendai, Japan*

ED-07. **Insight on the Effect of SOT on Propagating Magnons: Spin-Wave Amplification and Frequency Dependent Efficiency.** *H. Merbouche*[1], B. Divinskiy[2], D. Gouéré[1], C. Calo[3], P. Bortolotti[4], V. Cros[1], A. Anane[1], V.E. Demidov[2] and S. Demokritov[2] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Westfalische Wilhelms-Universitat Munster, Munster, Germany; 3. III-V Lab, Palaiseau, France; 4. Thales Research and Technology France, Palaiseau, France*

ED-08. **Antiferromagnetic Artificial Neural Networks With Symmetric Coupling.** *H. Bradley*[1], S. Louis[1] and V. Tyberkevych[1] *1. Physics, Oakland University, Rochester, MI, United States*

ED-09. **Amplifying Spin Waves Along Néel Domain Wall by Spin-Orbit Torque.** *Y. Zhou*[1] *1. School of Science and Engineering, The Chinese University of Hong Kong, Hong Kong*

ED-10. **Mutual Synchronization of an Array of Spin-Torque Oscillators With Perpendicular Polarizer.** *M. Castro*[2,1], D. Mancilla[2], A. Litvinenko[1], M. Ibarra Gomez[1], B. Dieny[1], S. Allende[2], L.D. Buda-Prejbeanu[1] and U. Ebels[1] *1. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, SPINTEC, 38000, Grenoble, France; 2. Universidad de Santiago de Chile, Cedenna, Santiago, Chile*

ED-11. **The Interplay Between the Rapid Cooling-Induced BEC and SHE-STT-Driven Bullet Mode.** M. Schneider[1], D. Breitbach[1], R. Serha[1], Q. Wang[2], A.A. Serga[1], A.N. Slavin[3], V. Tyberkevych[3], B. Heinz[1], B. Lägel[1], C. Dubs[4], T. Brächer[1], S. Knauer[2], O. Dobrovolskiy[2], P. Pirro[1], B. Hillebrands[1] and *A. Chumak*[2] *1. Fachbereich Physik, Technische Universitat Kaiserslautern, Kaiserslautern, Germany; 2. Faculty of Physics, Universitat Wien, Wien, Austria; 3. Department of Physics, Oakland University, Rochester, MI, United States; 4. Innovent eV Technologieentwicklung Jena, Jena, Germany*

ED-12. **Chiral Spin-Wave Velocities Induced by All-Garnet Interfacial Dzyaloshinskii-Moriya Interaction in Ultrathin Yttrium Iron Garnet Films.** *H. Wang*[1], J. Chen[1,3], T. Liu[2], J. Zhang[1], K. Baumgaertl[3], C. Guo[4], Y. Li[5,6], C. Liu[1,2], P. Che[3], S. Tu[1], S. Liu[7], P. Gao[5,6], X. Han[4], D. Yu[7], M. Wu[2], D. Grundler[3,8] and H. Yu[1] *1. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 2. Department of Physics, Colorado State University, Fort Collins, CO, United States; 3. School of Engineering, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 4. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 5. Electron Microscopy Laboratory, School of Physics, Peking University, Beijing, China; 6. International Center for Quantum Materials, School of Physics, Peking University, Beijing, China; 7. Shenzhen Institute for Quantum Science and Engineering (SIQSE), and Department of Physics, Southern University of Science and Technology, Shenzhen, China; 8. Institute of Microengineering (IMT), School of Engineering, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*

ED-13. **Modulation of Magnon-Magnon Coupling by Inherent Symmetry Breaking in Synthetic Antiferromagnets.** *A. Sud*[1,2], C.W. Zollitsch[2], M. Tam[1], A. Kamimaki[3], Y. Koike[4], S. Iihama[4], S. Mizukami[4] and H. Kurebayashi[1,2] *1. Electronic and Electrical Engineering, University College London, London, United Kingdom; 2. London Centre for Nanotechnology, London, United Kingdom; 3. Research Center for Emerging Computing Technologies (RCECT), National Institute of Advanced Industrial Science and Technology (AIST), Tokyo, Japan; 4. Tohoku National University, Sendai, Japan*

ED-14. **Direct Observation of Magnon Modes in Kagome Artificial Spin Ice With Topological Defects.** *V. Bhat*[2,1], S. Watanabe[1], K. Baumgaertl[1] and D. Grundler[1,3] *1. Institute of Materials, Laboratory of Nanoscale Magnetic Materials and Magnonics, School of Engineering, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 2. International Research Centre MagTop, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 3. Institute of Microengineering, Laboratory of Nanoscale Magnetic Materials and Magnonics, School of Engineering, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*

ED-15. **Dependence of Spin Wave Modes on the Geometry of Nanomagnets in Square Artificial Spin ice Vertices.** *N. Arora*[1] and P. Das[1] *1. Department of Physics, Indian Institute of Technology Delhi, New Delhi, India*

ON-DEMAND SESSIONS

Session EE
NANOSCALE AND APPLIED MAGNONICS

Oleksandr Dobrovolskiy, Co-Chair
University of Vienna, Vienna, Austria
Qi Wang, Co-Chair
Universitat Wien, Vienna, Austria

EE-01. **Nanoscale Magnonic Devices: From Conventional to Inverse-Design Magnonics.** ***(Invited)*** *Q. Wang*[1] *1. Universitat Wien, Wien, Austria*

EE-02. **Spin-Wave Circulation in a Ferromagnetic Resonator With Two Adjacent Layers.** K. Szulc[1], M. Krawczyk[1] and *P. Roberjot*[1] *1. Uniwersytet im Adama Mickiewicza w Poznaniu, Poznan, Poland*

EE-03. **Towards Wave-Based Logic Operation Using Multi-Directional sub-100 nm Magnons.** S. Watanabe[1], V. Bhat[2], A. Mucchietto[1], S. Shan[1] and *D. Grundler*[1,3] *1. IMX, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 2. Institute of Physics, Polska Akademia Nauk, Warszawa, Poland; 3. IMT, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*

EE-04. **Long-Range Propagation of Spin Waves in Transversely Magnetized Nano-Scaled Yttrium Iron Garnet Conduits.** *B. Heinz*[1], Q. Wang[2], M. Schneider[1], E. Weiß[2], A. Lentfert[1], B. Lägel[1], T. Brächer[1], C. Dubs[3], P. Pirro[1] and A. Chumak[2] *1. Physics, Technische Universitat Kaiserslautern, Kaiserslautern, Germany; 2. Physics, Universitat Wien Fakultat fur Physik, Wien, Austria; 3. Innovent eV Technologieentwicklung Jena, Jena, Germany*

EE-05. **Enhancement of Magnetization Dynamics via Spin Waves by Slot Line Waveguide for Perpendicularly Magnetized Yttrium Iron Garnet.** *T. Koda*[1], S. Muroga[2] and Y. Endo[3,4] *1. Electronic Mechanical Engineering, National Institute of Technology, Oshima College, Suo-Oshima, Japan; 2. Mathematical Science and Electrical-Electronic-Computer Engineering, Akita University, Akita, Japan; 3. Electrical Engineering, Tohoku University, Sendai, Japan; 4. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

EE-06. **Spin Wave Based Spectrum Analysis Based on Non-Linear Excitation via FIB-Created Gratings in YIG.** *M. Kiechle*[1], A. Papp[3], S. Mendisch[1], V. Ahrens[1], L. Sahin[1], G. Csaba[3], W. Porod[2] and M. Becherer[1] *1. Electrical and Computer Engineering, Technische Universitat Munchen, Munchen, Germany; 2. Electrical Engineering, University of Notre Dame, Notre Dame, IN, United States; 3. Pazmany Peter Catholic University Faculty of Information and Bionics, Budapest, Hungary*

EE-07. **Anomalous Refraction of Spin Waves as a Way to Guide Signals in Curved Magnonic Multimode Waveguides.** *S. Mieszczak*[1], O. Busel[2], P. Gruszecki[1], A. Kuchko[2,3], J.W. Klos[1] and M. Krawczyk[1] *1. Faculty of Physics, Uniwersytet im Adama Mickiewicza w Poznaniu, Poznan, Poland; 2. National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine; 3. Institute of Magnetism of NAS of Ukraine, Kyiv, Ukraine*

EE-08. **Sub-Micrometer Near-Field Focusing of Spin Waves in Ultrathin YIG Films.** *B. Divinskiy*[1], N. Thiery[2], L. Vila[2], O. Klein[2], N. Beaulieu[3], J. Ben Youssef[3], S.O. Demokritov[1] and V.E. Demidov[1] *1. Institute for Applied Physics, Westfalische Wilhelms-Universitat Munster, Munster, Germany; 2. Univ. Grenoble Alpes, Grenoble, France; 3. Universite de Bretagne Occidentale, Brest, France*

EE-09. **Low-Loss Magnonic Crystals Based on Nanometer-Thick YIG Films.** *H. Qin*[1], F. Hermann[1] and S. van Dijken[1] *1. NanoSpin, Department of Applied Physics, Aalto-yliopisto, Aalto, Finland*

EE-10. **Brillouin Light Scattering Study of Spin Waves in CoP Exchange Spring Thin Films.** *A. Samanta*[1,2], G. Gubbiotti[3] and S. Roy[1,2] *1. Micropower Systems and Nanomagnetics Group, Micro-Nano-Systems Center, Tyndall National Institute, Cork, Ireland; 2. Department of Physics, University College Cork, Cork, Ireland; 3. Istituto Officina dei Materiali del Consiglio Nazionale delle Ricerche (CNR-IOM), Sede di Perugia, c/o Dipartimento di Fisica e Geologia, Universita degli Studi di Perugia, Perugia, Italy*

EE-11. **Design of a Coplanar-Waveguide-Based Microwave-to-Spin-Wave Transducer.** *H.O. Aquino*[1], G.H. Bernstein[1] and W. Porod[1] *1. Electrical Engineering, University of Notre Dame, Notre Dame, IN, United States*

EE-12. **Microstructural Properties and Damping Behavior in Cerium Doped Yttrium Iron Garnet Thin Films Synthesized via Pulsed Laser Deposition Technique.** *F. Mohmed*[1,2], M. Ikram[1] and Y. Lin[2] *1. Physics, National Institute of Technology Srinagar, Srinagar, India; 2. Tsinghua University School of Materials Science and Engineering, Beijing, China*

EE-13. **Magnonic Bragg Filter Design for India's 5G Spectrum.** *M. M*[1], L.P. Nair[1], G. Venkat[2] and A. Prabhakar[1] *1. Electrical Engineering, Indian Institute of Technology Madras, Chennai, India; 2. Materials Science and engineering, The University of Sheffield, Sheffield, United Kingdom*

EE-14. **Subwavelength Resonant Control of the Spin-Wave Phase in Thin Ferromagnetic Films.** *K. Sobucki*[1], W. Smigaj[2], J.N. Rychly[3], M. Krawczyk[1] and P. Gruszecki[1] *1. Nanomaterials, Uniwersytet im Adama Mickiewicza w Poznaniu, Poznan, Poland; 2. Met Office, Exeter, United Kingdom; 3. Polska Akademia Nauk Instytut Fizyki Molekularnej, Poznan, Poland*

EE-15. **Multifrequency Spin Wave Device for Parallel Data Processing Using Micro Structured Yttrium Iron Garnet Thin Films.** *M. Sarker*[1], S. Nakamura[1], H. Yamahara[1], M. Seki[1] and H. Tabata[1] *1. Electrical Engineering and Information System, The University of Tokyo, Bunkyo-ku, Japan*

ON-DEMAND SESSIONS

Session EP
MAGNONICS I
(Poster Session)

Alexandr Sadovnikov, Chair
Saratov State University, Saratov, Russian Federation

EP-01. **Standing Spin Wave Resonance Properties of Multiple Spin Wave Modes on Co_2FeAl Magnetic Strip Under Zero Bias Field.** *X. Ya*[1], K. Kurihara[2], K. Koki[2], H. Ogami[2], Y. Kurokawa[2], H. Yuasa[2], T. Tanaka[2] and K. Matsuyama[2] *1. IMI, Kyushu University, Fukuoka, Japan; 2. ISEE, Kyushu University, Fukuoka, Japan*

EP-02. **Nonreciprocal Spin-Wave Propagation in Lateral Magnonic Stripes.** *S. Odintsov*[1], A.V. Sadovnikov[1] and F. Ogrin[2] *1. N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation; 2. University of Exeter, Exeter, United Kingdom*

EP-03. **Unidirectional Spin-Wave Coupler Based on YIG Nonidentical Magnonic Crystals.** *V. Gubanov*[1], S.E. Sheshukova[1], A.V. Sadovnikov[1] and S. Nikitov[2] *1. Nonlinear Processes, N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation; 2. V. A. Kotelnikova Institute for Radiotechnologu and Electronics, Russian Academy of Sciences, Moscow, Russian Federation*

EP-04. **Current-Induced Spin-Wave Doppler Shift and Attenuation in Compensated Ferrimagnets.** *D. Kim*[1], S. Oh[1], D. Lee[1], S. Kim[2] and K. Lee[2] *1. Korea University, Seongbuk-gu, The Republic of Korea; 2. Korea Advanced Institute of Science and Technology, Daejeon, The Republic of Korea*

EP-05. **Magnon Blocking Effect in Antiferromagnet Spacered Magnon Junction.** *Z. Yan*[1], C. Wan[1] and X. Han[1] *1. Chinese Academy of Sciences, Institute of Physics, University of Chinese Academy of Sciences, Beijng, China*

EP-06. **A Nonlocal Spin Hall Magnetoresistance in a Pt Layer Deposited on a Magnon Junction.** C. Guo[1], C. Wan[1] and *X. Han*[1] *1. Chinese Academy of Sciences Institute of Physics, Beijing, China*

EP-07. **Excitation of Short Wavelength Spin Waves in a Ferromagnetic Conduit With a Microwave Pumped Perpendicularly Magnetized Nanodot.** *M. Moalic*[1], M.K. Zelent[1] and M. Krawczyk[1] *1. Physics of Nanostructures Division, Uniwersytet im Adama Mickiewicza w Poznaniu Wydzial Fizyki, Poznan, Poland*

EP-08. **Design of Broadband XOR Logic Gate Based on Edge-Mode Type Spin Wave.** *L. Zheng*[1], D. Zhang[1], L. Jin[1], T. Wen[1], Y. Liao[1], X. Tang[1] and Z. Zhong[1] *1. University of Electronic Science and Technology of China State Key Laboratory of Electronic Thin Films and Integrated Devices, Chengdu, China*

EP-09. **Linear and Nonlinear Spin-Wave Propagation in Magnonic Waveguide With Linearly Varying Width.** *V. Gubanov*[1], E. Beginin[1], A.V. Sadovnikov[1] and S. Nikitov[2] *1. Nonlinear Processes, N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation; 2. V. W. Kotelnikova Institute for Radiotechnology and Electronics, Russian Academy of Sciences, Moscow, Russian Federation*

ON-DEMAND SESSIONS

Session EQ
MAGNONICS II
(Poster Session)

Jaroslaw Klos, Chair
Uniwersytet im Adama Mickiewicza w Poznaniu, Poznan, Poland

EQ-01. **Magnetization Dynamics and Spin Wave Excitation in Strain-Mediated Multiferroic Heterostructures With the Interfacial Dzyaloshinskii-Moriya Interaction.** D. Nian[1], M. Zhu[1], H. Yang[1], Y. Qiu[1], *G. Yu*[1] and H. Zhou[1] *1. Key Laboratory of Electromagnetic Wave Information Technology and Metrology of Zhejiang Province, China Jiliang University, Hangzhou, China*

EQ-02. **A Novel Approach for Controlling Spin-Wave Dynamics in Magnonic Crystals Using Metal-Insulator Switching of Vanadium Dioxide.** A.A. Nikitin[1], *A.A. Nikitin*[1], A.E. Komlev[1] and A.B. Ustinov[1] *1. Physical Electronics and Technology, St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation*

EQ-03. **Withdrawn**

EQ-04. **Voltage-Controlled Fano Resonances in Irregular Magnonic Structure.** *A. Grachev*[1], E. Beginin[1], I. Fil'chenkov[1] and A.V. Sadovnikov[1] *1. N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation*

EQ-05. **Collimated Spin-Wave Beams in a Three-Dimensional Multilayer Magnon-Crystal Arrays Near the Bandgap Frequencies.** *S. Odintsov*[1], S. Sheshukova[1], A.V. Sadovnikov[1] and S. Nikitov[2] *1. N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation; 2. V. A. Kotelnikova Institute of Radiotechnology and Electronics in Saratov, Moscow, Russian Federation*

EQ-06. **Surface Spin Wave Propagation in the Orthogonal Vertical Junction of YIG-Based Magnonic Waveguide.** *A.A. Martyshkin*[1], E. Beginin[1] and A.V. Sadovnikov[1] *1. N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation*

EQ-07. **Brillouin Light Scattering Study of Spin-Wave Spectra in YIG/LiNbO3 Magnonic Crystals.** *A.V. Sadovnikov*[1], A. Stognijj[2], A. Serokurova[2], E. Beginin[1], S.E. Sheshukova[1] and A. Grachev[1] *1. Magnonics, Saratovskij nacional'nyj issledovatel'skij gosudarstvennyj universitet imeni N G Cernysevskogo, Saratov, Russian Federation; 2. Materials Research Center, National Academy of Sciences of Belarus, Belarus, Minsk, Belarus*

EQ-08. **Discrete Breathers and Their Stability in a Finite-Size Monoaxial Chiral Helimagnet.** *A.S. Ovchinnikov*[1], I.G. Bostrem[1], V.E. Sinitsyn[1], E.G. Ekomasov[2,3] and J. Kishine[4] *1. Institute of Natural Sciences and Mathematics, Ural Federal University, Ekaterinburg, Russian Federation; 2. Bashkir State University, Ufa, Russian Federation; 3. South Ural State University, Chelyabinsk, Russian Federation; 4. The Open University of Japan, Chiba, Japan*

EQ-09. **Cherenkov-Type Radiation of Spin Waves Induced by Interfacial Dzyaloshinskii-Moriya Interaction.** *H. Xia*[1], H. Chen[1], C. Won[2], H.B. Zhao[3] and Y. Wu[1] *1. Department of physics, Fudan University, Shanghai, China; 2. Department of physics, Kyung Hee University, Seoul, The Republic of Korea; 3. Department of Optical Science and Engineering, Fudan University, Shanghai, China*

ON-DEMAND SESSIONS

Session ER
MICROWAVE AND MILLIMETER WAVE DEVICES (Poster Session)

Nian Sun, Chair
Northeastern University, Boston, MA, United States

ER-01. **Direct Current Control of the Chaotic Dark Parametric Solitons in a Magnonic Crystal Active Ring Resonator.** *D.V. Romanenko*[1], A.S. Bir[1], S.V. Grishin[1] and S. Nikitov[2] *1. N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation; 2. V. A. Kotelnikova Institute for Radiotechnology and Electronics, Russian Academy of Science, Moscow, Russian Federation*

ER-02. **Spin Current Nano-Oscillator (SCNO) as a Potential Frequency-Based, Ultra-Sensitive Magnetic Biosensor: a Simulation Study.** *R. Saha*[1], K. Wu[1], D. Su[2] and J. Wang[1] *1. Electrical & Computer Engineering, University of Minnesota Twin Cities, Minneapolis, MN, United States; 2. Chemical Engineering and Material Science, University of Minnesota Twin Cities, Minneapolis, MN, United States*

ER-03. **Estimation of Noise Suppression in MSL With Co-Zr-Nb Films Considering Impedance Matching.** *T. Mikami*[1], S. Muroga[1] and M. Tanaka[1] *1. Graduate School of Engineering Science, Akita University, Akita, Japan*

ER-04. **Controlled Magnetic Field Collimation by Active Metasurface Lens.** *I.V. Soares*[1], F.M. Freitas[2], G.L. Brandão[3] and Ú. do Carmo Resende[2] *1. Institut d'Electronique et de Telecommunications de Rennes, Rennes, France; 2. Centro Federal de Educacao Tecnologica de Minas Gerais, Belo Horizonte, Brazil; 3. Universidade Federal de Minas Gerais, Belo Horizonte, Brazil*

ER-05. **High Efficient Wireless Power Transfer Through Metamaterial Coupled Magnetic Resonance.** *A.H. Ferreira*[1], D.C. Correa[2], Ú. do Carmo Resende[2] and R.M. de Souza Batalha[1] *1. Graduate Program in Electrical Engineering, Pontificia Universidade Catolica de Minas Gerais, Belo Horizonte, Brazil; 2. Electrical Engineering Department, Centro Federal de Educacao Tecnologica de Minas Gerais, Belo Horizonte, Brazil*

ER-06. **Ultra-Fast Spectrum Analysis at GHz Frequencies Using Spin-Torque Nano-Oscillators.** *A. Litvinenko*[1], A. Sidi El Valli[1], S. Louis[2], V. Tyberkevych[2], L. Vila[1], S. Auffret[1], B. Dieny[1], A.N. Slavin[2] and U. Ebels[1] *1. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, SPINTEC, Grenoble, France; 2. Oakland University, Rochester, MI, United States*

ER-07. **Two-Dimensional Airy Beam Generation and Manipulation Utilizing Metasurface.** Z. Zhao[1], *X. Ding*[1], K. Zhang[1], J. Fu[1] and Q. Wu[1] *1. Harbin Institute of Technology, Harbin, China*

ER-08. **Thresholdless Broadband Spin-Torque Diode Rectification via Spatial Nonuniformity of the Magnetization Distribution.** *I. Kindiak*[1,2], G. Kichin[2], P. Skirdkov[2,3], A. Jenkins[4], R. Ferreira[4] and K. Zvezdin[2,3] *1. Moscow Institute of Physics and Technology, Dolgoprudny, Russian Federation; 2. New Spintronic Technologies, Moscow, Russian Federation; 3. Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russian Federation; 4. Nanotechnology Laboratory (INL), Braga, Portugal*

ER-09. **Magnetic and Microwave Properties of FeNi Thin Films of Different Thicknesses Deposited Onto Cyclo Olefin Copolymer Flexible Substrates.** C. Madrid Aguilar[1], A. Svalov[2], A. Kharlamova[3], E. Shalygina[3], A. Larrañaga[4], I. Orue[4] and *G.V. Kurlyandskaya*[1,2] *1. Electricidad y Electrónica, Universidad del Pais Vasco Facultad de Ciencia y Tecnologia, Leioa, Spain; 2. Institute of Natural Sci. and Math., Ural Fedral University, Ekaterinburg, Russian Federation; 3. Department of Magnetism, M.V. Lomonosov Moscow State University, Moskow, Russian Federation; 4. SGIKER, Universidad del Pais Vasco Facultad de Ciencia y Tecnologia, Leioa, Spain*

ER-10. **Metamaterial Based Broadband Absorber Design.** *C. De Moro do Carmo*[1], L. Ribeiro[1], Ú.d. Resende[2] and R.M. de Souza Batalha[1] *1. Electrical Engineering, Pontificia Universidade Catolica de Minas Gerais, Belo Horizonte, Brazil; 2. Electrical Engineering, Centro Federal de Educacao Tecnologica de Minas Gerais, Belo Horizonte, Brazil*

ER-11. **Magnetic Shielding of Pillar-Structured Spin-Torque Vortex Oscillators.** *G. Büttel*[1], M. Qaid[2], T. Peters[3], K. Rott[3], I. Sivanesarajah[1], J. Demir[3], J. Schmalhorst[3], G. Reiss[3], G. Schmidt[2] and U. Hartmann[1] *1. Institute of Experimental Physics, Universitat des Saarlandes, Saarbrucken, Germany; 2. Institute of Experimental Physics, Martin-Luther-Universitat Halle-Wittenberg, Halle, Germany; 3. Department of Physics, Universitat Bielefeld, Bielefeld, Germany*

ER-12. **Simultaneous Evaluation of Permeability and Permittivity Using a Flexible Microstrip Line-Type Probe up to 67 GHz.** *S. Yabukami*[1], K. Nozawa[1], C. Iwasaki[1], S. Takahashi[1], K. Okita[1], M. Sato[1] and S. Sugimoto[1] *1. Tohoku University, Sendai, Japan*

ER-13. **Experimental Study of Microwave Magnetic Properties of Composites Under Magnetic Bias.** *A. Shiryaev*[1], K. Rozanov[1], A. Artemova[1], S. Bobrovskii[1], A. Naboko[1], A. Osipov[1], D. Petrov[1] and P. Zezyulina[1] *1. Institute for Theoretical and Applied Electromagnetics RAS, Moscow, Russian Federation*

THURSDAY
8:00 AM EUROPE CEST

LIVE Q&A SESSIONS

Session FA
TERAHERTZ SPINTRONICS

Alina Deac, Co-Chair
Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany
Paul Nutter, Co-Chair
Manchester University, Manchester, United Kingdom

FA-01. **Probing and Driving Ultrafast Spin Transport With Terahertz Electromagnetic Pulses.** ***(Invited)*** *T. Kampfrath*[1,2] *1. Department of Physics, Freie Universitat Berlin, Berlin, Germany; 2. Department of Physical Chemistry, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany*

FA-02. **Inertial Spin Dynamics in Ferromagnets.** ***(Invited)*** *S. Bonetti*[1,2] *1. Stockholms Universitet, Stockholm, Sweden; 2. Universita Ca' Foscari, Venezia, Italy*

FA-03. **Terahertz Spin-Charge Conversion in Magnetic Single and Multiple Layers.** ***(Invited)*** *Y. Wu*[1], Q. Zhang[1,2], Z. Chen[2] and X. Zhang[2] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore; 2. Department of Electrical & Electronic Engineering, Southern University of Science and Technology, Shenzhen, China*

FA-04. **Controlling Antiferromagnetic Resonances.** ***(Invited)*** *T. Moriyama*[1] *1. Institute for Chemical Research, Kyoto University, Uji, Japan*

FA-05. **Ferrimagnetic Thin Films Systems for Spintronic THz Emitters.** ***(Invited)*** M. Fix[2], R. Schneider[1], J. Bensmann[1], S. Michaelis De Vasconcellos[1], R. Bratschitsch[1] and *M. Albrecht[2] 1. Westfalische Wilhelms-Universitat Munster, Munster, Germany; 2. Universitat Augsburg, Augsburg, Germany*

FA-06. **THz Spintronics of Antiferromagnetic FeRh/Pt.** ***(Invited)*** G. Li[1] and *A. Kimel[1] 1. Radboud Universiteit, Nijmegen, Netherlands*

ON-DEMAND SESSIONS

Session FB
SPIN PUMPING, RESONANCE AND THZ DYNAMICS

Kyusup Lee, Co-Chair
National University of Singapore, Singapore
Raghav Sharma, Co-Chair
National University of Singapore, Singapore

FB-01. **Efficiency of THz Spintronic Emitters: From Spin-Hall Effect in 3*d* Metals to Surfaces States in Topological Insulators.** ***(Invited)*** *E. Rongione[1,2]*, L. Baringthon[1,3], J. Hawacker[2], T. Dang[1], P. Lefèvre[3], N. Reyren[1], R. Lebrun[1], J. George[1], S. Dhillon[2] and H. Jaffrès[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Laboratoire de Physique de l'ENS, Paris, France; 3. Cassiopée beamline, Synchrotron SOLEIL, Saint-Aubin, France*

FB-02. **Spin Pumping in Embedded Lateral Nanostructures in $Fe_{60}Al_{40}$.** *T. Strusch*[1], R. Meckenstock[1], R. Bali[2], J. Ehrler[2], K. Potzger[2], K. Lenz[2], J. Lindner[2], M. Farle[1] and A. Semisalova[1] *1. Faculty of Physics, Universitat Duisburg-Essen, Duisburg, Germany; 2. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

FB-03. **Spin Waves and Spin Pumping Driven by Cavity Confined Bulk Hypersonic Waves.** *N. Polzikova*[1], S. Alekseev[1], S. Dizhur[1,2], V. Luzanov[3], A. Raevskiy[3] and S. Nikitov[1,2] *1. V. A. Kotelnikova Institute for Radiotechnology and Electronics, Russian Academy of Science, Moscow, Russian Federation; 2. Moscow Institute of Physics and Technology State University, Dolgoprudnyj, Russian Federation; 3. V. A. Kotelnikova Institute of Radiotechnology and Electronics, Russian Academy of Sciences, Fryazino, Russian Federation*

FB-04. **Effect of Ta Capping Layer on Damping Properties in $Co_{50}Fe_{50}$ Thin Films.** *B. Panigrahi*[1], S.K. Sahoo[1], M.M. Raja[2], H. Basumatary[2] and A. Haldar[1] *1. Physics, Indian Institute of Technology Hyderabad, Hyderabad, India; 2. DRDO Defence Metallurgical Research Laboratory, Hyderabad, India*

FB-05. **Controlled Nonlinear Magnetic Damping in Spin-Hall Nano-Devices.** *B. Divinskiy*[1], S. Urazhdin[2], S.O. Demokritov[1] and V.E. Demidov[1] *1. Institute for Applied Physics, Westfalische Wilhelms-Universitat Munster, Münster, Germany; 2. Department of Physics, Emory University, Atlanta, GA, United States*

FB-06. **Unraveling Relaxation Mechanisms in Ultra-low Damping $Fe_{80}Co_{20}$ Thin Films.** *D. Velázquez Rodriguez*[1], J. Gómez[1], G. Alejandro[1], L. Avilés[1], M. van Landeghem[2], E. Goovaerts[2] and A. Butera[3] *1. Resonancias Magnéticas, Centro Atómico Bariloche. Comisión Nacional de Energía Atómica (CNEA). Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Bariloche, Argentina; 2. Departement Fysica, Universiteit Antwerpen, Groenenborgerlaan 171, B-2020, Groenenborgerlaan, Belgium; 3. Resonancias Magnéticas, Centro Atómico Bariloche. Comisión Nacional de Energía Atómica (CNEA). Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET). Universidad Nacional de Cuyo (UNCUYO)., Bariloche, Argentina*

FB-07. **Phonon Pumping by Magnonic Spin Currents: Experiments and Theory.** *S.M. Rezende*[1], J. Holanda[2], D. Maior[1], O. Santos[1] and A. Azevedo[1] *1. Fisica, Universidade Federal de Pernambuco Centro de Ciencias Exatas e da Natureza, Recife, Brazil; 2. Fisica, Universidade Federal do Espirito Santo, Vitoria, Brazil*

FB-08. **Compositional Effect on Spin-Wave Auto-Oscillation Behavior of $Ni_{100-x}Fe_x$/Pt Spin Hall Nano-Oscillators.** *M. Haidar*[1], H. Mazraati[2], P. Durrenfeld[3], H. Fulara[3], M. Ranjbar[3] and J. Åkerman[3] *1. American University of Beirut, Beirut, Lebanon; 2. NanOsc AB, Kista 164 40, Sweden, Stockholm, Sweden; 3. Goteborgs Universitet, Goteborg, Sweden*

FB-09. **Evaluation of Interaction Between Local Magnetization Dynamics and Spin Waves Measured by ST-FMR.** *T. Koda*[1], S. Muroga[2], S. Hashi[3] and Y. Endo[4,5] *1. Electronic Mechanical Engineering, National Institute of Technology, Oshima College, Suo-Oshima, Japan; 2. Mathematical Science and Electrical-Electronic-Computer Engineering, Akita University, Akita, Japan; 3. Resarch Institute of Electrical Communication, Tohoku University, Sendai, Japan; 4. Electrical Engineering, Tohoku University, Sendai, Japan; 5. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

FB-10. **Nonsymmetric Spin Pumping in a Multiferroic Heterostructure Using Surface Acoustic Wave.** *P. Rovillain*[1,2], R. Cardoso de Olivero[3], M. Marangolo[1,2] and J. Duquesne[1,4] *1. Institut des NanoSciences de Paris, Paris, France; 2. Sorbonne Universite, Paris, France; 3. Universidade Federal do Parana, Curitiba, Brazil; 4. Centre National de la Recherche Scientifique, Paris, France*

FB-11. **Laser Pulse Induced Ultrafast Spin Current Through the Antiferromagnetic Insulator in Pt/CoO/FeCoB.** *Y. Sasaki*[1,2], G. Li[3], T. Moriyama[4], T. Ono[4], R.V. Mikhaylovskiy[5], A. Kimel[3] and S. Mizukami[2] *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Radboud University, Institute for Molecules and Materials, Nijmegen, Netherlands; 4. Institute for Chemical Research, Kyoto University, Uji, Japan; 5. Lancaster University Department of Physics, Lancaster, United Kingdom*

FB-12. **Tunable Terahertz Wave via Synthesis of Spin and Charge Induced Radiations in Topological Insulator.** *H. Wang*[1,3], X. Chen[2], H. Zhao[1], C. Fang[1,3], T. Nie[1,3], X. Wu[2] and W. Zhao[1,3] *1. School of Integrated Circuit Science and Engineering and Advanced Innovation Center for Big Data and Brain Computing, Beihang University, Beijing, China; 2. School of Electronic and Information Engineering, Beihang University, Beijing, China; 3. Beihang-Goertek Joint Microelectronics Institute, Beihang University, Qingdao, China*

FB-13. **Emission of THz Radiation From $Co_{20}Fe_{60}B_{20}$/Pt Spintronic Thin Films With Varying Microstructural Properties.** *C. Bull*[1,2], R. Ji[1], C. Lin[1], S. Hewett[1], T. Thomson[2], D. Graham[1,3] and P. Nutter[2] *1. Photon Science Institute, Dept. of Physics & Astronomy, The University of Manchester, Manchester, United Kingdom; 2. Nano Engineering and Spintronic Technologies Group, Dept. of Computer Science, The University of Manchester, Manchester, United Kingdom; 3. The Cockroft Institute, Sci-Tech Daresbury, Daresbury, United Kingdom*

FB-14. **Electrically Tunable Detector of THz-Frequency Signals Based on an Antiferromagnet.** *P. Stremoukhov*[1,2], A. Safin[3,4], K. Saeedi Ilkhchy[1], C.F. Schippers[5], R. Lavrijsen[5] and A. Kirilyuk[1] *1. HFML-FELIX Laboratory, Radboud University, Nijmegen, Netherlands; 2. Magnetic Heterostructures and Spintronics Lab, Moscow Institute of Physics and Technology, Moscow, Russian Federation; 3. Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Moscow, Russian Federation; 4. Department of Formation and Processing of Radio Signals, National Research University "Moscow Power Engineering Institute", Moscow, Russian Federation; 5. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

ON-DEMAND SESSIONS

Session FC
GHZ TO THZ PRECESSIONAL MAGNETIZATION DYNAMICS

Matthieu Bailleul, Chair
Universite de Strasbourg, Strasbourg, France

FC-01. **High-Frequency Magnetoacoustic Resonance Through Strain-Spin Coupling in Perpendicular Magnetic Multilayers.** ***(Invited)*** *T. Qu*[1], D. Lattery[2], J. Zhu[3], D. Zhang[1], J. Wang[1], X. Wang[1] and R. Victora[1] *1. University of Minnesota Twin Cities, Minneapolis, MN, United States; 2. Seagate Recording Head Operations, Bloomington, MN, United States; 3. Dalian University of Technology, Dalian, China*

FC-02. **Strong Coupling of Antiferromagnetic Resonance With sub-THz Cavity Fields.** *M. Bialek*[1,2], J. Zhang[2], H. Yu[2] and J. Ansermet[1] *1. Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 2. Beihang University, Beijing, China*

FC-03. **Characterizing Interlayer Coupling in Synthetic Ferromagnetic Thin Films.** *H.J. Waring*[1], Y. Li[1], C. Moutafis[1], I. Vera-Marun[2] and T. Thomson[1] *1. Computer Science, The University of Manchester, Manchester, United Kingdom; 2. Physics and Astronomy, The University of Manchester, Manchester, United Kingdom*

FC-04. **FMR and Thermal Spin Pumping in Garnets|Pt Bilayers.** *L.M. Solis*[1,2], S. Carreira[4], M. Aguirre[2,3], L. Steren[1], A. Butera[5], J. Gómez[5], J. Briático[4] and C. Garcia[6] *1. Centro Atomico Constituyentes, San Martin, Argentina; 2. Universidad de Zaragoza Instituto de Nanociencia de Aragon, Zaragoza, Spain; 3. Universidad de Zaragoza Departamento de Fisica de la Materia Condensada, Zaragoza, Spain; 4. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 5. Centro Atomico Bariloche, Bariloche, Argentina; 6. Universidad Tecnica Federico Santa Maria Departamento de Fisica, Valparaiso, Chile*

FC-05. **Time Resolved MOKE Study of the Ta/CoFeB/MgO Films.** *Y. Gong*[1], X. Lu[1], J. Su[2], Z. Chen[1], L. Yang[1], Y. Yan[1], X. Ruan[1], J. Du[3], J. Cai[2], J. Wu[4], L. He[1], R. Zhang[1] and Y. Xu[1,4] *1. School of Electronic Science and Engineering, Nanjing University, Nanjing, China; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 3. Department of Physics, Nanjing University, Nanjing, China; 4. Department of Electronics and Physics, University of York, York, United Kingdom*

FC-06. **Electric-Field Modulation of Perpendicular Magnetic Anisotropy and Damping Constant in MgO/Co/Pt Trilayers.** A. Sakoguchi[1], *T. Kato*[2], D. Oshima[2] and S. Iwata[3] *1. Department of Electronics, Nagoya University, Nagoya, Japan; 2. Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, Japan; 3. Koeki Zaidan Hojin Nagoya Sangyo Kagaku Kenkyujo, Nagoya, Japan*

FC-07. **Magnetization Dynamics of Ultrathin [CoFeB (t_{CoFeB}) / Pd]$_N$ Films With Perpendicular Magnetic Anisotropy.** *A.S. Silva*[1], S. Sá[1], S.A. Bunyaev[1], C. Garcia[2], Í.J. Sola[3], G.N. Kakazei[1], H. Crespo[1] and D. Navas[4] *1. Institute of Physics for Advanced Materials, Nanotechnology and Photonics (IFIMUP)/ Departamento de Fisica e Astronomia, Universidade do Porto Faculdade de Ciencias, Porto, Portugal; 2. Departmento de Física y Centro Científico Tecnológico de Valparaíso-CCTVal, Universidad Tecnica Federico Santa Maria, Valparaiso, Chile; 3. Laser Applications and Photonics group, Applied Physics Department, Universidad de Salamanca, Salamanca, Spain; 4. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain*

FC-08. **Control of Static and Dynamic Magnetic Properties of Ni_xFe_{100-x} Alloy Thin Films.** *M.R. McMaster*[1], W. Hendren[1], J. Scott[1] and R. Bowman[1] *1. Mathematics and Physics, Queen's University Belfast, Belfast, United Kingdom*

FC-09. **Physical Mechanism Governing Sigmoid Curves of Stochastic Magnetic Tunnel Junctions.** *K. Kobayashi*[1], W.A. Borders[1], S. Kanai[1,2], K. Hayakawa[1], 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. Division for the Establishment of Frontier Sciences, Organization for Advanced Studies, Tohoku University, Sendai, Japan; 3. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 4. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan*

ON-DEMAND SESSIONS

Session FD
ULTRAFAST MAGNETIZATION DYNAMICS, DAMPING AND NUTATION

Justin Shaw, Chair
National Institute of Standards and Technology, Gaithersburg, MD, United States

FD-01. **Engineering Spintronic Devices to Observe Ferromagnetic Layer Switching Induced by a Single- Femto-Second Current Pulse.** ***(Invited)*** S. Iihama[1,5], Q. Remy[2], J. Igarashi[3], G. Malinowski[2], M. Hehn[2], J. Gorchon[2], J. Hohlfeld[2], S. Fukami[4], H. Ohno[3] and *S. Mangin*[2] *1. Center for Spintronics Research Network, Tohoku National University, Sendai, Japan; 2. Institut Jean Lamour, Universite de Lorraine, Nancy, France; 3. Research Institute of Electrical Communication, Tohoku National University, Sendai, Japan; 4. Research Institute of Electrical Communication, Tohoku National University, Sendai, Japan; 5. Frontier Research Institute for Interdisciplinary Science, Tohoku National University, Sendai, Japan*

FD-02. **Micromagnetic Understanding of Switching and Self-Oscillations in Ferrimagnetic Materials.** *F. Cutugno*[1], L. Sánchez-Tejerina[2,3], R. Tomasello[4], M. Carpentieri[1] and G. Finocchio[2] *1. Politecnico di Bari Dipartimento di Ingegneria Elettrica e dell'Informazione, Bari, Italy; 2. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, Universita degli Studi di Messina, Messina, Italy; 3. Department of Biomedical, Dental, Morphological and Functional Imaging Sciences, Universita degli Studi di Messina, Messina, Italy; 4. Institute of Applied and Computational Mathematics, Foundation for Research and Technology, Heraklion, Greece*

FD-03. **Faster Chiral Versus Collinear Magnetic Order Recovery After Optical Excitation Revealed by Femtosecond XUV Scattering.** ***(Invited)*** *N. Kerber*[1,2], D. Ksenzov[3], F. Freimuth[4], F. Capotondi[5], E. Pedersoli[5], I. Lopez-Quintas[5], B. Seng[1,6], J. Cramer[1,2], K. Litzius[1,2], D. Lacour[6], H. Zabel[7], Y. Mokrousov[1,4], M. Kläui[1,2] and C. Gutt[3] *1. Institut für Physik, Johannes Gutenberg Universitat Mainz, Mainz, Germany; 2. Johannes Gutenberg University Mainz Graduate School of Excellence Materials Science in Mainz, Mainz, Germany; 3. Department Physik, Universitat Siegen, Siegen, Germany; 4. Forschungszentrum Julich Peter Grunberg Institut, Julich, Germany; 5. Elettra Sincrotrone Trieste SCpA, Trieste, Italy; 6. Institut Jean Lamour, Nancy, France; 7. Ruhr-Universitat Bochum Fakultat fur Physik und Astronomie, Bochum, Germany*

FD-04. **Ultrafast Electronic Manipulation of Antiferromagnetic Spin Spiral States.** *S. Ghosh*[1], F. Freimuth[1,2], O. Gomonay[2], S. Blügel[1] and Y. Mokrousov[1,2] *1. Forschungszentrum Julich GmbH, Julich, Germany; 2. Johannes Gutenberg Universitat Mainz, Mainz, Germany*

FD-05. **Ultrafast Dynamics in Electronic Band Structure of Optically Excited Epitaxial FeRh: X-ray Absorption Spectroscopy and Density Functional Theory Approach.** *N. Agarwal*[1,2], L. le Guyader[1], J.A. Arregi Uribeetxebarria[4], R. Carley[1], A. Yaroslavtsev[1,3], I. Vaskivskyi[5], R. Kurta[1], M. Izquierdo[1], L. Mercadier[1], G. Mercurio[1], R. Gort[1], N. Gerasimova[1], J. Schlappa[1], B.E. Van Kuiken[1], M. Teichmann[1], V. Valmispild[2], D. Turenne[3], S. Molodtsov[1], V. Uhlir[4], C.H. Back[6], H. Durr[3], A. Lichtenstein[2] and A. Scherz[1] *1. European XFEL GmbH, Schenefeld, Germany; 2. Universitat Hamburg, Hamburg, Germany; 3. Uppsala Universitet Institutionen for fysik och astronomi, Uppsala, Sweden; 4. CEITEC BUT, Brno University of Technology, Brno, Czechia; 5. Institut Jozef Stefan, Ljubljana, Slovenia; 6. Technische Universitat Munchen, Munchen, Germany*

FD-06. **Magnon-Phonon Damping Calculations in the Spin-Lattice Dynamics Model.** *M.S. Strungaru*[1], M.O. Ellis[2], S. Ruta[1], O. Chubykalo-Fesenko[3], R.F. Evans[1] and R.W. Chantrell[1] *1. Physics, University of York, York, United Kingdom; 2. Computer Science, The University of Sheffield, Sheffield, United Kingdom; 3. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain*

FD-07. **Nutation Resonance in Ferromagnets.** *M. Cherkasskii*[1], M. Farle[2,3] and A. Semisalova[2] *1. St. Petersburg State University, St. Petersburg, Russian Federation; 2. Universitat Duisburg-Essen, Duisburg, Germany; 3. Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Krasnoyarsk, Russian Federation*

FD-08. **Midpoint Numerical Technique for Inertial Ultra-Fast Landau-Lifshitz-Gilbert Nutation Dynamics.** *M. d'Aquino*[2,1], V. Scalera[1], K. Neeraj[3], S. Perna[1], S. Bonetti[4,3] and C. Serpico[1] *1. DIETI, Universita degli Studi di Napoli Federico II, Napoli, Italy; 2. Engineering Department, Universita degli Studi di Napoli Parthenope, Napoli, Italy; 3. Stockholms Universitet, Stockholm, Sweden; 4. Universita Ca' Foscari, Venezia, Italy*

Session FE
ELECTRIC FIELD EFFECTS AND MAGNETIZATION SWITCHING

Dennis Meier, Chair
Norges teknisk-naturvitenskapelige universitet, Gjøvik, Norway

FE-01. **Spin Current-Driven Control and Detection of Magnetization in Ferrimagnetic Insulators.** ***(Invited)*** *C. Avci*[1]
1. Department of Materials, ETH Zurich, Zurich, Switzerland

FE-02. **Non-Volatile Electric-Field Control of Spin-Orbit Torques in Perpendicular Ferromagnet - $SrTiO_3$ System.** *C. Grezes*[1], M. Cosset-Cheneau[1], P. Noël[1,2], L.M. Vicente Arche[3], F. Trier[3], S. Auffret[1], K. Garello[1], M. Bibes[3], L. Vila[1] and J. Attané[1]
1. CEA Grenoble, SPINtronique et Technologie des Composants, Grenoble, France; 2. ETH Zurich, Zurich, Switzerland; 3. Unite Mixte de Physique CNRS/Thales, Palaiseau, France

FE-03. **Control of Magnetic Domain Wall Type Using Anisotropy Modulations.** *K.J. Franke*[1], A.K. Schmid[2] and C. Marrows[1]
1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. National Center for Electron Microscopy, Molecular Foundry, E. O. Lawrence Berkeley National Laboratory, Berkeley, CA, United States

FE-04. **Voltage Control of Néel Domain Wall Interactions and Pinning Sites.** *J. Zehner*[1,2]*, I. Soldatov[1], K. Nielsch[1,2], R. Schäfer[1] and K. Leistner[1] *1. Institute for Metallic Materials, Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 2. Institute of Material Science, Technische Universitat Dresden, Dresden, Germany*

FE-05. **Voltage Control of Ferrimagnetic Order and Voltage-Assisted Spin Texture Writing by Solid-State Hydrogen Gating.** *M. Huang*[1], K. Klyukin[1], L.M. Caretta[1], K. Lee[2], J. Chang[2], B. Yildiz[1,3] and G. Beach[1] *1. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 2. Korea Institute of Science and Technology, Seongbuk-gu, The Republic of Korea; 3. Department of Nuclear Science & Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States*

FE-06. **Exchange Bias Toggling in GdCo/NiO Thin Film System by Solid-State Hydrogen Gating.** *M. Hasan*[1], J. Zehner[2], M. Huang[1], K. Leistner[2] and G. Beach[1] *1. Massachusetts Institute of Technology, Cambridge, MA, United States; 2. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany*

FE-07. **Experimental Demonstration of Voltage-Gated Spin-Orbit Torque Switching in Antiferromagnet/Ferromagnet Structure.** *W. Li*[2,4], S. Peng[1,4], J. Lu[1,4], H. Wu[3], X. Li[3], D. Xiong[1], Y. Zhang[2], Y. Zhang[2], K. Wang[3] and W. Zhao[1,4] *1. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 2. School of Electronic and Information Engineering, Beihang University, Beijing, China; 3. Department of Electrical Engineering, University of California Los Angeles, Los Angeles, CA, United States; 4. Hefei Innovation Research Institute, Beihang University, Hefei, China*

FE-08. **Large Reversible Voltage Manipulation of Interfacial Magnetic Anisotropy in Pt/Co/Oxide Multilayers.** *A. Fassatoui*[1], J.A. Peña Garcia[1], A. Bernand-Mantel[2], L. Ranno[1], H. Béa[3], J. Vogel[1] and S. Pizzini[1] *1. UGA-CNRS, Institut NEEL, Grenoble, France; 2. INSA Toulouse, Toulouse, France; 3. UGA-CNRS-CEA, SPINtronique et Technologie des Composants, Grenoble, France*

FE-09. **Reversible and Irreversible Magneto-Ionic Regimes in Ta/CoFeB/HfO_2.** *R. Pachat*[1], D. Ourdani[2], J.W. van der Jagt[3], M.A. Syskaki[4], A.D. Pietro[5], M. Belmeguenai[2], Y. Roussigné[2], G. Durin[5], S. Ono[6], J. Langer[4], D. Ravelosona[3,1] and L.H. Diez[1] *1. Centre de Nanosciences et de Nanotechnologies, Universite Paris-Saclay, Palaiseau, France; 2. Laboratoire des Sciences des Procédés et des Matériaux, Universite Sorbonne Paris Nord, Villetaneuse, France; 3. Spin-Ion technologies, Palaiseau, France; 4. Singulus Technologies AG, Kahl am Main, Germany; 5. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 6. Central Research Institute of Electric Power Industry, Yokosuka, Japan*

ON-DEMAND SESSIONS

Session FG
ANTIFERROMAGNETIC SPINTRONICS I

Samik DuttaGupta, Chair
Tohoku University, Sendai, Japan

FG-01. **Interpretation of the Anomalous Hall Effect as an Effective Topological Hall Effect in Noncollinear Kagome Magnets.** *O. Busch*[1], B. Göbel[1] and I. Mertig[1] *1. Institute for Physics, Martin-Luther-Universitat Halle-Wittenberg, Halle, Germany*

FG-02. **Temperature-Dependent Magnetic Properties and Domain Wall Width of the Antiferromagnet Mn_2Au.** *S. Jenkins*[1], R. Rama-Eiroa[2,3], A. Naden[1], U. Atxitia[4], O. Chubykalo-Fesenko[5], R.M. Otxoa[2,6], R.W. Chantrell[1] and R.F. Evans[1] *1. Department of Physics, University of York, York, United Kingdom; 2. Donostia International Physics Center, San Sebastian, Spain; 3. Polymers and Advanced Materials Department: Physics, Chemistry, and Technology, University of the Basque country, San Sebastian, Spain; 4. Dahlem Center for Complex Quantum Systems and Fachbereich Physik, Freie Universitat Berlin, Berlin, Germany; 5. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 6. Hitachi Cambridge Laboratory, Cambridge, United Kingdom*

FG-03. **Effects of Spin-Orbit Torque on the Ferromagnetic and Exchange Spin-Wave Modes in Ferrimagnetic Co-Gd Alloy.** *B. Divinskiy*[1], G. Chen[2], S. Urazhdin[2], S.O. Demokritov[1] and V.E. Demidov[1] *1. Institute for Applied Physics, Westfalische Wilhelms-Universitat Munster, Munster, Germany; 2. Department of Physics, Emory University, Atlanta, GA, United States*

FG-04. **Quantifying Spin Torques in CoO(001)/Pt Bilayers by Comparing Field- and Current-Induced Switching.** L. Baldrati[1], C. Schmitt[1], O. Gomonay[1], R. Lebrun[2], R. Ramos[3], E. Saitoh[3,4], J. Sinova[1] and *M. Kläui*[1] *1. Institut für Physik, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 2. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 3. WPI-Advanced Institute for Materials Research, Tokyo University, Tokyo, Japan; 4. Tokyo University, Tokyo, Japan*

FG-05. **Dynamics of Synthetic Antiferromagnetic Skyrmion From Current-Induced Deterministic Motion to Thermally-Activated Diffusive Motion.** *T. Dohi*[1,2], S. DuttaGupta[1,3], F. Kammerbauer[2], N. Kerber[2,4], B. Seng[2,5], Y. Ge[2], K. Raab[2], R. Gruber[2], M. Brems[2], J. Rothörl[2], P. Virnau[2,4], S. Fukami[1,3], M. Klaui[2,4] and H. Ohno[1,3] *1. RIEC, Tohoku University, Sendai, Japan; 2. Institute of Physics, Johannes Gutenberg Universitat Mainz, Mainz, Germany; 3. CSIS, Tohoku University, Sendai, Japan; 4. Johannes Gutenberg University Mainz Graduate School of Excellence Materials Science in Mainz, Mainz, Germany; 5. Institut Jean Lamour, UMR CNRS 7198, Universite de Lorraine, Nancy, France*

FG-06. **Identification of Néel Vector Orientation in Antiferromagnetic Domains Switched by Currents in NiO/Pt Thin Films.** *C. Schmitt*[1], L. Baldrati[1], L. Sanchez-Tejerina[2], F. Schreiber[1], A. Ross[1], M. Filianina[1], S. Ding[1], F. Fuhrmann[1], R. Ramos[3], F. Maccherozzi[4], D. Backes[4], E. Saitoh[3], G. Finocchio[2] and M. Kläui[1] *1. Johannes Gutenberg Universitat Mainz, Mainz, Germany; 2. Universita degli Studi di Messina, Messina, Italy; 3. Tohoku University, Sendai, Japan; 4. Diamond Light Source Ltd, Didcot, United Kingdom*

FG-07. **Exchange Bias Switching in an Antiferromagnet/Ferromagnet Bilayer Driven by Spin–Orbit Torque.** *S. Peng*[1,2], D. Zhu[1], W. Li[1,2], H. Wu[3], A. Grutter[4], D. Gilbert[4,5], J. Lu[1,2], D. Xiong[1], W. Cai[1], P. Shafer[6], K. Wang[3] and W. Zhao[1,2] *1. Fert Beijing Institute, BDBC, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 2. Hefei Innovation Research Institute, Beihang University, Hefei, China; 3. Department of Electrical Engineering, University of California Los Angeles, Los Angeles, CA, United States; 4. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 5. Materials Science and Engineering, The University of Tennessee Knoxville Tickle College of Engineering, Knoxville, TN, United States; 6. Advanced Light Source, E. O. Lawrence Berkeley National Laborator, Berkeley, CA, United States*

FG-08. **Spontaneous Hall Effect in the Mn_5Si_3 Antiferromagnet, due to Antiferromagnetic Zeeman Spin-Splitting.** *R. Lopes Seeger*[1], H. Reichlova[2,3], R. Gonzalez-Hernandez[4,5], I. Kounta[6], R. Schlitz[2], D. Kriegner[2,3], P. Ritzinger[2], M. Lammel[7], M. Leiviska[1], V. Petricek[3], P. Dolezal[8], E. Schmoranzerová[8], A. Badura[8], A. Tomas[2,9], V. Baltz[1], L. Michez[6], J. Sinova[5,3], S.T. Goennenwein[2,10], T. Jungwirth[3,11] and L. Smejkal[3,5] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Technische Universitat Dresden, Dresden, Germany; 3. Czech National Academy of Science, Praha, Czechia; 4. Universidad del Norte, Barranquilla, Colombia; 5. Johannes Gutenberg Universitat Mainz, Mainz, Germany; 6. CINaM, Marseille, France; 7. Institute for Metallic Materials, Leibnitz Institute of Solid State and Materials Science, Dresden, Germany; 8. Univerzita Karlova, Praha, Czechia; 9. Leibniz Institute for Solid State and Materials Research Dresden (IFW Dresden), Dresden, Germany; 10. Universitat Konstanz, Fachbereich Physik, Konstanz, Germany; 11. University of Nottingham School of Physics and Astronomy, Nottingham, United Kingdom*

FG-09. **Switching Experiment of Antiferromagnetic CoO in Different Temperatures.** *M. Grzybowski*[1], C.F. Schippers[1], K. Rubi[2], U. Zeitler[2], M. Bal[2], B. Koopmans[1] and H. Swagten[1] *1. Applied Physics Department, Eindhoven University of Technology, Eindhoven, Netherlands; 2. High Field Magnet Laboratory, Radboud Universiteit, Nijmegen, Netherlands*

FG-10. **Observation of Antiferromagnetic Magnon Pseudospin Dynamics and the Magnon Hanle Effect.** *T. Wimmer*[1,2], A. Kamra[3], J. Gückelhorn[1,2], M. Opel[1], S. Geprägs[1], R. Gross[1,2], H. Huebl[1,2] and M. Althammer[1,2] *1. Magnetism and Spintronics, Walther-Meissner-Institute for Cryogenic Research, Garching, Germany; 2. Physik Department, Technische Universitat Munchen, Munchen, Germany; 3. Department of Physics, Norwegian Technical and Natural Sciences University, Trondheim, Norway*

FG-11. **Antiferromagnetic Textures in Presence of Inhomogenenous Strain Field.** *O. Gomonay*[1] *1. Johannes Gutenberg Universitat Mainz, Mainz, Germany*

FG-12. **Ultrafast Spin Current Generated From an Antiferromagnet.** ***(Invited)*** *D. Wu*[1] *1. Nanjing University, Nanjing, China*

FG-13. **Anomalous Nernst Effect in Compensated Ferrimagnetic Mn_2Ru_xGa.** *Y. Lau*[1,2], J. Wang[1,2], T. Kubota[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*

FG-14. **Electrical Readout of the Antiferromagnetic State of IrMn Through Anomalous Hall Effect.** M. Asa[1], C. Rinaldi[1,2], R. Pazzocco[1], L. Nessi[1] and *M. Cantoni*[1] *1. Physics, Politecnico di Milano, Milano, Italy; 2. IFN, Consiglio Nazionale delle Ricerche, Roma, Italy*

FG-15. **X-Ray Magnetic Linear Dichroism Studies of Electrical Switching of Antiferromagnetic Order in α-Fe_2O_3 Epitaxial Films.** *E. Cogulu*[1], N.N. Statuto[1], Y. Cheng[2], F. Yang[2], R. Chopdekar[3], H. Ohldag[3] and A. Kent[1] *1. Department of Physics, New York University, New York, NY, United States; 2. Department of Physics, The Ohio State University, Columbus, OH, United States; 3. Advanced Light Source, E O Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

ON-DEMAND SESSIONS

Session FH
ANTIFERROMAGNETIC SPINTRONICS II

Vito Puliafito, Chair
Universita degli Studi di Messina, Messina, Italy

FH-01. **New Aspects of Magnetoelectric Responses in Chiral Antiferromagnets.** ***(Invited)*** *H. Chen*[1,2] *1. Department of Physics, Colorado State University, Fort Collins, CO, United States; 2. School of Advanced Materials Discovery, Colorado State University, Fort Collins, CO, United States*

FH-02. **Penetration Depth of Cooper Pairs in the IrMn Antiferromagnet.** *R. Lopes Seeger*[1], G. Forestier[1], O. Gladii[1], M. Leiviska[1], S. Auffret[1], I. Joumard[1], C. Gomez[2], M. Rubio-Roy[1], A. Buzdin[3,4], M. Houzet[5] and V. Baltz[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Grenoble INP, CIME Nanotech, Grenoble, France; 3. Univ. Bordeaux, CNRS, LOMA, Talence, France; 4. Dept. Mat. Sci. & Met, Univ. Cambridge, Cambridge, United Kingdom; 5. Univ. Grenoble Alpes, CNRS, CEA, PHELIQS, Grenoble, France*

FH-03. **The Effect of RKKY Exchange Coupling Through Heavy Metal Interlayers on Future Skyrmionic Devices.** *P. Mirzadeh Vaghehfi*[1], A. Mandru[1], O. Yildirim[1], T. Dutta[1] and H.J. Hug[1,2] *1. Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland; 2. Universitat Basel Departement Physik, Basel, Switzerland*

FH-04. **Mechanism of Current-Induced Magnetotransport in Epitaxial Antiferromagnetic α-Fe_2O_3.** *A. Churikova*[1], D. Bono[1], A. Wittmann[1], L. Scipioni[2], A. Shepard[2], T. Newhouse-Illige[2], J.A. Greer[2], N.O. Birge[3] and G. Beach[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 2. PVD Products, Inc, Wilmington, MA, United States; 3. Department of Physics and Astronomy, Michigan State University, East Lansing, MI, United States*

FH-05. **Observation of the Magnetic Cluster Octupole Domain Evolution in Antiferromagnet Mn_3Ge.** *M. Wu*[1,2], H. Isshiki[2], T. Chen[3], T. Higo[3], S. Nakatsuji[3,2] and Y. Otani[1,2] *1. Center for Emergent Matter Science, Rikagaku Kenkyujo, Wako, Japan; 2. The University of Tokyo Bussei Kenkyujo, Kashiwa, Japan; 3. Department of Physics, The University of Tokyo, Bunkyo-ku, Japan*

FH-06. **Direct Observation of Spin-Orbit Torques, Dzyaloshinskii-Moriya Interaction and Chiral Spin Textures in Single Layer Ferrimagnets.** *S. Krishnia*[1,3], E. Haltz[1,4], L. Berges[1], L. Aballe[2], M. Foerster[2], L. Bocher[1], R. Weil[1], A. Thiaville[1], J. Sampaio[1] and A. Mougin[1] *1. Université Paris-Saclay, CNRS, Laboratoire de Physique des Solides, Orsay, France; 2. Alba Synchrotron Light Facility, CELLS, Barcelona, Spain; 3. Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, Palaiseau, France; 4. University of Leeds School of Physics and Astronomy, Leeds, United Kingdom*

FH-07. **Roles of Destressing, Pinning, and Weak Ferromagnetism for Magnetic Reversal in α-Fe_2O_3.** *A. Wittmann*[1], A. Churikova[1], L. Scipioni[2], A. Shepard[2], T. Newhouse-Illige[2], J.A. Greer[2], N.O. Birge[3] and G. Beach[1] *1. Massachusetts Institute of Technology, Cambridge, MA, United States; 2. PVD Products, Wilmington, MA, United States; 3. Michigan State University, East Lansing, MI, United States*

FH-08. **Symmetry of Transversal Conductivity Signal in Antiferromagnetic Mn_5Si_3.** *A. Badura*[1], H. Reichlova[2,7], R. Schlitz[2], D. Kriegner[2,7], R. Lopes Seeger[3], I. Kounta[4], L. Michez[4], E. Schmoranzerová[1], V. Baltz[3], S.T. Goennenwein[2,5] and L. Smejkal[6,7] *1. Department of Chemical Physics and Optics, Univerzita Karlova Matematicko-fyzikalni fakulta, Praha, Czechia; 2. Institute for Solid State and Materials Physics, Technische Universitat Dresden, Dresden, Germany; 3. SPINtronique et Technologie des Composants, Grenoble, France; 4. Centre Interdisciplinaire de Nanoscience de Marseille, Marseille, France; 5. Fachbereich Physik, Universitat Konstanz, Konstanz, Germany; 6. Institut für Physik, Johannes Gutenberg Universitat Mainz, Mainz, Germany; 7. Physics, Czech Academy of Science, Praha, Czechia*

FH-09. **Reversible Interlayer Exchange Coupling Regulation Induced by Phase Change of Atomically Thin VO_2.** *X. Fan*[1], G. Wei[1], X. Lin[1] and W. Zhao[1] *1. Beihang University, Beijing, China*

FH-10. **The Chiral Hall Effect in Canted Ferromagnets and Antiferromagnets.** *J. Kipp*[1,2], K. Samanta[1], F. Lux[1,2], M. Merte[1,2], D. Go[1,3], J. Hanke[1], M. Redies[1,2], F. Freimuth[1], S. Blügel[1], M. Lezaic[1] and Y. Mokrousov[1,3] *1. PGI-1/IAS-1, Forschungszentrum Julich GmbH, Julich, Germany; 2. Physics, Rheinisch-Westfalische Technische Hochschule Aachen, Aachen, Germany; 3. Physics, Johannes Gutenberg Universitat Mainz, Mainz, Germany*

FH-11. **Imprinting the Domain Structure of a Metallic Antiferromagnet on Thin Ferromagnetic Layers.** *S. Bommanaboyena*[1], D. Schoenke[1], R. Reeve[1], M. Klaui[1] and M. Jourdan[1] *1. Physics, Johannes Gutenberg Universitat Mainz, Mainz, Germany*

FH-12. **Cavity Magnon Polaritons and Inverse Spin Hall Effect in Easy-Axis Antiferromagnets.** *I. Boventer*[1], H.T. Simensen[4], A. Anane[1], M. Kläui[2,3], A. Brataas[4] and R. Lebrun[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Johannes Gutenberg Universitat Mainz, Mainz, Germany; 3. Johannes Gutenberg University Mainz Graduate School of Excellence Materials Science in Mainz, Mainz, Germany; 4. Center for Quantum Spintronics, Department of Physics, Norwegian Technical and Natural Sciences University, Trondheim, Norway*

FH-13. **Néel Vector Alignment Induced Symmetry Breaking in the Electronic Band Structure of the Antiferromagnet Mn_2Au.** *M. Jourdan*[1], S.V. Chernov[1], S. D'Souza[2], S. Bommanaboyena[1], S. Bodnar[1], K. Medjanik[1], S. Babenkov[1], O. Fedchenko[1], D. Vasilyev[1], S. Agustsson[1], C. Schlueter[3], A. Gloskovskii[3], Y. Matveyev[3], V. Strocov[4], Y. Skourski[5], L. Smejkal[1], J. Sinova[1], J. Minar[2], M. Klaui[1], G. Schoenhense[1] and H. Elmers[1] *1. Institute of Physics, Johannes Gutenberg Universitat Mainz, Mainz, Germany; 2. New Technologies-Research Centre, Zapadoceska univerzita v Plzni, Plzen, Czechia; 3. Deutsches Elektronen-Synchrotron, Hamburg, Germany; 4. Paul Scherrer Institut, Villigen, Switzerland; 5. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

FH-14. **Theoretical Study of Hybrid Vortex and Dynamical Phase Transitions in an Antiferromagnetic Nanostripe.** *R. Tomasello*[1] and S. Komineas[2,1] *1. Institute of Applied and Computational Mathematics, Foundation for Research and Technology, Heraklion, Greece; 2. Department of Mathematics and Applied Mathematics, University of Crete, Heraklion, Greece*

ON-DEMAND SESSIONS

Session FP
MAGNETIZATION DYNAMICS, DAMPING AND ULTRAFAST SWITCHING (Poster Session)

Vijaysankar Kalappattil, Chair
Colorado State University, Fort Collins, CO, United States

FP-01. **Independent Relationship Between Ultrafast Demagnetization and Anisotropic Gilbert Damping in Single Crystal $Co_{50}Fe_{50}$ Films.** *H. Xia*[1], Y. Wu[1] and H.B. Zhao[2] *1. Department of physics, Fudan University, Shanghai, China; 2. Department of Optical Science and Engineering, Fudan University, Shanghai, China*

FP-02. **Magnetic Nanowires as a Source of Irradiation of THz Frequency.** *I. Doludenko*[1], D. Zagorsky[1], S. Chigarev[2] and E. Vilkov[2] *1. Institute for Crystallography and Photonics, Russian Academy of Science, Moscow, Russian Federation; 2. Kotelnikov Institute of Radioengineering and Electronics of Russian Academy of Sciences, Moscow, Russian Federation*

FP-03. **Spin-Torque Oscillation Modes of a Composite Synthetic Antiferromagnetic Free Layer in Dual Magnetic Tunnel Junctions.** *X. Chao*[1], Y. Zhang[1] and J. Wang[1] *1. University of Minnesota, Minneapolis, MN, United States*

FP-04. **Chirped Photonic Crystals With GdFeCo for Layer-Selective Magnetization Control.** O. Borovkova[1], D. Ignatyeva[1,2], *A. Kalish*[1,2] and V.I. Belotelov[1,2] *1. M. V. Lomonosov Physics Faculty, Moscow State University, Moscow, Russian Federation; 2. Russian Quantum Center, Moscow, Russian Federation*

FP-05. **Magnetization-Orientation Dependent Terahertz Emission From the Fe/Pt (110) Single-Crystal Film.** *C. Liu*[1], W. Lu[2], Z. Wei[3], H. Xia[1,4], H.B. Zhao[4], Y. Wu[1], Z. Yuan[2] and J. Qi[3] *1. Department of Physics, Fudan University, Shanghai, China; 2. The Center for Advanced Quantum Studies and Department of Physics, Beijing Normal University, Beijing, China; 3. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China; 4. Shanghai Ultra-precision Optical Manufacturing Engineering Research Center, and Key Laboratory of Micro and Nano Photonic Structures (Ministry of Education), Department of Optical Science and Engineering, Fudan University, Shanghai, China*

FP-06. **Cavity-FMR Studies of LPE Epitaxial YIG Films.** *H. Hurdequint*[1], G. de Loubens[1], J. Ben Youssef[2], N. Beaulieu[2] and N. Vukadinovic[3] *1. SPEC,CEA-Saclay,Université Paris-Saclay, Gif-sur-Yvette 91191, France; 2. LabSTICC, CNRS, Université de Bretagne Occidentale, 29238 Brest, France; 3. Dassault Aviation, 92552 Saint-Cloud, France*

FP-07. **Optically Induced Spin Wave Excitation in one-Dimensional Iron-Garnet Nanostripes.** *D. Krichevsky*[1,4], D. Ignatyeva[3,4], D. Karki[5], P. Zimnyakova[3], M. Levy[5] and V.I. Belotelov[3,2] *1. Moscow Institute for Physics and Technology State University, Dolgoprudnyj, Russian Federation; 2. Russian Quantum Center, Moscow, Russian Federation; 3. Moscow State University M. V. Lomonosova Physics Faculty, Moscow, Russian Federation; 4. V. I. Vernadskogo Crimean State University, Simferopol', Ukraine; 5. Michigan Technological University, Houghton, MI, United States*

FP-08. **Measurement of Dynamic Properties in Ta/NiFe Microstrip Using Frequency Sweep Technique.** *D. Tiwari*[1,2] *1. SPIN tronique et Technologie des Composants, Grenoble, France; 2. Indian Institute of Technology Delhi, New Delhi, India*

FP-09. **Ferromagnetic Resonance Linewidth Broadening Induced by a Tunable Inhomogeneity Effect.** *Y. Xing*[1], Z. Yan[1], J. Wei[1], C. Wan[1], G. Yu[1] and X. Han[1] *1. Chinese Academy of Sciences Institute of Physics, Beijing, China*

FP-10. **Tunable Microwave Properties of Zigzag Nanowires.** *K. Begari*[1] and A. Haldar[1] *1. Physics Department, Indian Institute of Technology Hyderabad, Hyderabad, India*

FP-11. **Study on Comparison Between in-Plane and out-of-Plane Dynamic Magnetic Properties for Fe-M Binary Alloy Thin Films.** *Y. Endo*[1], T. Nguyen[2] and T. Miyazaki[3] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan; 3. Technical Division, School of Engineering, Tohoku University, Sendai, Japan*

FP-12. **Theory of Spin-Torque Ferrimagnetic Resonance.** *S. Kim*[1], D. Lee[2], S. Oh[3], H. Koo[1,4] and K. Lee[5] *1. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seongbuk-gu, The Republic of Korea; 2. Department of Materials Science & Engineering, Korea University, Seongbuk-gu, The Republic of Korea; 3. Department of Nano-Semiconductor and Engineering, Korea University, Seongbuk-gu, The Republic of Korea; 4. Center for Spintronics, Korea Institute of Science and Technology, Seongbuk-gu, The Republic of Korea; 5. Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon, The Republic of Korea*

FP-13. **Spin Transfer Torque Oscillation in Orthogonal Magnetization Disks.** *L. Chuhan*[1], H. Naoki[1], H. Shu[1], Y. Kurokawa[1] and H. Yuasa[1] *1. Kyushu University, Fukuoka, Japan*

FP-14. **Sensitivity Optimization of Spin-Torque Diode With Perpendicular Anisotropy Through Free Layer Thickness Tuning.** *A. Buzdakov*[1,2], P. Skirdkov[1,3] and K. Zvezdin[1,3] *1. New Spintronic Technologies, Russian Quantum Center, Moscow, Russian Federation; 2. Moscow Institute of Physics and Technology, Engineering Center, Dolgoprudnyj, Russian Federation; 3. A. M. Prohorova Institute of General Physics, RAN, Moscow, Russian Federation*

THURSDAY
3:00 PM EUROPE CEST

LIVE Q&A SESSIONS

Session GA
SPINTRONICS FOR PROBABILISTIC COMPUTING

Olga Kazakova, Chair
National Physical Laboratory, Teddington, United Kingdom

GA-01. **Tuneable Stochastic Domain-Wall Trajectories in a Magnetic Galton Board.** ***(Invited)*** *D. Sanz Hernandez*[1], M. Massouras[2], N. Reyren[1], N. Rougemaille[3], V. Schánilec[3,4], K. Bouzehouane[1], M. Hehn[2], B. Canals[3], D. Querlioz[5], J. Grollier[1], F. Montaigne[2] and D. Lacour[2] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Institut Jean Lamour, Nancy, France; 3. Institut NEEL, Grenoble, France; 4. Stredoevropsky technologicky institut, Brno, Czechia; 5. Centre de Nanosciences et de Nanotechnologies, Orsay, France*

GA-02. **From Stochasticity to Functionality: Harnessing Magnetic Domain Walls for Probabilistic and Neuromorphic Computing.** ***(Invited)*** *T. Hayward*[1], I.T. Vidamour[1,2], M.O. Ellis[2], A. Welbourne[1], R. Dawidek[1], T.J. Broomhall[1], M. Chambard[1], M. Drouhin[1], A.M. Keogh[1], A. Mullen[1], S. Kyle[1], M. Al Mamoori[1], P. Fry[3], N. Steinke[4], J.F. Cooper[5], F. Maccherozzi[6], S. Dhesi[6], L. Aballe[7], M. Foerster[7], J. Prat[7], E. Vasilaki[2] and D. Allwood[1] *1. Department of Materials Science and Engineering, The University of Sheffield, Sheffield, United Kingdom; 2. Department of Computer Science, The University of Sheffield, Sheffield, United Kingdom; 3. Nanoscience and Technology Centre, The University of Sheffield, Sheffield, United Kingdom; 4. Institut Laue-Langevin, Grenoble, France; 5. ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Didcot, United Kingdom; 6. Diamond Light Source Ltd, Didcot, United Kingdom; 7. ALBA Synchrotron Light Facility, Barcelona, Spain*

GA-03. **Hidden Skyrmion Diffusion and Brownian Computing.** ***(Invited)*** *Y. Suzuki*[1,2], S. Miki[1], E. Tamura[1], M. Goto[1,2], R. Ishikawa[4], T. Nozaki[3], Y. Tanaka[1] and H. Nomura[1,2] *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 3. Research Center for Emerging Computing Technologies, AIST, National Institute of Advances Industrial Science and Technology, Tsukuba, Japan; 4. Osaka University Joint research Laboratory for future technology, ULVAC, Toyonaka, Japan*

GA-04. **Running Deep Neural Networks on Superparamagnetic Fluctuations.** ***(Invited)*** *M. Daniels*[1], A. Madhavan[1,2], P. Talatchian[5], A. Mizrahi[3,4] and M. Stiles[1] *1. Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. IREAP, University of Maryland at College Park, College Park, MD, United States; 3. Centre National de la Recherche Scientifique, Paris, France; 4. Thales Defence, La Defense, France; 5. Commissariat a l'energie atomique et aux energies alternatives, Paris, France*

GA-05. **Magnetic Defect-Driven Dynamics in Artificial Spin ice.** ***(Invited)*** *R. Puttock*[2,3], C. Gatel[1], M. Rosamond[4], A. Fernandez Scarioni[5], V. Antonov[3], E. Snoeck[1], A. Manzin[6], V. Neu[7], F. Garcia-Sanchez[6,8], H.W. Schumacher[5] and O. Kazakova[2] *1. Centre d'Elaboration de Materiaux et d'Etudes Structurales, Toulouse, France; 2. Quantum Materials and Sensors, National Physical Laboratory, Teddington, United Kingdom; 3. Department of Physics, Royal Holloway University of London, Egham, United Kingdom; 4. School of Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom; 5. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 6. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 7. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 8. Universidad de Salamanca, Salamanca, Spain*

GA-06. **An Atomic-Scale Boltzmann Machine Capable of Self-Adaption.** ***(Invited)*** *A.A. Khajetoorians*[1] *1. Institute for Molecules and Materials, Radboud Universiteit, Nijmegen, Netherlands*

Session GB
NEUROMORPHIC COMPUTING

Alice Mizrahi, Co-Chair
Unite Mixte de Physique CNRS/Thales, Palaiseau, France
Dedalo Sanz Hernandez, Co-Chair
Unite Mixte de Physique CNRS/Thales, Palaiseau, France

GB-01. **Ferrimagnetic Co-Gd-Bilayer-Based Fast and Energy-Efficient Synaptic Devices for Neuromorphic Computing.** *U. Sahu*[1], N. Sisodia[2], J. Sharda[1], P.K. Muduli[2] and D. Bhowmik[1] *1. Electrical Engineering, Indian Institute of Technology Delhi, New Delhi, India; 2. Physics, Indian Institute of Technology Delhi, New Delhi, India*

GB-02. **Domain Wall-Magnetic Tunnel Junction Spin Orbit Torque Devices for in-Memory Computing.** *T. Leonard*[1], M. Alamdar[1], C. Cui[1], B.P. Rimal[1], L. Xue[2], O.G. Akinola[1], T.P. Xiao[3], J.S. Friedman[4], C.H. Bennett[3], M.J. Marinella[3] and J.C. Incorvia[1] *1. The University of Texas at Austin, Austin, TX, United States; 2. Applied Materials Inc, Santa Clara, CA, United States; 3. Sandia National Laboratories, Albuquerque, NM, United States; 4. The University of Texas at Dallas, Richardson, TX, United States*

GB-03. **Imaging the Emergent Behaviour in Nanoring Assemblies for Reservoir Computing Applications.** *G. Venkat*[1], R. Dawidek[1], T. Hayward[1], A. Mullen[1], S. Kyle[1], P. Fry[2], F. Maccherozzi[3], S. Dhesi[3], L. Aballe[4], M. Foerster[4], J. Pratt[4] and D. Allwood[1] *1. Materials Science and Engineering, The University of Sheffield, Sheffield, United Kingdom; 2. Nanoscience and Technology Centre, The University of Sheffield, Sheffield, United Kingdom; 3. Diamond Light Source Ltd, Didcot, United Kingdom; 4. ALBA Synchrotron Light Facility, Consorcio para la Construccion Equipamiento y Explotacion del Laboratorio de Luz Sincrotron, Barcelona, Spain*

GB-04. **Voltage-Controlled, Thermally Driven Superparamagnetic Ensembles for Tuneable Timescale Reservoir Computing.** *A. Welbourne*[1], A. Levy[2], M.O. Ellis[3], H. Chen[1], E. Vasilaki[3], D. Allwood[1] and T. Hayward[1] *1. Materials Science, The University of Sheffield, Sheffield, United Kingdom; 2. Physics, École Polytechnique, Paris, France; 3. Computer Science, The University of Sheffield, Sheffield, United Kingdom*

GB-05. **Hardware Implementation of a Magnetic Tunnel Junction Based Bitstream Generator for Stochastic Computing.** *E. Becle*[1], L. Anghel[1], G. Prenat[1] and I. Prejbeanu[1] *1. SPINtronique et Technologie des Composants, Grenoble, France*

GB-06. **Domain Wall Motion Based Neuromorphic Computing With Voltage Controlled Spin Neuron and Stochastic Magnetic Tunnel Junction Synapse.** *A.H. Lone*[1], S. Amara[1] and H. Fariborzi[1] *1. CEMSE (Integrated Circuits and Systems Group), King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

GB-07. **Enhanced Computational Ability of Spin Torque Oscillator With Delayed-Feedback Circuit for Physical Reservoir Computing.** *A. Kamimaki*[1], S. Tsunegi[1], K. Nakajima[2], K. Yakushiji[1], A. Fukushima[1], S. Yuasa[1] and H. Kubota[1] *1. Research Center for Emerging Computing Technologies (RCECT), AIST, Tsukuba, Japan; 2. Department of Mechano-Informatics, Univ. of Tokyo, Tokyo, Japan*

GB-08. **In-MRAM Processing Elements With Single-Step Convolution for Binary Neural Network.** *Z. Bian*[1], J. Chen[1] and H. Cai[1] *1. Southeast University, Nanjing, China*

GB-09. **Neuromorphic Computation With a Single Magnetic Domain Wall.** *R.V. Ababei*[1], M.O. Ellis[2], I.T. Vidamour[1], E. Vasilaki[2], D. Allwood[1] and T. Hayward[1] *1. Materials Science, The University of Sheffield, Sheffield, United Kingdom; 2. Computer Science, The University of Sheffield, Sheffield, United Kingdom*

GB-10. **Superiority of in-Plane Easy-Axis Stochastic Nanomagnet for Shorter Relaxation Time.** *S. Kanai*[1,2], K. Hayakawa[1], T. Funatsu[1], W.A. Borders[1], J. Igarashi[1], B. Jinnai[3], H. Ohno[1,4] and S. Fukami[1,5] *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Division for the Establishment of Frontier Sciences, Organization for Advanced Studies, Tohoku University, Sendai, Japan; 3. WPI-Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 4. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan; 5. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

GB-11. **Machine Learning With Stochastic Magnetic Domain Wall Based Neurons and Synapses.** *M.O. Ellis*[1], A. Welbourne[2], S. Kyle[2], T. Hayward[2], D. Allwood[2] and E. Vasilaki[1] *1. Department of Computer Science, The University of Sheffield, Sheffield, United Kingdom; 2. Department of Material Science and Engineering, The University of Sheffield, Sheffield, United Kingdom*

GB-12. **Mutually Coupled Superparamagnetic Tunnel Junctions.** *P. Talatchian*[1,3], M. Daniels[2], A. Madhavan[3,2], E. Jue[4], M.R. Pufall[4], W.H. Rippard[4], J.J. McClelland[2] and M. Stiles[2] *1. Univ. Grenoble Alpes, CEA, CNRS, SPINTEC, Commissariat a l'energie atomique et aux energies alternatives Siege administratif, Grenoble, France; 2. Alternative Computing Group, Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Institute for Research in Electronics and Applied Physics, University of Maryland at College Park, College Park, MD, United States; 4. Physical Measurement Laboratory, National Institute of Standards and Technology, Boulder, CO, United States*

GB-13. **Nanomagnetic Self-Organizing Logic Gates.** *P. Gypens*[1]*, J. Leliaert[1], M. Di Ventra[2], B. Van Waeyenberge[1] and D. Pinna[3,4] *1. Dept. of Solid State Sciences, Universiteit Gent, Gent, Belgium; 2. Department of Physics, University of California San Diego, La Jolla, CA, United States; 3. Dept. of Physics, Johannes Gutenberg Universitat Mainz, Mainz, Germany; 4. Forschungszentrum Julich Peter Grunberg Institut, Julich, Germany*

Session GC
NEW APPROACHES IN COMPUTATIONAL MAGNETISM

Dieter Suess, Chair
Vienna University of Technology, Vienna, Austria

GC-01. **Entropic Effects and Solitons in Thermally Activated Magnetic Transitions.** ***(Invited)*** *L. Desplat*[1,2], C. Vogler[3], D. Suess[3], R. Stamps[4] and J. Kim[1] *1. Centre de Nanosciences et de Nanotechnologies, Palaiseau, France; 2. Institut de Physique et Chimie des Materiaux de Strasbourg, Strasbourg, France; 3. Universitat Wien, Wien, Austria; 4. University of Manitoba, Winnipeg, MB, Canada*

GC-02. **On Quantifying the Topological Charge in Micromagnetics Using a Lattice-Based Approach.** *J. Kim*[1] and j. Mulkers[2] *1. Centre for Nanoscience and Nanotechnology (C2N), CNRS, Université Paris-Saclay, Palaiseau, France; 2. Department of Solid State Sciences, Universiteit Gent, Gent, Belgium*

GC-03. **Theoretical Study of TheTransport of Skyrmions at Room Temperature in Granular Racetracks.** *J. Castell-Queralt*[1], L. González-Gómez[1], N. Del-Valle[1] and C. Navau[1] *1. Physics, Universitat Autonoma de Barcelona, Barcelona, Spain*

GC-04. **Numerical Solution of the Fokker-Planck Equation by Spectral Collocation and FEM Methods for Stochastic Magnetization Dynamics.** *V. Scalera*[1], P. Ansalone[2], S. Perna[1], C. Serpico[1] and M. d'Aquino[1] *1. Department of Electrical Engineering and ICT, Universita degli Studi di Napoli Federico II, Napoli, Italy; 2. Istituto Nazionale di Ricerca Metrologica, Torino, Italy*

GC-05. **Towards Reproducible Micromagnetic Workflows Using Ubermag.** *M. Beg*[1], M. Lang[1], R. Pepper[1] and H. Fangohr[2,1] *1. Faculty of Engineering and Physical Sciences, University of Southampton, Southampton, United Kingdom; 2. Max Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany*

GC-06. **Machine Learning Methods for the Prediction of Micromagnetic Magnetization Dynamics.** *L. Exl*[1,2], N.J. Mauser[1,2], S. Schaffer[1,2], T. Schrefl[3,1] and D. Suess[1,4] *1. Research Platform MMM Mathematics - Magnetism - Materials, Universitat Wien, Wien, Austria; 2. Wolfgang Pauli Institute, Vienna, Austria; 3. Department of Integrated Sensor Systems, Donau-Universitat Krems, Krems, Austria; 4. Faculty of Physics, Universitat Wien, Wien, Austria*

GC-07. **Combined Micromagnetic Simulation and Machine Learning Approach to Analysis of Polycrystalline Bilayer System With Exchange Bias.** *N. Kulesh*[1], N. Permyakov[1], V. Zverev[1], A. Koshelev[1], A. Bolyachkin[1] and V. Vas'kovskiy[1] *1. B. N. Yeltsin Federal University of the Urals, Ekaterinburg, Russian Federation*

GC-08. **Multiclass Permanent Magnets Superstructure for Indoor Localization Using Artificial Intelligence.** *A. Ivry*[1], E. Fisher[2], R. Alimi[2], I. Mosseri[2] and K. Nahir[2] *1. Electrical Engineering, Technion Israel Institute of Technology, Haifa, Israel; 2. Technology Division, Soreq Nuclear Research Center, Yavne, Israel*

GC-09. **Simulating Sintered Magnets Using the Full Demagnetization Tensor With MagTense.** *A.R. Insinga*[1] and R. Bjørk[1] *1. Department of Energy Conversion and Storage, Danmarks Tekniske Universitet, Lyngby, Denmark*

GC-10. **Magnetostatic Field Computation in Thin Films Based on k-Space Fast Convolution With Truncated Green's Function.** *S. Perna*[1], V. Scalera[1], M. d'Aquino[2], N. Iserna[1], F. Villone[1] and C. Serpico[1] *1. Universita degli Studi di Napoli Federico II, Napoli, Italy; 2. Universita degli Studi di Napoli Parthenope Dipartimento di Ingegneria, Napoli, Italy*

GC-11. **Toward a Systematic Discovery of Artificial Functional Magnetic Materials.** *L. Botsch*[1] and P.D. Esquinazi[1] *1. Universitat Leipzig, Leipzig, Germany*

ON-DEMAND SESSIONS

Session GD
NOVEL RECORDING AND DOMAIN WALL DEVICES

See-Hun Yang, Chair
International Business Machines Corp, Yorktown Heights, NY, United States

GD-01. **Enhancing Domain Wall Motion in W/CoFeB/MgO Ultrathin Films Through He^+-Irradiation-Induced Crystallization.** *J.W. van der Jagt*[1], M. Sall[1], N. Vernier[2], D. Mailly[2], M. Belmeguenai[3], Y. Roussigné[3], L. Herrera Diez[2], R. Juge[1] and D. Ravelosona[1,2] *1. Spin-Ion Technologies, Palaiseau, France; 2. Centre de Nanosciences et de Nanotechnologies, Palaiseau, France; 3. Laboratoire des Sciences des Procedes et des Materiaux, Villetaneuse, France*

GD-02. **Exploration of Magnetic Nanotubes as new Spintronic Building Block.** D. Tiwari[1], M. Jaber[1], M. Scheuerlein[2], M. Schöbitz[1], J. Hurst[1], *A. Masseboeuf*[1], L. Vila[1], J. Attané[1], W. Ensinger[2], M. Rioult[3], R. Belkhou[3], D. Gusakova[1] and O. Fruchart[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. Technical University of Darmstadt, Darmstadt, Germany; 3. Synchrotron SOLEIL, Gif-sur-Yvette, France*

GD-03. **Innovative Use of Functional Segments in the Construction of a 3D Racetrack Memory Based on Cylindrical Nanowire Arrays.** *J. Rial*[1] and M.P. Proenca[1,2] *1. IFIMUP—Institute of Physics for Advanced Materials, Nanotechnology and Photonics, Department of Physics and Astronomy, Universidade do Porto Faculdade de Ciencias, Porto, Portugal; 2. Universidad Politecnica de Madrid Instituto de Sistemas Optoelectronicos y Microtecnologia, Madris, Spain*

GD-04. **Domain Wall Damping in Ultrathin Nanostripes With Dzyaloshinskii-Moriya Interaction.** *O.M. Volkov*[1], O. Pylypovskyi[1], F. Kronast[2], C. Abert[3], E. Oliveros Mata[1], P. Makushko[1], M. Mawass[2], V. Kravchuk[4], D.D. Sheka[5], J. Fassbender[1] and D. Makarov[1] *1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Berlin, Germany; 3. Faculty of Physics, Universitat Wien Fakultat fur Physik, Wien, Austria; 4. Institut für Theoretische Festkörperphysik, Karlsruher Institut fur Technologie, Karlsruhe, Germany; 5. Tarasa Sevcenka National University of Kyiv, Kyiv, Ukraine*

GD-05. **Magnetic Nano-Horns for Measurement of the Interfacial Dzyaloshinskii-Moriya Interaction.** *T. Wong*[1] and V.M. Sokalski[2] *1. Department of Physics, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*

GD-06. **Consequences of Pt/Co vs Co/Pt Deposition Order on Interfacial Magnetic Properties in Pt-Co-Ni Based Asymmetric Superlattices.** *N. Pandey*[1], M.P. Li[1], H. Nembach[2,3], J. Shaw[2], M. De Graef[1] and V.M. Sokalski[1] *1. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Quantum Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO, United States; 3. Department of Physics, University of Colorado Boulder, Boulder, CO, United States*

GD-07. **Origin and Optical Switching of Perpendicular Magnetization for $Co_{100-x}Gd_x$/Pt Multilayers.** *T. Seki*[1,2], J. Wang[1], Y. Lau[1], Y. Takahashi[2] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. National Institute for Materials Science, Tsukuba, Japan*

GD-08. **RKKY Exchange Coupling Mediated Ultrafast all-Optical Switching of a Ferromagnet.** *J. Chatterjee*[1], D. Polley[1], H. Jang[1], A. Pattabi[1], S. Salahuddin[1] and J. Bokor[1] *1. Department of Electrical Engineering and Computer Sciences, University of California Berkeley, Berkeley, CA, United States*

GD-09. **All-Electrical Control of Nanoscale Domain Wall Devices Using Magnetic Tunnel Junction Read and Write.** ***(Invited)*** *E. Raymenants*[1,2], D. Wan[1], K. Garello[3,1], I. Asselberghs[1], I. Radu[1], S. Couet[1] and V. Nguyen[1] *1. IMEC, Leuven, Belgium; 2. Katholieke Universiteit Leuven, Leuven, Belgium; 3. SPIN tronique et Technologie des Composants, Grenoble, France*

Session GP
MRAM AND NEUROMORPHIC COMPUTING (Poster Session)

Shouzhong Peng, Chair
Beihang University, Beijing, China

GP-01. **Modeling of Single-Digit Nanometer Perpendicular Shape Anisotropy Magnetic Tunnel Junction Driven by Spin-Transfer-Torque.** *M. Wang*[1] and Y. Jiang[1] *1. Jiangnan University, Wuxi, China*

GP-02. **Chirality-Reversible Multistate Switching via Bi-SOT in a Perpendicularly Magnetized System.** *W. Yang*[1], C. Wan[1], Z. Yan[1], X. Zhang[1], M. Stebliy[2], X. Wang[1], C. Fang[1], C. Guo[1], Y. Xing[1], T. Ma[1], A. Ognev[2], A.S. Samardak[2], M. Tung[3], G. Yu[1] and X. Han[1] *1. Institute of Physics, University of Chinese Academy of Sciences, BeiJing, China; 2. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 3. Material and Chemical Engineering Laboratory, Industrial Technology Research Institute, Hsinchu, Taiwan*

GP-03. **Increasing the Correlation Time of Spin Torque Oscillators Synchronised by Magnetostatic Interactions.** *S. Greaves*[1] *1. RIEC, Tohoku University, Sendai, Japan*

GP-04. **Room Temperature Emulation of Synaptic Plasticity in Permalloy - Based Synaptic Transistor for Neuromorphic Computing.** *M. Peda*[1], A.K. P.S.[1], W. Renshaw[2,3] and S. Piramanayagam[2] *1. Department of Physics, Indian Institute of Science, Bangalore, India; 2. Division of Physics and Applied Physics, Nanyang Technological University, Singapore, Singapore; 3. School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore, Singapore*

GP-05. **Current Induced Magnetization Switching in $L1_0$ FePt and Ta/FePt Films With Large Perpendicular Magnetic Anisotropy Through Spin-Orbit Torque.** *Y. Tao*[1,2], C. Sun[1,2], Y. Jiao[1,2], X. Hu[1,2] and K. Dong[1,2] *1. School of Automation, China University of Geosciences, Wuhan, Wuhan, China; 2. Hubei Key Laboratory of Advanced Control and Intelligent Automation for Complex Systems, Wuhan, China*

Session HA
NEW TRENDS IN SKYRMIONICS: MATERIALS, DYNAMICS AND DETECTION TECHNIQUES

Riccardo Tomasello, Chair
Foundation for Research and Technology - Hellas, Heraklion, Greece

HA-01. **Skyrmions in Chiral Magnetic Multilayers.** ***(Invited)***
K. Zeissler[1], S. Finizio[2], K. Shahbazi[1], J. Massey[1], F. Al Ma'mari[1], A. Huxtable[1], D. Bracher[2], A. Kleibert[2], S. Wintz[2,3], S. Mayr[2,4], T. Weßels[5], A.V. Sadovnikov[6], M. Rosamond[1], E. Linfield[1], T. Moore[1], J. Raabe[2], G. Burnell[1] and *C. Marrows*[1]
1. University of Leeds, Leeds, United Kingdom; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 4. ETH Zurich, Zurich, Switzerland; 5. Forschungszentrum Julich GmbH, Julich, Germany; 6. N. G. Cernysevskogo National Research University in Saratov, Saratov, Russian Federation

HA-02. **Colossal Topological Hall Effect at the Transition Between Isolated and Lattice-Phase Interfacial Skyrmions.** ***(Invited)***
C. Panagopoulos[1] *1. Physics and Applied Physics, Nanyang Technological University, Singapore, Singapore*

HA-03. **Coexistence of Distinct Skyrmion Phases Observed in Hybrid Ferromagnetic/Ferrimagnetic Multilayers.** ***(Invited)***
A. Mandru[1], O. Yildirim[1], R. Tomasello[4], P.T. Heistracher[3], M. Penedo[1], A. Giordano[5], D. Suess[3], G. Finocchio[5] and H.J. Hug[1,2] *1. Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland; 2. Department of Physics, University of Basel, Basel, Switzerland; 3. Faculty of Physics, University of Vienna, Vienna, Austria; 4. Institute of Applied and Computational Mathematics, Heraklion, Greece; 5. Department of Mathematical and Computer Sciences, University of Messina, Messina, Italy*

HA-04. **A Close Look at Skyrmions in Ultrathin Films and Synthetic Antiferromagnets.** ***(Invited)*** *L. Aballe*[1] *1. Experiments Division, ALBA Synchrotron Light Facility, Cerdanyola del Vallès, Spain*

HA-05. **Thermal Generation, Manipulation and Thermoelectric Detection of Skyrmions.** ***(Invited)*** *Z. Wang*[1,11], M. Guo[1,2], H. Zhou[1,11], L. Zhao[1,11], T. Xu[1,11], R. Tomasello[3], H. Bai[1,11], Y. Dong[1,11], S. Je[4], W. Chao[4], H. Han[5], S. Lee[5], K. Lee[5], Y. Yao[6], W. Han[6], C. Song[7], H. Wu[2], M. Carpentieri[8], G. Finocchio[9], M. Im[4], S. Lin[10] and W. Jiang[1,11] *1. State Key Laboratory of Low-Dimensional Quantum Physics and Department of Physics, Tsinghua University, Beijing, China; 2. Institute of Microelectronics, Tsinghua University, Beijing, China; 3. Institute of Applied and Computational Mathematics, Foundation for Technological Research, Heraklion, Greece; 4. Center for X-ray Optics, E O Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. School of Materials Science and Engineering, Ulsan National Institute of Science and Technology, Ulsan, The Republic of Korea; 6. School of Physics, Peking University, Beijing, China; 7. School of Materials Science and Engineering, Tsinghua University, Beijing, China; 8. Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy; 9. Department of Mathematical and Computer Sciences, Universita degli Studi di Messina, Messina, Italy; 10. Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM, United States; 11. Frontier Science Center for Quantum Information, Tsinghua University, Beijing, China*

HA-06. **Nonlinear and Stochastic Dynamics of Skyrmions in Frustrated Magnets.** ***(Invited)*** U. Ritzmann[1], L. Desplat[2,3], R.E. Camley[4], B. Dupé[5] and *J. Kim*[2] *1. Department of Physics, Freie Universität Berlin, Berlin, Germany; 2. Centre de Nanosciences et de Nanotechnologies, CNRS, Université Paris-Saclay, Palaiseau, France; 3. Institut de Physique et Chimie des Matériaux de Strasbourg, CNRS, Université de Strasbourg, Strasbourg, France; 4. Department of Physics and Energy Science, University of Colorado at Colorado Springs, Colorado Springs, CO, United States; 5. Nanomat/Q-mat/CESAM, Universite de Liege, Liege, Belgium*

ON-DEMAND SESSIONS

Session HB
SKYRMIONS: CONTROL AND MANIPULATION

Guoqiang Yu, Chair
Chinese Academy of Sciences, Beijing, China

HB-01. **Spin–Orbit Torque Switching of a Ferromagnet With Picosecond Electrical Pulses.** ***(Invited)*** K. Jhuria[1], J. Hohlfeld[1], A. Pattabi[2], E. Martin[1], A.Y. Arriola Córdova[1,3], X. Shi[4], R. Lo Conte[2], S. Petit-Watelot[1], J. Rojas-Sanchez[1], G. Malinowski[1], S. Mangin[1], A. Lemaître[5], M. Hehn[1], J. Bokor[2,6], R.B. Wilson[4] and *J. Gorchon*[1] *1. Institut Jean Lamour, Nancy, France; 2. University of California Berkeley Department of Electrical Engineering and Computer Sciences, Berkeley, CA, United States; 3. Universidad Nacional de Ingenieria, Lima, Peru; 4. Department of Mechanical Engineering and Materials Science and Engineering Program, University of California Riverside, Riverside, CA, United States; 5. Centre de Nanosciences et de Nanotechnologies, Orsay, France; 6. E O Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

HB-02. **Laser-Induced Skymion Nucleation on a Picosecond Timescale.** *F. Buettner*[1,2], B. Pfau[3], M. Böttcher[4], M. Schneider[3], G. Mercurio[5], C.M. Günther[6], A. Wittmann[2], K. Gerlinger[3], L. Kern[3], C. von Korff Schmising[3], D. Engel[3], J. Gaida[7], M. Moeller[7], T. Harvey[7], K. Bagschik[8], A. Scherz[5], J. Sinova[4], C. Ropers[7], J. Mentink[9], B. Dupé[4], G. Beach[2] and S. Eisebitt[3] *1. Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Berlin, Germany; 2. Massachusetts Institute of Technology, Cambridge, MA, United States; 3. Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Berlin, Germany; 4. Johannes Gutenberg Universitat Mainz, Mainz, Germany; 5. European XFEL GmbH, Schenefeld, Germany; 6. Technische Universitat Berlin, Berlin, Germany; 7. Georg-August-Universitat Gottingen, Gottingen, Germany; 8. Deutsches Elektronen-Synchrotron, Hamburg, Germany; 9. Radboud Universiteit, Nijmegen, Netherlands*

HB-03. **Nucleation of Metastable Skyrmion Lattices Following a Non-Equilibrium Laser-Induced Heating Path.** *P. Olleros-Rodríguez*[1], M.S. Strungaru[2], S. Ruta[2], P.I. Gavriloaea[2], P. Perna[1], R.W. Chantrell[2] and O. Chubykalo-Fesenko[3] *1. Fundacion IMDEA Nanociencia, Madrid, Spain; 2. University of York Department of Physics, York, United Kingdom; 3. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain*

HB-04. **Skyrmion Density Modulation via Current-Induced Skyrmion-to-Stripe Transformation.** *C.C. Ang*[1], W. Gan[1], G.D. Wong[1] and W. Lew[1] *1. Physics & Applied Physics, Nanyang Technological University School of Physical and Mathematical Sciences Division of Physics and Applied Physics, Singapore, Singapore*

HB-05. **X-Ray and Electron Beam Lithography of Zero-Field Magnetic Skyrmions.** *Y. Guang*[1], Y. Liu[3], I. Bykova[2], Z. Yan[1], G. Yu[1], X. Han[1] and G. Schütz[2] *1. Building M, Chinese Academy of Sciences Institute of Physics, Beijing, China; 2. Max-Planck-Institut fur Intelligente Systeme, Stuttgart, Germany; 3. Riken Center for Emergent Matter Science, Wako, Japan*

HB-06. **Real-Time Detection of Hall Effects: Measuring Current-Induced Magnetization Switching in the Time Domain.** *G. Sala*[1], V. Krizakova[1], E. Grimaldi[1], C. Lambert[1], T. Devolder[2] and P. Gambardella[1] *1. D-MATL, ETH Zurich, Zurich, Switzerland; 2. Centre de Nanosciences et de Nanotechnologies, Orsay, France*

HB-07. **Voltage-Controlled Skyrmion Chirality Switch.** *C. Fillion*[1], R. Kumar[1,3], A. Fassatoui[2], S. Pizzini[2], L. Ranno[2], S. Auffret[1], I. Joumard[1], O. Boulle[1], G. Gaudin[1], L.D. Buda-Prejbeanu[1], C. Baraduc[1] and H. Béa[1] *1. SPINTEC, Grenoble, France; 2. Institut NEEL, Grenoble, France; 3. Antaios, Meylan, France*

HB-08. **Stabilization and Switching of Magnetic Merons in AuPt/Co/W(110) Epitaxial Thin Films.** *J.A. Peña Garcia*[1], L. Camosi[2], A. Fassatoui[1], S. Pizzini[1], O. Fruchart[3], A. Thiaville[4], S. Rohart[4], F. Genuzio[5], T. Mentes[5], A. Locatelli[5] and J. Vogel[1] *1. CNRS Institut Neel, Grenoble, France; 2. Institut Catala de Nanociencia i Nanotecnologia, Bellaterra, Spain; 3. SPINtronique et Technologie des Composants, Grenoble, France; 4. Laboratoire de Physique des Solides, Orsay, France; 5. Elettra Sincrotrone Trieste SCpA, Trieste, Italy*

HB-09. **Observation of Magnetic Skyrmion Bubbles in a van der Waals Ferromagnet Fe_3GeTe_2.** *B. Ding*[1], Z. Li[1], H. Li[1], Y. Yao[1] and W. Wang[1] *1. Chinese Academy of Sciences Institute of Physics, Beijing, China*

HB-10. **Non-Linear Magnetic Response at Topological Defects in Helimagnetic FeGe.** *M. Stepanova*[1,2], E. Lysne[1,2], P. Schoenherr[9,3], J. Masell[4], L. Köhler[5], A. Rosch[6], N. Kanazawa[7], Y. Tokura[4,7], A. Qaiumzadeh[2], A. Brataas[2], M. Garst[5,8] and D. Meier[1,2] *1. Department of Materials Science and Engineering, Norwegian University of Science and Technology, Trondheim, Norway; 2. Center for Quantum Spintronics, Norwegian University of Science and Technology, Norway; 3. University of New South Wales, Sydney, NSW, Australia; 4. RIKEN, Wako, Japan; 5. Technische Universitat Dresden, Dresden, Germany; 6. Universitat zu Koln, Koln, Germany; 7. The University of Tokyo, Bunkyo-ku, Japan; 8. Karlsruher Institut fur Technologie, Karlsruhe, Germany; 9. ETH, Zurich, Switzerland*

HB-11. **Enhancement of Skyrmion Density Achieved via Interface Engineering.** *S. Bhatti*[1]*, H. Tan[2], V.Z. Li[3], M. Sall[4], R. Juge[4], R. Mahendiran[5], A. Soumyanarayanan[2,5], D. Ravelosona[4,6], S. Lim[2] and S. Piramanayagam[1] *1. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; 2. Institute of Materials Research and Engineering, Agency for Science Technology and Research, Singapore, Singapore; 3. Wuhan University, Wuhan, China; 4. Spin-Ion Technologies, Paris, France; 5. Department of Physics, National University of Singapore, Singapore; 6. University of Paris-Saclay/CNRS, Paris, France*

HB-12. **Thermal Evolution of Magnetic Skyrmion Formation Mechanism in Chiral Multilayers.** *X. Chen*[1], E. Chue[2], J. Kong[3], H. Tan[1], H. Tan[1] and A. Soumyanarayanan[2,1] *1. Institute of Materials Research and Engineering, Singapore, Singapore; 2. Department of Physics, National University of Singapore, Singapore; 3. Institute of High Performance Computing, Singapore, Singapore*

HB-13. **Stable Zero-Field Skyrmions in Magnetic Bilayers.** *S. Mallick*[1], G. Pradhan[1,2] and S. Rohart[1] *1. University Paris Saclay, Laboratoire de Physique des Solides, Orsay, France; 2. National Institute of Science Education and Research, Bhubaneswar, India*

ON-DEMAND SESSIONS

Session HC
SKYRMIONS: DMI AND DYNAMICS

Chun-Yeol You, Chair
Daegu Gyeongbuk Institute of Science and Technology, Daegu, The Republic of Korea

HC-01. **Chirality Control in Ferromagnetic Multilayers Through Intra- and Interlayer DMI.** ***(Invited)*** *S. Pollard*[1] *1. Physics and Materials Science, The University of Memphis, Memphis, TN, United States*

HC-02. **Experimental Correlation of Interfacial Dzyaloshinskii-Moriya Interaction Amplitude and Work Function in Magnetic Multilayers and its Relation With Rashba Effect at Metallic Interfaces.** *F. Ajejas*[1], W. Legrand[1], Y. Sassi[1], S. Collin[1], A. Vecchiola[1], K. Bouzehouane[1], S. Pizzini[2], N. Reyren[1], V. Cros[1] and A. Fert[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Institut NEEL, Grenoble, France*

HC-03. **Determination of the Dzyaloshinskii-Moriya Interaction From a Single Magnetic Domain Image Using Machine Learning.** *K. Tanabe*[1], M. Kawaguchi[2], K. Yamada[3], T. Sawa[1], S. Hasegawa[2], M. Hayashi[2] and Y. Nakatani[4] *1. Toyota Technological Institute, Nagoya, Japan; 2. The University of Tokyo, Bunkyo-ku, Japan; 3. Gifu University, Gifu, Japan; 4. Denki Tsushin University, Chofu, Japan*

HC-04. **Estimation of Magnetic Parameters From Domain Images With Convolutional Neural Networks in Chiral Multilayers.** *J. Kong*[1], Y. Ren[2], X. Chen[3], N. Tey[4,3], P. Ho[3], C. Ciprian[1], N. Ng[1], K. Khoo[1] and A. Soumyanarayanan[2,3] *1. Institute of High Performance Computing, Singapore, Singapore; 2. Physics, National University of Singapore, Singapore; 3. Institute of Materials Research and Engineering, Singapore, Singapore; 4. Department of Materials, Imperial College London, London, United Kingdom*

HC-05. **Effect of Chiral Damping on the Dynamics of Chiral Domain Walls and Skyrmions.** ***(Invited)*** C. Safeer[1,2], M. Nsibi[1], J. Nath[1], H. Yang[1], I. Joumard[1], S. Auffret[1], G. Gaudin[1] and *I. Miron*[1] *1. SPINtronique et Technologie des Composants, Grenoble, France; 2. CIC nanoGUNE, San Sebastian, Spain*

HC-06. **Tailoring Interfacial Effect in Thin Films With DMI by He Irradiation.** A. Sud[1], D. Sagkovits[1,2], C. Barton[2], M. Sall[3], L. Herrera Diez[4], D. Ravelosona[3,4], S. Zhang[5], X. Zhang[5], G. Carlotti[6], S. Tacchi[7], H. Kurebayashi[1], O. Kazakova[2] and *M. Cubukcu*[1,2] *1. London Centre for Nanotechnology, University College London, London, United Kingdom; 2. National Physical Laboratory, Teddington, United Kingdom; 3. Spin-Ion Technologies, Palaiseau, France; 4. Centre de Nanosciences et de Nanotechnologies, Orsay, France; 5. King Abdullah University of Science and Technology Physical Sciences and Engineering Division, Thuwal, Saudi Arabia; 6. Universita degli Studi di Perugia Dipartimento di Fisica e Geologia, Perugia, Italy; 7. Dipartimento di Fisica e Geologia-Univ. Perugia, CNR, Istituto Officina dei Materiali-Perugia, Perugia, Italy*

HC-07. **Spin Dynamics of Skyrmion Lattices in a Chiral Magnet Resolved by Micro-Focus Brillouin Light Scattering.** *P. Che*[1], T. Schönenberger[2], A. Magrez[3], H. Berger[3], H.M. Ronnow[2] and D. Grundler[1,4] *1. Laboratory of Nanoscale Magnetic Materials and Magnonics, Institute of Materials, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 2. Laboratory for Quantum Magnetism, Institute of Physics, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 3. Crystal Growth Facility, Institute of Physique, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 4. Institute of Microengineering, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*

HC-08. **Spin Wave Radiation by a Topological Charge Dipole.** *S.A. Diaz*[1], T. Hirosawa[2], D. Loss[3] and C. Psaroudaki[4,5] *1. Johannes Gutenberg Universitat Mainz, Mainz, Germany; 2. University of Tokyo, Tokyo, Japan; 3. Universitat Basel, Basel, Switzerland; 4. California Institute of Technology, Pasadena, CA, United States; 5. Universitat zu Koln, Koln, Germany*

HC-09. **Ferromagnetic Resonance of Skyrmions in Thin Film Multilayers.** *T. Srivastava*[1,2], Y. Sassi[1], I. Ngouagnia Yemeli[2], F. Ajejas[1], A. Vecchiola[1], K. Bouzehouane[1], N. Reyren[1], V. Cros[1], J. Kim[3], T. Devolder[3] and G. de Loubens[2] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Service de Physique de l'Etat Condense, Gif Sur Yvette, France; 3. Centre de Nanosciences et de Nanotechnologies, Orsay, France*

HC-10. **Skyrmion Diffusion in a Confined System.** S. Chengkun[1,2], N. Kerber[2,3], J. Rothörl[2], Y. Ge[2], K. Raab[2], B. Seng[2,4], M. Brems[2], F. Dittrich[2], *R. Gruber*[2], J. Zázvorka[2], F. Kammerbauer[2], T. Dohi[2], J. Wang[1], Q. Liu[1], P. Virnau[2,3] and M. Klaui[2,3] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, China; 2. Institute of Physics, Johannes Gutenberg Universitat Mainz, Mainz, Germany; 3. Johannes Gutenberg University Mainz Graduate School of Excellence Materials Science in Mainz, Mainz, Germany; 4. Institut Jean Lamour, UMR CNRS 7198, Universite de Lorraine, Nancy, France*

HC-11. **Micromagnetic Study of Thermal Gradient-Driven Skyrmion Motion in Magnetic Multilayers.** *E. Raimondo*[1], A. Giordano[1], M. Carpentieri[3], W. Jiang[2], R. Tomasello[4] and G. Finocchio[1] *1. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, Universita degli Studi di Messina, Messina, Italy; 2. State Key Laboratory of Low-Dimensional Quantum Physics and Department of Physics, Tsinghua University, Beijing, China; 3. Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy; 4. Institute of Applied and Computational Mathematics, Idryma Technologias kai Ereunas, Heraklion, Greece*

ON-DEMAND SESSIONS

Session HD
SKYRMIONS: POTENTIAL APPLICATIONS

Sebastian Diaz, Chair
Johannes Gutenberg Universitat Mainz, Mainz, Germany

HD-01. **Advanced Cognitive Computing Using Adaptive Spintronic Materials.** ***(Invited)*** *P. Jadaun*[1,2], C. Cui[1] and J.C. Incorvia[1] *1. Electrical and Computer Engineering, The University of Texas at Austin, Austin, TX, United States; 2. IMEC, Leuven, Belgium*

HD-02. **Magnetic Skyrmions as Information Entropy Carriers.** *R. Zivieri*[1] *1. Istituto Nazionale di Alta Matematica Francesco Severi, Roma, Italy*

HD-03. **Going Beyond Skyrmions: Alternative Magnetic Nano-Objects for Spintronics.** *B. Göbel*[1,2], J. Jena[2], O. Tretiakov[3], S. Parkin[2] and I. Mertig[1] *1. Martin-Luther-Universitat Halle-Wittenberg, Halle, Germany; 2. Max-Planck-Institut fur Mikrostrukturphysik, Halle, Germany; 3. University of New South Wales, Sydney, NSW, Australia*

HD-04. **Ion-Irradiated Skyrmion Racetracks for Current Induced Skyrmion Guiding at Room Temperature.** R. Juge[1,2], *K. Bairagi*[1], K. Rana[1], M. Sall[2], D. Mailly[3], V. Pham[1], Q. Zhang[1], N. Sisodia[1], M. Foerster[4], L. Aballe[4], M. Belmeguenai[5], Y. Roussigné[5], S. Auffret[1], L.D. Buda-Prejbeanu[1], D. Ravelosona[2], G. Gaudin[1] and O. Boulle[1] *1. Universite Grenoble Alpes, Saint-Martin-d'Heres, France; 2. Spin-Ion Technologies, Palaiseau, France; 3. Centre de Nanosciences et de Nanotechnologies, Orsay, France; 4. ALBA Synchrotron Light Facility, Barcelona, Spain; 5. CNRS, Laboratoire des Sciences des Procedés et des Matériaux, CNRS, Paris, France*

HD-05. **Positional Stability of Skyrmions via Pinning Sites in a Racetrack Memory.** *M. Morshed*[1], H. Vakili[2] and A. Ghosh[1,2] *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*

HD-06. **Interplay of Skyrmion Interactions With Current-Driven Dynamics in Multilayer Wire Devices.** *M. Sim*[1,2], A.K. Tan[3], D. Thian[2], H. Tan[2], N.C. Lim[2], S. Yap[2], P. Ho[2] and A. Soumyanarayanan[2,1] *1. Department of Physics, National University of Singapore, Singapore; 2. Institute of Materials Research and Engineering (IMRE), Agency for Science Technology and Research, Singapore, Singapore; 3. Data Storage Institute (DSI), Agency for Science Technology and Research, Singapore, Singapore*

HD-07. **Static Structures and Dynamics of Frustrated Topological Spin Textures.** *X. Zhang*[1], J. Xia[2,8], M. Ezawa[3], O. Tretiakov[4], H.T. Diep[5], Z. Hou[6], W. Wang[7], G. Zhao[8], Y. Zhou[2] and X. Liu[1] *1. Department of Electrical and Computer Engineering, Shinshu University, Nagano, Japan; 2. School of Science and Engineering, The Chinese University of Hong Kong, Shenzhen, Shenzhen, China; 3. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 4. School of Physics, The University of New South Wales, Sydney, NSW, Australia; 5. Laboratoire de Physique Théorique et Modélisation, Universite de Cergy-Pontoise, Cergy-Pontoise, France; 6. South China Academy of Advanced Optoelectronics, South China Normal University, Guangzhou, China; 7. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 8. College of Physics and Electronic Engineering, Sichuan Normal University, Chengdu, China*

HD-08. **Spin Orbit Torque Dynamics of Magnetic Skyrmions in GdCo Ferrimagnetic Thin-Films.** *L. Berges*[1], E. Haltz[1], R. Weil[1], J. Sampaio[1] and A. Mougin[1] *1. Laboratoire de Physique des Solides, Orsay, France*

HD-09. **Impacts of Steady-State Domain Wall Configuration on Domain Wall Stiffness and Directional Domain Propagation in the Creep Regime.** *M.D. Kitcher*[1], J. Brock[2], R. Medapalli[2], E. Fullerton[2] and V.M. Sokalski[1] *1. Materials Science & Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Center for Memory and Recording Research, University of California San Diego, La Jolla, CA, United States*

ON-DEMAND SESSIONS

Session HP
SKYRMIONS
(Poster Session)

Soong-Geun Je, Chair
Chonnam National University, Gwangju, The Republic of Korea

HP-01. **Voltage-Controllable Magnetic Skyrmion Dynamics for Spiking Neuron Device Applications.** *M. Zhu*[1], S. Cui[1], Y. Qiu[1], H. Yang[1], G. Yu[1] and H. Zhou[1] *1. China Jiliang University, Hangzhou, China*

HP-02. **Evolution and Competition Between Chiral Spin Textures in Nano-Stripes With D_{2d} Symmetry.** *J. Jena*[3], B. Göbel[1], V. Kumar[2], I. Mertig[1], C. Felser[2] and S. Parkin[3] *1. Institute of Physics, Martin Luther University, Halle, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. Max Planck Institute of Microstructure Physics, Halle, Germany*

HP-03. **Dynamic Property of Ferromagnetic Skyrmion in an in-Plane Magnetic Field.** *J. Guo*[1], J. Xia[2], X. Zhang[2], P. Pong[3,1] and Y. Zhou[2] *1. University of Hong Kong, Hong Kong; 2. The Chinese University of Hong Kong, Shenzhen, Shenzhen, China; 3. New Jersey Institute of Technology, Newark, NJ, United States*

HP-04. **Static and Dynamic Behaviour of Double Skyrmions in Pt/Co/MgO Trilayer.** F. Nasr[1], C. Fillion[1], O. Boulle[1], C. Baraduc[1], H. Béa[1] and *L.D. Buda-Prejbeanu*[1] *1. SPIN tronique et Technologie des Composants, Grenoble, France*

HP-05. **Tunable Microwave Properties of a Skyrmion in an Antidot Nanodisk Structure.** A. Joseph[1], C. Murapaka[1], A. Haldar[2] and *B. Paikaray*[1] *1. Department of Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad, Hyderabad, India; 2. Department of Physics, Indian Institute of Technology Hyderabad, Hyderabad, India*

HP-06. **Potential Well Inducing the Motion of Skyrmion and Sensing Distance.** F. Jin[1,2], *L. Yang*[1,2], W. Mo[1,2], J. Song[1,2], K. Dong[1,2], Y. Hui[1,2], L. Liu[1,2], H. Wang[1,2], Y. Wei[1,2] and Y. Liu[1,2] *1. China University of Geosciences School of Automation, Wuhan, China; 2. Hubei key Laboratory of Advanced Control and Intelligent Automation for Complex Systems, China University of Geosciences, Wuhan, China*

HP-07. **Nucleation, Annihilation and Stability of Skyrmions in Ultrathin Ir/Co/Pt Dots With Stochastic Fluctuations.** *F. Tejo*[1], D. Cortés[2], J. Escrig[3] and O. Chubykalo-Fesenko[1] *1. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 2. Universiteit Utrecht, Utrecht, Netherlands; 3. Universidad de Santiago de Chile, Santiago de Chile, Chile*

HP-08. **Thermal Gradient Driven Dynamics of Neel Skyrmions in a Nanoracetrack.** *Y. Kumar*[1], H. Saren[1] and P. Das[1] *1. Physics, Indian Institute of Technology Delhi, New Delhi, India*

HP-09. **Simulations of Magnetoresistive Detection of Skyrmions.** *H. Chen*[1], W. Bouckaert[1,2] and S. Majetich[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Physics, EPFL, Pittsburgh, PA, United States*

HP-10. **Second Harmonic Detection of Chiral Spin Structures in a Magnetic Multilayer.** *Y. Wang*[1] and J.Q. Xiao[1] *1. University of Delaware, Newark, DE, United States*

HP-11. **Quantum Phase Transitions Under Pressure in a Chiral Itinerant Ferromagnet MnSi.** A. Povzner[1], *S. Bessonov*[1] and A. Volkov[1] *1. Physic, U, Ekaterinburg, Russian Federation*

ON-DEMAND SESSIONS

Session IA
MAGNETIC RECORDING: ENERGY-ASSISTED, MEDIA, HEAD, MODELS

Simon Greaves, Chair
Tohoku University, Sendai, Japan

IA-01. **Characterizing the Oscillation Frequency of a Spin-Torque Oscillator (STO) by Measuring the Change of dc Resistance Upon Injection Locking to an External RF Magnetic Field.** *N. Asam*[1], H. Suto[2], S. Tamaru[3], H. Sepehri-Amin[1], T. Nakatani[1], W. Zhou[1], H. Kubota[3] and Y. Sakuraba[1] *1. Research Center for Magnetic and Spintronics Materials, National Institute for Materials Science, Tsukuba, Japan; 2. Corporate Research and Development Center, Toshiba Corporation, Kawasaki, Japan; 3. Research Center for Emerging Computing Technologies, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

IA-02. **Double Magnet Master Media for Magnetic Printing Onto Energy-Assisted Magnetic Recording Media.** *T. Komine*[1] *1. Graduate School of Science and Engineering, Ibaraki University, Hitachi, Japan*

IA-03. **Depth Selective Magnetic Phase Coexistence in FeRh Thin Films.** *W. Griggs*[1], B. Eggert[2], M. Liedke[3], M. Butterling[3], A. Wagner[3], U. Kentsch[3], E. Hirschmann[3], M. Grimes[1,4], A. Caruana[5], C. Kinane[5], H. Wende[2], R. Bali[3] and T. Thomson[1] *1. The University of Manchester, Manchester, United Kingdom; 2. Universitat Duisburg-Essen, Duisburg, Germany; 3. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 4. Paul Scherrer Institut, Villigen, Switzerland; 5. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom*

IA-04. **Fabrication of FePt-BN/FePt-SiO_x Dual-Layer Structure for HAMR Media on Corning Lotus™ NXT Glass Substrate.** *B. Zhou*[1], B. Varaprasad[1], C. Xu[1], M. Huang[2], D.E. Laughlin[1] and J. Zhu[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Corning Research and Development Corporation, Corning Inc, Corning, NY, United States*

IA-05. **Union Bound Analysis for Spin-Torque Transfer Magnetic Random Access Memory With Channel Quantization.** *X. Zhong*[1], K. Cai[1] and G. Song[1] *1. Singapore University of Technology and Design, Singapore, Singapore*

IA-06. **Enable TDMR Gain With Convolution Neural Network Based Machine Learning Algorithm.** *Y. Qin*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*

IA-07. **Multilayer Perceptron Based Method for Track Misregistration Correcting in Dual-Reader Two-Track Reading BPMR Systems.** *K. Kanhunthod*[1] and C. Warisarn[1] *1. King Mongkut's Institute of Technology Ladkrabang College of Advanced Manufacturing Innovation, Bangkok, Thailand*

IA-08. **Effect of Lubricant Thickness on the Nanoscale Heat Transfer at the Head-Disk Interface.** *Q. Cheng*[1], S. Rajauria[2], E. Schreck[2], R. Smith[2], Q. Dai[2] and D. Bogy[1] *1. Mechanical Engineering, University of California Berkeley, Berkeley, CA, United States; 2. Western Digital Corp, San Jose, CA, United States*

IA-09. **317 Gb/in^2 Recording Areal Density on Strontium Ferrite Tape.** ***(Invited)*** S. Furrer[1], P. Ebermann[1], *M. Lantz*[1], H. Rothuizen[1], W. Haeberle[1], G. Cherubini[1], R.D. Cideciyan[1], S. Tsujimoto[2], Y. Sawayashiki[2], N. Imaoka[2], Y. Murata[2], T. Ueyama[2], Y. Akano[2], T. Kaneko[2], H. Suzuki[2], M. Shirata[2], K. Naoi[2], T. Koike[2] and H. Doshita[2] *1. IBM Research, Rueschlikon, Switzerland; 2. Recording Media Research Laboratories, FUJIFILM Corporation, Odawara, Japan*

IA-10. **HDD Reader Technology Roadmap to an Areal Density of 4 Tbpsi and Beyond.** ***(Invited)*** G. Albuquerque[1], S. Hernandez[2], *M.T. Kief*[2] and L. Wang[1] *1. Western Digital Corp Fremont Office, Fremont, CA, United States; 2. Seagate Recording Head Operations, Bloomington, MN, United States*

IA-11. **New Highly-Anisotropic Rh-Based Heusler Compound for Magnetic Recording New Highly-Anisotropic Rh-Based Heusler Compound for Magnetic Recording.** *Y. He*[1], G. Fecher[1] and C. Felser[1] *1. Max-Planck-Institut fur Chemische Physik fester Stoffe, Dresden, Germany*

Session IB
MAGNETIC FIELD SENSORS I

Paulo Freitas, Chair
International Iberian Nanotechnology Laboratory, Braga, Portugal

IB-01. **Mechanically Shapeable Magnetic Field Sensor Technologies.** ***(Invited)*** *G. Canon Bermudez*[1] *1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

IB-02. **ΔE-Effect Magnetic Field Sensors.** *B. Spetzler*[1], E. Golubeva[1], J. Su[2], P. Wiegand[3], C. Bald[3], J. Schmalz[3], C. Kirchhof[1], F. Niekiel[2], D. Meyners[1], M. Gerken[3], G. Schmidt[3], R. Rieger[3], F. Lofink[2], J. McCord[1] and F. Faupel[1] *1. Institute for Materials Science, Christian-Albrechts-Universitat zu Kiel, Kiel, Germany; 2. Fraunhofer-Institut fur Siliziumtechnologie ISIT, Itzehoe, Germany; 3. Institute for Electrical Engineering and Information Engineering, Christian-Albrechts-Universitat zu Kiel, Kiel, Germany*

IB-03. **Directional Magnetic Field Response of FeCo/AlN Heterostructure Magnetoelectric Resonators.** *T.R. Mion*[1], B. Lefler[2], S.P. Bennett[1], M. Staruch[1], K. Bussmann[1], S. Lofland[3] and P. Finkel[1] *1. Material Science & Technology, US Naval Research Laboratory, Washington, DC, United States; 2. Drexel University, Philadelphia, PA, United States; 3. Rowan University, Glassboro, NJ, United States*

IB-04. **Spin-Torque Dynamics for Noise Reduction in Vortex-Based Sensors.** *M. Jotta Garcia*[1], J. Moulin[2], S. Wittrock[1], S. Tsunegi[3], K. Yakushiji[3], A. Fukushima[3], H. Kubota[3], S. Yuasa[3], U. Ebels[4], M. Pannetier-Lecoeur[2], C. Fermon[2], R. Lebrun[1], P. Bortolotti[1], A. Solignac[2] and V. Cros[1] *1. Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, 91767 Palaiseau, France; 2. SPEC, CEA-Saclay, CNRS, Université Paris-Saclay, 91191 Gif-sur-Yvette, France; 3. National Institute of Advanced Industrial Science and Technology, Research Center for Emerging Computing Technologies, Tsukuba, Ibaraki 305-8568, Japan; 4. Univ. Grenoble Alpes, CEA, CNRS, GINP, SPINTEC, 38054 Grenoble, France*

IB-05. **Sub-nT Resolution of Single Layer Sensors Based on the AMR Effect in Single Layer $La_{2/3}Sr_{1/3}MnO_3$ Thin Films.** L. Enger[1], *S. Flament*[1], I. Bhatti[1], B. Guillet[1], M. Lam Chok Sing[1], V. Pierron[1], S. Lebargy[1], T. Gonzalez[2], J. Camarero[2], R. Miranda[2], P. Perna[2] and L. Méchin[1] *1. Enscicaen, CNRS UMR6072, Ensicaen, Unicaen, Caen, France; 2. IMDEA Nanociencia, Campus de Cantoblanco, Madrid, Spain*

IB-06. **Sensitivity and Noise of Multiwire Parallel Fluxgate Sensors.** *P. Ripka*[1], D. Hrakova[1], V. Grim[1] and M. Mirzaei[1] *1. Electrical Engineering, Czech Technical University in Prague, Prague, Czechia*

IB-07. **Control of Chirality and Hysteresis in Asymmetric Vortex-Based TMR Sensors.** S. Dounia[1], S. Teresi[2], J. Alvarez-Hérault[1], L. Lombard[1], J.R. Childress[1], I. Prejbeanu[2] and *C. Baraduc*[2] *1. Crocus Technology Grenoble, Grenoble, France; 2. SPINtronique et Technologie des Composants, Grenoble, France*

IB-08. **Magnetic Viscosity in High Precision Magnetoresistive Field Sensors.** *J.D. Watts*[1], J. Davies[1], J. Novotny[1], D. Huang[1] and P. Eames[1] *1. Advanced Technology Group, NVE Corp, Eden Prairie, MN, United States*

IB-09. **Investigation of a Magneto-Inductive Sensor for Vector Magnetic Field Measurements.** *H. Liu*[1], X. Wang[1], C. Zhao[1], J. Zhu[1], J. Ge[1], H. Dong[1] and Z. Liu[2] *1. China University of Geosciences, Wuhan, China; 2. The University of British Columbia, Vancouver, BC, Canada*

IB-10. **Tunnel Magnetoresistance Sensors With CoFeBTa Amorphous Soft-Magnetic Sensing Layer.** *T. Nakatani*[1], M. Rasly[1], J. Li[1], H. Sepehri-Amin[1], H. Sukegawa[1] and Y. Sakuraba[1] *1. National Institute for Materials Science, Tsukuba, Japan*

IB-11. **Development of Opposing Current Type GSR Sensor Element to Reduce Induced EMFs in Zero Magnetic Field.** *S. Honkura*[1] and Y. Honkura[2] *1. Nanocoil Corporation, Nagoya, Japan; 2. Magnedesign Corporation, Nagoya, Japan*

IB-12. **Magnetic Flux Synchronous Motion Modulation for Improving the Low-Frequency Magnetic Field Detection Limit of Magnetoresistive Sensor Using MEMS Resonators.** *Z. Liu*[1,2], J. Chen[1,2] and X. Zou[1,2] *1. State Key Laboratory of Transducer Technology, Aerospace Information Research Institute, CAS, Beijing, China; 2. School of Electronic, Electrical and Communication Engineering, University of Chinese Academy of Sciences, Beijing, China*

IB-13. **Influence of Preparation Conditions on Long-Term Stability of Magnetoresistive Properties of Nanostructured La-Sr-Mn-Co-O Films Grown by PI MOCVD.** *N. Zurauskiene*[1,2], V. Rudokas[1], M. Vagner[1,3], K. Motiejuitis[3], M. Koliada[1], V. Stankevic[1,2], S. Kersulis[1], D. Pavilonis[1] and V. Plausinaitiene[1,3] *1. Functional Materials and Electronics, Center for Physical Sciences and Technology, Vilnius, Lithuania; 2. Faculty of Electronics, Vilnius Gediminas Technical University, Vilnius, Lithuania; 3. Faculty of Chemistry and Geosciences, Vilnius University, Vilnius, Lithuania*

ON-DEMAND SESSIONS

Session IC
NON-DESTRUCTIVE EVALUATION & OTHER SENSORS I

Gui Yun Tian, Chair
Newcastle University, Newcastle, United Kingdom

IC-01. **A Low-Frequency Eddy Current Probe Based on Miniature Fluxgate Array for Defect Evaluation in Steel Components.** *M. Saari*[1,2], N. Nadzri[1], M. Zaini[1], M. Sulaiman[1] and K. Tsukada[3] *1. Faculty of Electrical & Electronic Engineering Technology, Universiti Malaysia Pahang, Pekan, Malaysia; 2. Automotive Engineering Centre, Universiti Malaysia Pahang, Pekan, Malaysia; 3. Graduate School of Interdisciplinary Science and Engineering in Health System, Okayama University, Okayama, Japan*

IC-02. **Examination of Insertion Type Electromagnetic Inspection for Outer Side Defect on Ferromagnetic Steel Tube by Speed Effect Using Only Static Magnetic Field.** *M. Tohara*[1] and Y. Gotoh[2] *1. Technical Development Department, Toa Non-Destructive Inspection Co.,Ltd, Kitakyushu, Japan; 2. Division of Mechatronics, Department of Innovative Engineering, Oita University, Oita, Japan*

IC-03. **Linear Position Sensor Using Magnetically Bistable Microwire.** R. Jurc[1,3], P. Jacko[1,4], L. Galdun[1,2], L. Hvizdos[1], J. Gamcova[1] and *R. Varga*[1,2] *1. RVmagnetics a.s., Kosice, Slovakia; 2. CPM TIP UPJS, Kosice, Slovakia; 3. Faculty of Aeronautics, TUKE, Kosice, Slovakia; 4. Faculty of Electrical Engineering and Informatics, TUKE, Kosice, Slovakia*

IC-04. **Effect of Magnetic Circuit on Pulse Voltage Generated by Wiegand Sensor in a Linear Positioning System.** H. Lien[1] and *J. Chang*[1] *1. Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan*

IC-05. **A Magnetization System for Spindle Axial Thermal Elongation Measurements.** *K. Peng*[1] and J. Chang[1] *1. Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan*

IC-06. **A Simplified 2D Equivalent Model for Magnetic Wire Array.** *M. Mirzaei*[1], P. Ripka[1] and V. Grim[1] *1. Czech Technical University in Prague, Praha, Czechia*

IC-07. **A Geometry-Independent Moment Correction Method for the MPMS3 SQUID-VSM Magnetometer.** *C. Amorim*[1], F. Mohseni[1], R.K. Dumas[2], V.S. Amaral[1] and J.S. Amaral[1] *1. Universidade de Aveiro CICECO, Aveiro, Portugal; 2. Quantum Design Inc, San Diego, CA, United States*

ON-DEMAND SESSIONS

Session ID
MAGNETICS FOR IOT & EMERGING APPLICATIONS

Galina Kurlyandskaya, Chair
Universidad del Pais Vasco - Campus Bizkaia, Leioa, Spain

ID-01. ***MAGNETIQUE*** **and the *Virtual Daum*, two out-Reach Activities Carried out in a Research Laboratory: What About Researchers' Engagement in Knowledge Sharing? .** ***(Invited)*** *H. Fischer*[1], S. Andrieu[1], C. Bellouard[1], C. Bonnet[1], C. Chatelain[4], K. Dumesnil[1], J. Gorchon[1], T. Hauet[1], M. Hehn[1], D. Hennequin[3], S. Heuraux[1], D. Lacour[1], G. Lengaigne[1], S. Mangin[1], P. Molho[2], F. Montaigne[1], S. Petit-Watelot[1], D. Pierre[1], J. Rojas-Sanchez[1], C. Schlauder[1] and P. Schmitt[1] *1. Institut Jean Lamour, Nancy, Grand Est, FR, academic/chem, Nancy, France; 2. Institut NEEL, Grenoble, France; 3. Laboratoire de Physique des Lasers Atomes et Molecules, Villeneuve-d'Ascq, France; 4. Laboratoire de Physique et Chimie Théoriques, Nancy, France*

ID-02. **Magnetoelectric Nanowires and Their Applications.** ***(Invited)*** M. Bauer[1], D. Arnold[2] and *J. Andrew*[1] *1. Materials Science & Eng., University of Florida, Gainesville, FL, United States; 2. Electrical & Computer Engineering, University of Florida, Gainesville, FL, United States*

ID-03. **Evaluation of Magnetoimpedance in Narrow NiFe/Al/NiFe Thin Films for Secured Packaging.** *T. Sohier*[1], J. Michel[1], S. Borel[1], J. Souriau[1], G. Simon[1] and A. Tria[1] *1. CEA, Commissariat à l'énergie atomique et aux énergies alternatives, Grenoble, France*

ID-04. **Impedance of Planar Structures With Radial Current Distribution.** *N.S. Perov*[1], I.A. Alekhina[1], N.A. Buznikov[2] and L.A. Shendrikova[1] *1. Magnetism, Lomonosov MSU, Moscow, Russian Federation; 2. Gazprom VNIIGAZ, Razvilka, Russian Federation*

ID-05. **Oxidized Permalloy Films as a Sensitive Element for Magneto-Optical Hydrogen Gas Detection.** *D. Kulikova*[1,2], K. Afanasyev[1,3], I. Bykov[1,3] and A. Baryshev[1] *1. All-Russian Research Institute of Automation, Moscow, Russian Federation; 2. Lomonosov Moscow State University, Moscow, Russian Federation; 3. Institute of Theoretical and Appropriate electrodynamics of RAS, Moscow, Russian Federation*

ID-06. **Development of High-Sensitivity SI Sensors Using Flexible SI Devices.** *M. Hikishima*[1], S. Honkura[2], J. Tanabe[1], K. Kudo[2], E. Kikuchi[1] and Y. Honkura[1] *1. Magnedesign corporation, Nagoya, Japan; 2. Nanocoil corporation, Nagoya, Japan*

ID-07. **Broadband RF Detection and GHz Modulation Rates Enabled by Joule Heating in Perpendicular Anisotropy Magnetic Tunnel Junctions.** *A. Sidi El Valli*[1], V. Iurchuk[1], A. Litvinenko[1], I. Bendjeddou[2,3], N. Lamard[1], J. Langer[4], J. Wrona[4], L. Vila[1], R. Sousa[1], I.L. Prejbeanu[1], B. Dieny[1] and U. Ebels[1] *1. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, Spintec, Grenoble, France; 2. Grenoble Images Parole Signal Automatique, Saint Martin d'Heres, France; 3. Commissariat a l'energie atomique et aux energies alternatives Laboratoire d'electronique et de technologies de l'information, Grenoble, France; 4. Singulus Technologies AG, Kahl am Main, Germany*

ID-08. **Compact Model of a Spintronic Resonator for Rectifying Purposes in Wireless Sensor Network Applications.** *I. Bendjeddou*[1,2], M. Jotta Garcia[3], A. Sidi El Valli[4], A. Litvinenko[4], Y. Le-Guennec[6], S. Bourdel[2], E. Pistono[2], D. Morche[1], A. Jenkins[5], R. Ferreira[5], P. Bortolotti[3], R. Lebrun[3], V. Cros[3], U. Ebels[4] and F. Podevin[2] *1. Commissariat a l'energie atomique et aux energies alternatives Laboratoire d'electronique et de technologies de l'information, Grenoble, France; 2. RFIC-Lab - Univ. Grenoble Alpes, Grenoble INP, Grenoble, Laboratoire de Radio-Fréquences et d'Intégration de Circuits, Grenoble, France; 3. Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 4. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, SPINTEC, SPINtronique et Technologie des Composants, Grenoble, France; 5. International Iberian Nanotechnology Laboratory, Braga, Portugal; 6. GIPSA-lab - Univ. Grenoble Alpes, CNRS, Grenoble, Grenoble Images Parole Signal Automatique, Saint Martin d'Heres, France*

ID-09. **THz Periodic Array Sensor Design.** A. Eroglu[1] and *B. Chowdhury*[1] *1. Electrical and Computer Engineering, North Carolina Agricultural and Technical State University, Greensboro, NC, United States*

ID-10. **Electromagnetic Wave Generation in a Ferromeagnet due to Transitions Between Spin Subbands.** *E. Karashtin*[1] *1. Institute for Physics of Microstructures RAS, Niznij Novgorod, Russian Federation*

ID-11. **Cavity Backed Spiral Antenna With Improved Gain.** *R. Durbha*[1] and M. Afsar[1] *1. Electrical and Computer Engineering, Tufts University, Medford, MA, United States*

ON-DEMAND SESSIONS

Session IE
MAGNETORESISTANCE

Xia Hong, Chair
University of Nebraska-Lincoln, Lincoln, NE, United States

IE-01. **Intrinsic Mechanism for Anisotropic Magnetoresistance and Experimental Confirmation in CoFe Alloys.** ***(Invited)*** *Z. Yuan*[1] *1. Department of Physics, Beijing Normal University, Beijing, China*

IE-02. **Strain-Free Magnetic Tunnel Junction With Metastable bcc Co_xMn_{100-x}(001) Ferromagnetic Layers.** K. Elphick[1], K. Yoshida[2], T. Roy[2], T. Ichinose[2], K. Kunimatsu[2], T. Tsuchiya[2], M. Tsujikawa[2], Y. Nagai[2], S. Mizukami[2], M. Shirai[2] and *A. Hirohata*[1] *1. University of York, York, United Kingdom; 2. Tohoku University, Sendai, Japan*

IE-03. **Large Magnetoresistance in Symmetry-Filtering Scandium Nitride Junctions Using First Principles.** *V.C. Rogers*[1], S. Karki[1], P. Jadaun[1], D.S. Marshall[2,3] and J.C. Incorvia[1] *1. Electrical and Computer Engineering Department, The University of Texas at Austin, Austin, TX, United States; 2. TAE Technologies Inc, Foothill Ranch, CA, United States; 3. SEMTE Dept., Arizona State University, Tempe, AZ, United States*

IE-04. **Giant Tunnel Magnetoresistance up to 417% at Room Temperature Using Fe/MgO/Fe Magnetic Tunnel Junctions.** *T. Scheike*[1], Q. Xiang[1], Z. Wen[1], H. Sukegawa[1], T. Ohkubo[1], K. Hono[1] and S. Mitani[1] *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan*

IE-05. **High Tunnel Magnetoresistance in Ultrathin MnGa-Based Perpendicular Magnetic Tunnel Junctions Utilizing Ferromagnetic bcc-CoMn Interlayers.** *K. Suzuki*[1], T. Ichinose[1], R. Monma[1] and S. Mizukami[1] *1. AIMR, Tohoku University, Sendai, Japan*

Session IF
MAGNETORESISTANCE, MAGNETOIMPEDANCE AND HALL EFFECTS IN HOMOGENEOUS MATERIALS

Yong-Chang Lau, Chair
Tohoku University, Sendai, Japan

IF-01. **Nonlinear Spintronics in Quantum Materials With Inversion Symmetry Breaking.** ***(Invited)*** *P. He*[1], S. Zhang[2], G. Vignale[3] and H. Yang[4] *1. Institute for Nanoelectronic devices and Quantum computing, Fudan University, Shanghai, China; 2. Department of Physcis, Case Western Reserve University, Cleveland, OH, United States; 3. Department of Physics and Astronomy, University of Missouri, Columbia, MO, United States; 4. Department of Electrical and Computer Engineering, National University of Singapore, Singapore*

IF-02. **Magneto-Transport Properties in $Mn_{4-x}Ni_xN$ Films With Large Current Induced Domain Wall Mobility and Investigation in Their Large Anomalous Hall Effect.** *T. Komori*[1], H. Mitarai[1], K. Toko[1] and T. Suemasu[1] *1. Institute of Applied Physics, Tsukuba University, Tsukuba, Japan*

IF-03. **Anomalous Hall Effect in Anisotropic Weyl Semimetals.** *C. Yesilyurt*[1], Z. Siu[2], F. Ozaydin[3] and M.B. Jalil[2] *1. Department of Physics, Istanbul University, Istanbul, Turkey; 2. Electrical and Computer Engineering, National University of Singapore, Singapore; 3. Institute for International Strategy, Tokyo International University, Tokyo, Japan*

IF-04. **Large Anomalous Hall Angle in a Topological Semimetal Candidate TbPtBi.** *J. Chen*[1,2], H. Li[2], B. Ding[2], H. Zhang[2], X. Xi[2] and W. Wang[2,1] *1. Songshan Lake Materials Laboratory, Dongguan, China; 2. Chinese Academy of Sciences Institute of Physics, Beijing, China*

IF-05. **Efficient Tuning of Electronic, Transport, and Thermoelectric Properties of Weyl Semimetal $Co_2MnAl_{1-x}Si_x$ Composition-Spread Thin Film.** *R. Modak*[1], Y. Miura[1], S. Ueda[1], K. Uchida[1,2] and Y. Sakuraba[1,3] *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. PRESTO, Japan Science and Technology Agency, Saitama, Japan*

IF-06. **Micromagnetic Study of Strain-Induced Magnetization Switching in FeGaB Nanomagnets for Self-Biased MRAM Applications.** *P. Pathak*[1] and D. Mallick[1] *1. Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi, India*

IF-07. **Huge Room Temperature Negative Magneto Capacitance in $La_{0.7}Pb_{0.3}Mn_{0.4}Fe_{0.6}O_{3-\delta}$ and Positive Magneto Capacitance in $La_{0.7}Pb_{0.3}Mn_{0.4}Ti_{0.6}O_{3-\delta}$.** *P. Singh*[1] and B. Singh[1] *1. University of Allahabad Centre of Material Sciences, Allahabad, India*

Session IG
MULTILAYERED AND PATTERNED FILMS, AND EXCHANGE BIAS

Aidan Hindmarch, Chair
University of Durham, Durham, United Kingdom

IG-01. **Nanoscale Manipulation of Magnetic Domains by Interfacial Strain-Induced Proximity.** *J. Rodriguez Alvarez*[1], I. Valmianski[2], A. Fraile Rodríguez[1], M. García del Muro[1], C. Wolowiec[2], F. Kronast[3], J. Ramírez[4], I.K. Schuller[2], A. Labarta[1] and X. Batlle[1] *1. Departament de Física de la Matèria Condensada i Institut de Nanociència i Nanotecnologia (IN2UB), Universitat de Barcelona, Barcelona, Spain; 2. Department of Physics and Centre for Advanced Nanoscience, University of California San Diego, La Jolla, CA, United States; 3. Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Berlin, Germany; 4. Department of Physics, Universidad de los Andes, Bogota, Colombia*

IG-02. **Magnetic Anisotropy, Interlayer Coupling and Dzyaloshinskii-Moriya Interaction in Epitaxial W/Co/Pt Multilayers.** *S.K. Jena*[1], M.M. Jakubowskia[1], E. Milinska[1], A. Pietruczik[1], P. Aleszkiewicz[1] and A. Wawro[1] *1. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland*

IG-03. **Structural and Magnetic Characterization of Epitaxial Co(10.0)/Pt(110) Multi-Layers for Future Anisotropic DMI Systems Based on $C_{2v\,S}$Ymmetry.** *M.D. Kitcher*[1], Y. Liu[1], M. De Graef[1] and V.M. Sokalski[1] *1. Materials Science & Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*

IG-04. **Skyrmions in 3D Soft Magnetic Nanodots With no Dzyaloshinskii-Moriya Interactions.** E. Berganza[2], J. Fernandez-Roldan[3], M. Jaafar[4], A. Asenjo[1], K. Guslienko[5] and *O. Chubykalo-Fesenko*[1] *1. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 2. Institute of Nanotechnology, Eggenstein-Leopoldshafen, Germany; 3. Universidad de Oviedo, Oviedo, Spain; 4. Universidad Autonoma de Madrid, Madrid, Spain; 5. Universidad del Pais Vasco - Campus Gipuzkoa, Donostia, Spain*

IG-05. **Exchange Spring Co-Rich CoP Nanomagnetic Thin Films.** *A. Samanta*[1,2] and S. Roy[1,2] *1. Micropower Systems & Nanomagnetics Group, Micro-Nano-Systems Center, Tyndall National Institute, Cork, Ireland; 2. Department of Physics, University College Cork, Cork, Ireland*

IG-06. **Competing Magnetic Anisotropies and Spin Reorientation in Phase-Segregated Single Layer Ferrimagnetic FeGd Films.** *A. Chanda*[1], J.E. Shoup[1], N. Schulz[1], D. Arena[1] and H. Srikanth[1] *1. Physics Department, University of South Florida, Tampa, FL, United States*

IG-07. **Beating the Limit of Ordering Temperature of FeO With Antiferromagnetic Proximity in FeO/CoO.** *M. Szpytma*[1], A. Koziol Rachwal[1], J. Korecki[1,2], M. Slezak[1], P. Drozdz[1], W. Janus[1], H. Nayyef[1], M. Zajac[3] and T. Slezak[1] *1. AGH University of Science and Technology, Krakow, Poland; 2. Polish Academy of Sciences, Institute of Catalysis and Surface Chemistry, Krakow, Poland; 3. National Synchrotron Radiation Centre Solaris, Jagiellonian University, Krakow, Poland*

IG-08. **Disorder by Design in an Artificial Spin Ice With Dipolar Interactions: an Energetic Analysis.** *M. Di Pietro Martínez*[1] *1. Physique du Métal, Sciences et Ingenierie des Materiaux et des Procedes, Saint Martin d'Heres, France*

IG-09. **Magnetisation Asymmetry in Exchange Bias Systems.** *J. Gompertz*[1], R. Carpenter[2], S. Hassan[3] and K. O'Grady[1] *1. Physics, University of York, University of York, York, North Yorkshire, GB, York, United Kingdom; 2. IMEC, Leuven, Belgium; 3. Seagate Technology LLC, Cupertino, CA, United States*

IG-10. **Large Exchange Bias in FeCr Spinel Oxide Nanoparticles With Embedded Fe_xO Clusters.** *C.E. Bulbucan*[1,2], C. Preger[2,3], A. Kostanyan[4,5], K.M. Jensen[6], E. Kokkonen[7], C. Piamonteze[5], M.E. Messing[2,3] and R. Westerström[1,2] *1. Synchrotron Radiation Research, Lunds Universitet, Lund, Sweden; 2. NanoLund, Lunds Universitet, Lund, Sweden; 3. Solid State Physics, Lunds Universitet, Lund, Sweden; 4. Physik-Institut, Universitat Zurich, Zurich, Switzerland; 5. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland; 6. Chemistry, Kobenhavns Universitet, Kobenhavn, Denmark; 7. MAX IV-laboratoriet, Lund, Sweden*

IG-11. **Tailoring Interfacial Phenomena in Hybrid v_2O_3/Co Bilayers.** *J.M. Diez*[1,2], J.L. Fernández Cuñado[1], P. Perna[2], P. Lapa[3], A. Bollero[2], R. Miranda[1,2], I.K. Schuller[3] and J. Camarero[1,2] *1. Física de la Materia Condensada, Universidad Autonoma de Madrid, Madrid, Spain; 2. Fundacion IMDEA Nanociencia, Madrid, Spain; 3. Department of Physics and Center of Advanced Nanoscience, University of California San Diego, La Jolla, CA, United States*

IG-12. **Observation of Training Effect in Fe Thin Film Implanted With F+ Ions.** *S. Sen*[1,2], A. Gupta[3], V. Reddy[4] and R. Gupta[1] *1. School of Instrumentation, Devi Ahilya University, Khandwa Road Indore-452017, India., Indore, India; 2. Department of Physics, Maharaja Bhoj Government P.G. College, Dhar-454001, India, Dhar, India; 3. Centre for Spintronic Devices, Amity University, Noida, India., Noida, India; 4. UGC DAE CSR Indore Centre, Khandwa Road, Indore-452017, India, Indore, India*

Session IH
THIN FILMS AND SURFACE EFFECTS

Hideto Yanagihara, Chair
Tsukuba University, Tsukuba, Japan

IH-01. **Giant Perpendicular Magnetic Anisotropy in Mo-Based Double-Interface Free Layer Structure for Advanced Magnetic Tunnel Junctions.** *H. Cheng*[1,2], J. Chen[1], S. Peng[1,2], B. Zhang[1], Z. Wang[1], D. Zhu[1], K. Shi[1], S.R. Eimer[1,2], X. Wang[1], Z. Guo[1], Y. Xu[1,2], D. Xiong[1], K. Cao[1] and W. Zhao[1,2] *1. Fert Beijing Institute, Beijing Advanced Innovation Center for Big Data and Brain Computing, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 2. Hefei Innovation Research Institute, Beihang University, Hefei, China*

IH-02. **Tuning the Inplane Anisotropy of CoFeB Films.** *S. Scheibler*[1,2], O. Yildirim[1], A. Mandru[1] and H.J. Hug[1,3] *1. Magnetic & Functional Thin Films Lab 203, Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland; 2. ETH Zurich, Zurich, Switzerland; 3. Department of Physics, University of Basel, Basel, Switzerland*

IH-03. **Magnetization Processes and Magnetic Domain Structures in Ta/CoFeB/MgO Stacks.** *A.K. Dhiman*[1], T. Dohi[2], W. Dobrogoski[1], Z. Kurant[1], I. Sveklo[1], S. Fukami[2], H. Ohno[2] and A. Maziewski[1] *1. Department of Physics, Uniwersytet w Bialymstoku, Bialystok, Poland; 2. Tohoku University Denki Tsushin Kenkyujo, Sendai, Japan*

IH-04. **Effect of Annealing Temperature on Spectroscopic *g* Factor at CoFeB/MgO Interface.** *S. Tamaru*[1], T. Yamamoto[1], T. Nozaki[1], K. Yakushiji[1], H. Kubota[1], A. Fukushima[1] and S. Yuasa[1] *1. RCECT, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

IH-05. **Low Gilbert Damping and High Thermal Stability of Ru-Seeded $L1_0$-Phase FePd Perpendicular Magnetic Thin Films at Elevated Temperatures.** *D. Zhang*[1], D. Huang[2], R. Wu[3], D. Lattery[2], J. Liu[1], X. Wang[1,4], D.B. Gopman[4], A.K. Mkhoyan[3], J. Wang[1] and X. Wang[2] *1. Electrical and Computer Engineering, University of Minnesota Twin Cities, Minneapolis, MN, United States; 2. Department of Mechanical Engineering, University of Minnesota Twin Cities, Minneapolis, MN, United States; 3. Chemical Engineering and Materials Science, University of Minnesota Twin Cities, Minneapolis, MN, United States; 4. Materials Science and Engineering Division, National Institute of Standards and Technology, Gaithersburg, MD, United States*

IH-06. **Creep of Domain Walls in Epitaxial Pd/Co/Pd(111) Trilayers.** *N. Sarnavskiy*[1], A. Kozlov[1], M. Stebliy[1] and A. Davydenko[1] *1. Far Eastern Federal University, Vladivostok, Russian Federation*

IH-07. **Tailoring of Magnetic Anisotropy in Co and Amorphous CoFeB Thin Films Through Glancing Angle Deposition.** *K. Bukharia*[1], A. Gupta[1] and P. Pandit[2] *1. Amity University, Noida, India; 2. Deutsches Elektronen-Synchrotron, Hamburg, Germany*

IH-08. **High-Coercive Hexagonal MnBi Micro-Islands With Tunable Magnetic Anisotropy and Stripe Magnetic Domain Patterns.** M. Villanueva[1], *C. Navío*[1], E. Sanchez[2], P. Pedraz[1], P. Olleros-Rodríguez[1], L. Zha[4], P. Perna[1], J. Camarero[1,3], J. Yang[4], P.S. Normile[2], J. de Toro[2] and A. Bollero[1] *1. Fundacion IMDEA Nanociencia, Madrid, Spain; 2. IRICA, Universidad de Castilla-La Mancha, Ciudad Real, Spain; 3. Condensed Matter Physics Department, Universidad Autonoma de Madrid, Madrid, Spain; 4. State Key Laboratory for Mesoscopic Physics, School of Physics, Peking University, Beijing, China*

IH-09. **Epitaxial Ferrimagnetic Mn_4N Thin Films on GaN by Molecular Beam Epitaxy.** *Z. Zhang*[1], Y. Cho[1], M. Gong[1], S. Ho[1], J. Singhal[1], J. Encomendero[1], X. Li[1], H. Lee[1], H.G. Xing[1] and D. Jena[1] *1. Cornell University, Ithaca, NY, United States*

IH-10. **Strain and Ferromagnetic Proximity Induced Spin Reorientation Transition in NiO.** *W. Janus*[1], A. Koziol Rachwal[1], M. Slezak[1], M. Zajac[2], P. Drozdz[1], M. Szpytma[1], H. Nayyef[1] and T. Slezak[1] *1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 2. National Synchrotron Radiation Centre SOLARIS, Jagiellonian University, Krakow, Poland*

IH-11. **Tailoring the Magnetic Anisotropy and Controlling the Spin Orientation in Antiferromagnetic NiO(111) Films on Fe(110).** *H. Nayyef*[1], M. Slezak[1], P. Drozdz[1], W. Janus[1], A. Koziol Rachwal[1], M. Szpytma[1], M. Zajac[2], T. Mentes[3], F. Genuzio[3], A. Locatelli[3] and T. Slezak[1] *1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 2. National Synchrotron Radiation Centre SOLARIS, Jagiellonian University, Krakow, Poland; 3. Elettra - Sincrotrone Trieste, Basovizza, Italy*

IH-12. **Domain Wall Pinning in Epitaxial Spinel Ferrites Grown on Ru.** *S. Ruiz Gómez*[1], A. Mandziak[1,2], C. Munuera[3], A. Quesada[3], J. Prieto[3], M. Foerster[1], L. Aballe[1] and J. De La Figuera[3] *1. Alba Synchrotron, Cerdanyola del valles, Spain; 2. SOLARIS National Synchrotron Radiation Center, Cracow, Poland; 3. Consejo Superior de Investigaciones Cientificas, Madrid, Spain*

IH-13. **Uranium-Based Spintronics.** *E.R. Gilroy*[1,2], M. Wu[2], M. Gradhand[2], R. Springell[2] and C. Bell[2] *1. The University of Sheffield, Sheffield, United Kingdom; 2. University of Bristol, Bristol, United Kingdom*

IH-14. **Thermally Activated Processes for Ferromagnet Intercalation in Graphene-Heavy Metal Interfaces.** *A. Gudín Holgado*[2,1], J.M. Diez[2,1], A. Anadón[2], C. Ayani[2], P. Olleros-Rodríguez[2], F. Ajejas[2,1], I. Arnay[2], R. Guerrero[2], F. Calleja[2], J. Camarero[2,1], R. Miranda[2,1] and P. Perna[2] *1. Instituto Nicolás Cabrera & IFIMAC, Universidad Autonoma de Madrid, Madrid, Spain; 2. Nanoscience, Instituto Madrileno de Estudios Avanzados, Madrid, Spain*

IH-15. **Withdrawn**

Session IP
DOMAIN WALLS, ENERGY-ASSISTED RECORDING AND RECORDING PHYSICS (Poster Session)

Tomoya Nakatani, Chair
National Institute for Materials Science, Tsukuba, Japan

IP-01. **Effects of Static Magnetic Fields and Temperature on 3D Magnetic Storage in Heated Dot Magnetic Recording.** *F. Akagi*[1], Y. Sakamoto[1] and N. Matsushima[1] *1. Kogakuin Univ., Tokyo, Japan*

IP-02. **Correlation Among Lattice Strain of MgO Underlayer at Hetero-Interface Between MgO/ FePt, Degree of Order, and Ratio of *c*-Axis Parallel to Normal for FePt Granular Film.** *T. Saito*[1], K. Tham[2], R. Kushibiki[2], T. Ogawa[1] and S. Saito[1] *1. Tohoku University, Sendai, Japan; 2. Tanaka Kikinzoku Kogyo Kabushiki Kaisha, Chiyoda-ku, Japan*

IP-03. **Effect of FePt-C Nucleation Layer on Magnetic Properties and Nanostructure for FePt-Oxide / FePt-C Stacked Media.** *K. Tham*[1], T. Saito[2], R. Kushibiki[1], T. Ogawa[2] and S. Saito[2] *1. Tanaka Kikinzoku Kogyo Kabushiki Kaisha, Chiyoda-ku, Japan; 2. Tohoku University, Sendai, Japan*

IP-04. **Two-Stage Signal Processing Schemes for Heated Dot Magnetic Recording With Polar Coding and Double-Layered Bit Patterned Media.** *H. Saito*[1] and F. Akagi[2] *1. Department of Electrical and Electronic Engineering, Faculty of Engineering, Kogakuin University, Shinjuku-ku, Japan; 2. Department of Applied Physics, School of Advanced Engineering, Kogakuin University, Shinjuku-ku, Japan*

IP-05. **Reliability Ratio-Based Serial Scheduling of LDPC Decoder for Turbo Equalization Schemes.** *S. Khittiwitchayakul*[1], W. Phakphisut[1] and P. Supnithi[1] *1. School of engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand*

IP-06. **An Improvement to Factor Graph-Based Detector for Bit Patterned Media Recording.** *T. Sopon*[1], P. Supnithi[2] and S. Pilabutr[3] *1. Department of Electronic Engineering, Rajamangala University of Technology Isan, Nakhon Ratchasima, Thailand; 2. Department of Telecommunication Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand; 3. Department of Information Technology, Nakhon Ratchasima College, Nakhon Ratchasima, Thailand*

IP-07. **A Study on Iterative Decoding by Neural Network Detector in SMR System.** *M. Nishikawa*[1], Y. Nakamura[1], Y. Kanai[2], H. Osawa[1] and Y. Okamoto[1] *1. Ehime University Kogakubu Universityin Rikogaku Kenkyuka, Matsuyama, Japan; 2. Niigata Koka University, Kashiwazaki, Japan*

IP-08. **A Study of Multi-Dimensional Magnetic Recording System With Double Recording Layers.** *Y. Nakamura*[1], M. Nishikawa[1], Y. Kanai[2] and Y. Okamoto[1] *1. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan; 2. Department of Information and Electronics Engineering, Niigata Koka University, Kashiwazaki, Japan*

IP-09. **Investigation of Ferrimagnetic Domain Wall Motion Behavior in GdFeCo Through the Anomalous Hall Effect.** *N. Hai*[1], Z. Chen[1], R.C. Bhatt[2], L. Ye[2], T. Wu[2], L. Horng[1] and J. Wu[1] *1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Graduate School of Materials Science, National Yunlin University of Science and Technology, Douliou, Taiwan*

IP-10. **Very Fast Current Driven and Reverse Domain Wall Motion in a Rare-Earth Free Compensated Ferrimagnetic $Mn_{4-x}Ni_xN$.** *S. Ghosh*[1,2], T. Komori[2], A. Hallal[1], J.A. Peña Garcia[3], T. Gushi[2,1], T. Hirose[2], H. Mitarai[2], H. Okuno[4], J. Vogel[3], M. Chshiev[1], J. Attané[1], L. Vila[1], T. Suemasu[2] and S. Pizzini[3] *1. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-Spintec, Grenoble, France; 2. Institute of Applied Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 3. Univ. Grenoble Alpes, CNRS, Institut Néel, Grenoble, France; 4. Univ. Grenoble Alpes, CEA, IRIG-MEM, Grenoble, France*

IP-11. **Nonvolatile Spintronic 2-to-1 Multiplexer Based on Current-Driven Domain Wall Propagation.** X. Zhang[1] and *Z. Lu*[1] *1. School of Materials Science and Engineering, Tsinghua University School of Materials Science and Engineering, Beijing, China*

IP-12. **Domain Wall Pinnning Probability in Different Width of sub-Micron-Wire With a Notch.** *D. Shiu*[1], C. Wei[1], K. Lai[1], Z. Gao[1], Y. Li[2], Y. Kao[1] and L. Horng[1] *1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Graduate Institute of Photonics, National Changhua University of Education, Changhua, Taiwan*

ON-DEMAND SESSIONS

Session IQ
ELECTRIC FIELD EFFECTS AND MAGNETORESISTANCE (Poster Session)

Hélène Béa, Chair
CEA-SPINTEC, Grenoble, France

IQ-01. **Low-Voltage-Pulse Control of the Transport Properties of Antiferromagnetic $La_{0.35}Sr_{0.65}MnO_3$ Thin Film via Ferroelectric P(VDF-TrFE) Copolymer.** *X. Zhao*[1], H. Wong[1], Y. Liu[1,2], S. Ng[1], J. Liang[1], K. Lam[1], W. Cheng[1], C. Mak[1] and C. Leung[1] *1. Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. College of Electronic Information and Mechatronic Engineering, Zhaoqing University, Zhaoqing, China*

IQ-02. **Influence of $BiFeO_3$ Phase on Perpendicular Magnetic Anisotropy in Co/Pt.** *Y. Ji*[1,2], P. Shepley[1], Z. Xu[2], L. Chen[2] and T. Moore[1] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Physics, Southern University of Science and Technology, Shenzhen, China*

IQ-03. **Dysprosium Iron Garnet Films on Silicon and Piezoelectric Substrates With Perpendicular Magnetic Anisotropy.** *M. Gross*[1], J. Bauer[2] and C. Ross[2] *1. Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; 2. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States*

IQ-04. **Field-Free Switching of Perpendicular Magnetization and Memristive Properties Through Spin-Orbit Torque in FePt/$[TiN/NiFe]_5$ Multilayers.** *C. Sun*[1], Y. Tao[1], L. Zhu[1], Y. Jiao[1], X. Hu[1], Y. Hui[1], F. Jin[1] and K. Dong[1] *1. China University of Geosciences, Wuhan, China*

IQ-05. **Electric Field Modulation of Interfacial Magnetic Anisotropy in Magnetron-Sputtered Pt/Co/MgO Ultra-Thin Structure With Chemically Tailored top Co Interface.** *R. One*[1,2], S. Mican[1], A. Mesaros[2], M. Gabor[2], T. Petrisor Jr[2], M. Joldos[2], L.D. Buda-Prejbeanu[3] and C. Tiusan[1,2] *1. Faculty of Physics, Department of Solid State Physics, Universitatea Babes-Bolyai, Cluj-Napoca, Romania; 2. Universitatea Tehnica din Cluj-Napoca, Cluj-Napoca, Romania; 3. SPINtronique et Technologie des Composants, Grenoble, France*

IQ-06. **Origin of the Large Voltage-Controlled Magnetic Anisotropy in Cr/Fe/MgO Junction With an Ultrathin Fe Layer: First-Principles Investigation.** W. Chen[1], *L. Jiang*[1], Z. Yan[1], Y. Zhu[1], C. Wan[1] and X. Han[1] *1. Institute of Physics, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Beijing, China*

IQ-07. **Control of Electrical Resistance and Magnetoresistance by Electric Field-Driven Oxygen ion Migration in a Single GdO_x Wire.** *J. Kang*[1], S. Lee[2], T. Lee[1], J. Yang[1], J. Lee[2], C. Tae[4], J. Jeong[4], S. Park[3], B. Park[2] and K. Kim[1] *1. Physics, Korea Advanced Institute of Science and Technology, Daejeon, The Republic of Korea; 2. Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, The Republic of Korea; 3. Korea Basic Science Institute, Daejeon, The Republic of Korea; 4. Chungnam National University, Daejeon, The Republic of Korea*

IQ-08. **Magnetic Tunnel Junctions Based on Photoswitchable Self Assembled Monolayers.** *L. Jerro*[1], B. Quinard[1], S. Delprat[1], F. Godel[1], S. Collin[1], A. Sander[1], A. Vecchiola[1], K. Bouzehouane[1], R. Mattana[1], P. Seneor[1] and F. Petroff[1] *1. Unité Mixte de Physique CNRS-Thales, Université Paris Saclay, 91767 Palaiseau, France, Palaiseau, France*

IQ-09. **Atomistic Simulations for TAMR Applications.** *B.W. Wilson*[1], J.N. Scott[1], W. Hendren[1] and R. Bowman[1] *1. School of Mathematics and Physics, Queen's University Belfast, Belfast, United Kingdom*

IQ-10. **Direct Observation of Spin Polarization in Amorphous CoFeB Thin Film.** *Q. Liu*[1], X. Lu[1], C. Fu[2], Y. Yan[1], Q. Gao[1], H. Li[2], Y. Nie[1], J. Wu[3], L. He[1], R. Zhang[1] and Y. Xu[1] *1. Nanjing University, Nanjing, China; 2. Shandong University, Jinan, China; 3. University of York, York, United Kingdom*

Session IR
THIN FILMS AND INTERFACE EFFECTS (Poster Session)

Yu Shiratsuchi, Co-Chair
Osaka University, Osaka, Japan
Maciej Dabrowski, Co-Chair
University of Exeter, Exeter, United Kingdom

IR-01. **Annealing Temperature and Thickness Dependencies of Perpendicular Magnetic Anisotropy and Dzyaloshinskii-Moriya Interaction of Pt/Co/MgO Thin Film.** *D. Ourdani*[1], Y. Roussigné[1], S.M. Cherif[1], M. Gabor[2] and M. Belmeguenai[1] *1. Universite Sorbonne Paris Nord, Villetaneuse, France; 2. Universitatea Tehnica din Cluj-Napoca, Cluj-Napoca, Romania*

IR-02. **Interfacial Dzyaloshinskii Moriya Interaction and Perpendicular Magnetic Anisotropy in CoFeB/PtO_x Based Systems.** *I. Benguettat*[1,2], Y. Roussigné[1], S. Chérif[1], L. Chahed[2], F. Kail[2], S. Auffret[3], C. Baraduc[3], H. Béa[3] and M. Belmeguenai[1] *1. Université Sorbonne Paris Nord, LSPM CNRS UPR 3407, Villetaneuse, France; 2. Université Oran1, laboratoire de physique des couches minces et matériaux pour l'électronique, Oran, Algeria; 3. Université Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG, SPINTEC, Grenoble, France*

IR-03. **Effect of Oxidation of Top Interface on Magnetic Parameters of Epitaxial Films With Dzyaloshinskii-Moriya Interaction.** *G.S. Suslin*[1], V. Shatilov[1] and A. Kozlov[1] *1. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation*

IR-04. **Ultrathin $CoFe_2O_4$ Films Grown by Molecular Beam Epitaxy on Pt(111).** *G. Delgado Soria*[1], K. Freindl[2], J. Prieto[1], A. Quesada[3], J. De La Figuera[1], N. Spiridis[2], J. Korecki[2,4] and J. Marco[1] *1. Instituto Química Física Rocasolano, CSIC, Madrid, Spain; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland; 3. Instituto de Ceramica y Vidrio, Madrid, Spain; 4. AGH University of Science and Technology, Faculty of Physics and Applied Computer Science, Krakow, Poland*

IR-05. **Superconducting Properties of Epitaxial Films of Superconducting NbN and Highly Spin Polarized Co_2FeSi Under High Magnetic Fields.** *I. Shigeta*[1], T. Kubota[2,3], S. Kimura[2], S. Awaji[2], K. Takanashi[2,3] and M. Hiroi[1] *1. Department of Physics and Astronomy, Kagoshima University, Kagoshima, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*

IR-06. **Observation of Antiferromagnetic Coupling Between Ferrimagnetic Garnet Thin Films.** J. Liang[1], X. Zhao[1], S. Ng[1], H. Wong[1], Y. Liu[2], C. Mak[1] and *C. Leung*[1] *1. Applied Physics, The Hong Kong Polytechnic University, Hong Kong, China; 2. College of Electronic Information and Mechatronic Engineering, Zhaoqing University, Zhaoqing, China*

IR-07. **Modulated in-Plane Uniaxial Magnetic Anisotropy and Permeability Spectrum of NiFe Films by Sapphire Substrates With Periodical Ripples.** *X. Xu*[1], Y. Han[1], L. Jin[1], T. Wen[1], Y. Liao[1], X. Tang[1], H. Zhang[1] and Z. Zhong[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

IR-08. **Withdrawn**

IR-09. **Influence of ion-Irradiation and Annealing on Magnetic Properties of FeCo/NiO Exchange Biased Thin Film.** *R. Gupta*[1], S. K[1], F. Singh[2], V. Reddy[3] and A. Gupta[4] *1. School of Instrumentation, Devi Ahilya University, Indore, India; 2. Inter-University Accelerator Centre, New Delhi, India; 3. University Grants Commission Department of Atomic Energy Consortium for Scientific Research, Indore, India; 4. Center For Spintronics, Amity University, Noida, India*

IR-10. **Estimating the Anisotropy Constant in an Antiferromagnet Through Exchange Bias in Polycrystalline Ni-Mn/Fe-Ni Films.** *M. Moskalev*[1], E. Kudyukov[1], A. Gorkovenko[1], V. Lepalovskij[1] and V. Vas'kovskiy[1,2] *1. Department of Magnetism and Magnetic Materials, Ural Federal University, Ekaterinburg, Russian Federation; 2. Mikheev Institute of Metal Physics, Ekaterinburg, Russian Federation*

IR-11. **Spin Reorientation Transition and Exchange Bias in Hard/Soft Tb-Co/FeNi Films.** A. Svalov[1], V. Lepalovskij[1], A. Gorkovenko[1], I. Makarochkin[1], E. Stepanova[1], A. Larrañaga[2], *G.V. Kurlyandskaya*[3,1] and V. Vas'kovskiy[1,4] *1. Institute of Natural Sciences and Mathematics, Ural Federal University, Ekaterinburg, Russian Federation; 2. Servicios Generales de Investigación, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 3. Departamento de Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Bilbao, Spain; 4. Institute of Metal Physics, Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russian Federation*

IR-12. **Angular Deviation of the Exchange Bias in Bilayer CoFe/IrMn Under Rotating Magnetic Field.** *N. Strelkov*[1], A. Timopheev[1], C. Ducruet[1] and J.R. Childress[1] *1. Isere, Crocus Technology Grenoble, Grenoble, France*

IR-13. **Severe Plastically Deformed, Supersaturated FeCr Alloys – a Candidate Material for Exchange Bias and Enhanced Magnetostriction.** L. Weissitsch[1], *S. Wurster*[1], M. Stückler[1], A. Paulischin[1], H. Krenn[2], R. Pippan[1] and A. Bachmaier[1] *1. Erich Schmid Institute of Materials Science, Austrian Academy of Science, Leoben, Austria; 2. Institute of Physics, University of Graz, Graz, Austria*

IR-14. **Influence of Extrinsic Factors on FMR Linewidth in Systems With Exchange Bias.** *N.G. Chechenin*[1], I.O. Dzhun[1], G.V. Babaytsev[1], M.G. Kozin[1], A.V. Makunin[1] and I.L. Romashkina[1] *1. Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russian Federation*

IR-15. **Design of a Spin Filter Device Based on Graphene Free-Standing Membranes.** *L. Nessi*[1], C. Rinaldi[1], R. Bertacco[1] and M. Cantoni[1] *1. Politecnico di Milano, Milano, Italy*

IR-16. **Tuning Work Function in Graphene by Thermally Assisted Metal Intercalation.** *I. Arnay*[1], A. Gudín Holgado[1], A. Guedeja-Marron Gil[1,3], J.M. Diez[1,2], A. Anadón[1], R. Guerrero[1], M. Varela[3], J. Camarero[1,2], R. Miranda[1,2] and P. Perna[1] *1. Fundacion IMDEA Nanociencia, Madrid, Spain; 2. Departamento de Física de la Materia Condensada, Instituto Nicolás Cabrera, and Condensed Matter Physics Center (IFIMAC), Universidad Autonoma de Madrid, Madrid, Spain; 3. Departamento de Física de Materiales & Instituto Pluridisciplinar, Universidad Complutense de Madrid, Madrid, Spain*

IR-17. **Layered Ni/Ge Thin Films: the Ni-Ge Interface Effect in the Films Magnetic Properties.** *A. Chernichenko*[1] and Y.E. Samoshkina[1] *1. FGBNU Federal Research Center Krasnoyarsk Scientific Center of the Siberian Branch of the RAS, Krasnoarsk, Russian Federation*

IR-18. **Study of the Schottky Contacts of Ultrathin Fe_3O_4 Films Schottky Contacts on GaAs Substrates.** *J. Zhou*[1], Z. Zhang[1], Y. Yan[1], X. Lu[1] and Y. Xu[1,2] *1. School of Electronic Science and Engineering, Nanjing University, Nanjing, China; 2. York-Nanjing Joint Center in Spintronics, Department of Electronic Engineering, University of York, York, United Kingdom*

ON-DEMAND SESSIONS

Session IS
MAGNETIC FIELD SENSORS II
(Poster Session)

Pavel Ripka, Co-Chair
Ceske vysoke uceni technicke v Praze, Prague, Czechia
Dirk Meyners, Co-Chair
University of Kiel, Kiel, Germany

IS-01. **A Wide-Bandwidth Impedance Measurement Technique With Small Perturbation Injection Based on Magnetic Sensing.** *J. Liu*[1], H. Liu[1], C. Lee[1] and P. Pong[2] *1. Electrical and Electronic Engineering, University of Hong Kong, Hong Kong; 2. Department of Electrical and Computer Engineering, New Jersey Institute of Technology, Newark, NJ, United States*

IS-02. **Semi-Analytical Modeling of High Frequency Eddy Current Sensor in Ferromagnetic Steel With DC Bias.** *D. Um*[1], H. Nam[1], M. Kim[1], J. Jo[1], D. Kim[2], H. Yoo[2] and G. Park[1] *1. Pusan National University, Kumjeong-ku, The Republic of Korea; 2. Korea Gas Corp Research and Development Division, Incheon, The Republic of Korea*

IS-03. **RTD Fluxgate Sensors Based on Current Induced Magnetization Reversal in Twisted Glass-Coated Microwires.** *S. Corodeanu*[1], C. Hlenschi[1,2], A. Damian[1], H. Chiriac[1], N. Lupu[1] and T.A. Ovari[1] *1. National Institute of Research and Development for Technical Physics, Iasi, Romania; 2. Alexandru Ioan Cuza University, Faculty of Physics, Iasi, Romania*

IS-04. **High-Bandwidth Current Sensing Technique Based on Magnetic-Field Sensing Using a Wire Loop and a Differential Amplifier Calibration Circuit.** W.C. Miao[1], F. Wang[1], Q. Xu[2] and *P.W. Pong*[3] *1. School of Mechatronic Engineering and Automation, Shanghai University, Shanghai, China; 2. Electrical and Electronic Engineering, University of Hong Kong, Hong Kong; 3. Department of Electrical and Computer Engineering, New Jersey Institute of Technology, Newark, NJ, United States*

IS-05. **Ultra-Lower Anisotropy Magnetic Field Sensor in Ferrite/ Piezoelectric Toroidal Magnetoelectric Composites.** *J. Zhang*[1], G. Bingfeng[1], J. Liu[1], Q. Zhang[1], H. Zhao[1], Z. Wang[1] and K. Li[1] *1. College of Electrical and Information Engineering, Zhengzhou University of Light Industry, Zhengzhou, China*

IS-06. **New Eddy Current Probe for Vibration Signal Suppression.** *D. Kosaka*[1], Y. Kumakura[2], F. Kojima[3] and H. Yamasaki[2] *1. Polytechnic University, Kodaira-shi, Japan; 2. Tex Riken Co., Ltd., Nishinomiya-shi, Japan; 3. Kobe University, Kobe, Japan*

IS-07. **Magnetic Target Motion Monitoring Based on Weighted Route Fitting.** J. Qiu[1] and *D. Xie*[1] *1. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

IS-08. **High-Stability Magnetic Sensors in Permalloy/Piezoelectric Magnetoelectric Heterostructure Using Inappreciable Hysteresis.** *J. Zhang*[1], J. Liu[1], G. Bingfeng[1], Z. Wang[1], K. Li[1], H. Zhao[1] and Q. Zhang[1] *1. College of Electrical and Information Engineering, Zhengzhou University of Light Industry, Zhengzhou, China*

IS-09. **Simulation of Wave Mode of Flexible SAW Magnetic Sensor Based on ZnO/FeGa/PI Structure.** J. Qiu[1] and *J. Du*[1] *1. Chongqing University College of Optoelectronic Engineering, Chongqing, China*

IS-10. **Optimization of Equivalent Noise in the DC Magnetic Field Sensor Based on Magnetoelectric Effect.** J. Luo[1], Y. Qiu[1], H. Yang[1], G. Yu[1], *M. Zhu*[1] and H. Zhou[1] *1. Key Laboratory of Electromagnetic Wave Information Technology and Metrology of Zhejiang Province, China Jiliang University, Hangzhou, China*

IS-11. **A Sensitive, 2-Axis Magnetic Sensor Based on Anisotropic Magnetoresistance Effect.** *Q. Jiang*[1] and Y. Jiang[1] *1. Jiangnan University, Wuxi, China*

IS-12. **Heterogonous Integrated Displacement Sensor With Grooved Ferrite.** *M.G. Kisic*[1], A. Stefanov[1], M. Lukovic[2], O. Aleksic[2], M. Damnjanovic[1] and L. Zivanov[1] *1. Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia; 2. The Institute for Multidisciplinary Research, Belgrade, Serbia*

IS-13. **Selection of Applied Magnetic Field for Optimal Detectability in Eddy Current Testing With DC Bias.** *H. Nam*[1], D. Um[1], H. Yoo[2], D. Kim[2], C. Heo[1], M. Kim[1], J. Jo[1] and G. Park[1] *1. Pusan National University, Kumjeong-ku, The Republic of Korea; 2. Korea Gas Corp Research and Development Division, Incheon, The Republic of Korea*

IS-14. **A Study of Hysteresis Reduction of Small AC Magnetic Field Modulated Tunneling Magnetoresistive Sensor.** *H. Huang*[1], S. Liao[1], Y. Yang[2], A. Sokolov[3], Y. Liu[2,3], X. Yin[4] and S. Liou[2,3] *1. Institute of Electro-Optical Engineering, National Taiwan Normal University, Taipei, Taiwan; 2. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, United States; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, United States; 4. Western Digital Corporation, Fremont, CA, United States*

IS-15. **Proposal of Inspection Method for Lift-Off and Surface Hardened Depth of Induction Hardened Steel Plate Using by Alternating Magnetic Field.** *T. Yoshinaga*[1], K. Murai[2], Y. Gotoh[2], S. Onita[3], T. Horino[3] and Y. Misaka[3] *1. Mechanical and Energy Systems Engineering, Oita University, Oita, Japan; 2. Department of Innovative Engineering, Oita University, Oita, Japan; 3. Research and Development Headquarters, Koshuha Netsuren Kabushiki Kaisha, Hiratsuka-shi, Japan*

IS-16. **Voltage Tuning of a Bridge-Structured Spin Valve MAgnetoresistance Sensor With Enhanced Output Performance.** *L. Liu*[1], Y. Hui[1], H. Jiang[1], K. Wang[1], K. Dong[1], W. Mo[1], J. Song[1] and F. Jin[1] *1. China University of Geosciences School of Automation, Wuhan, China*

ON-DEMAND SESSIONS

Session IT
NON-DESTRUCTIVE EVALUATION & OTHER SENSORS II
(Poster Session)

Nicholas Jones, Chair
Naval Surface Warfare Center, Carderock Division, Bethesda, MD, United States

IT-01. **High Spatial Resolution Flaw Detector Based on the GMR Eddy-Current Probe.** *H. Nguyen*[1], J. Jeng[1], V. Doan[1], C. Dinh[1], D. Dao[1] and T. Pham[1] *1. Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung City 807618, Taiwan*

IT-02. **Inspection Device Using MFL Sensors for Buried Pipe Inspection to Find all Cracks Regardless of Direction.** *C. Heo*[1] and G. Park[1] *1. Pusan National University, Kumjeong-ku, The Republic of Korea*

IT-03. **Detection of Gap in Steel Bars by Magnetic Tunnel Junction Sensor Gradiometer Based Magnetic Flux Leakage Testing Method.** *M.b. Mohd Noor Sam*[1], J. Zhenhu[1], M. Oogane[1] and Y. Ando[1] *1. Applied Physics, Tohoku University, Sendai, Japan*

IT-04. **An Electromagnetic non-Destructive Method for Crack Detection Based on Magnetoelectric Sensors.** *C. Leung*[1] and K. Wu[1] *1. Harbin Institute of Technology Shenzhen, Shenzhen, China*

IT-05. **A Study on the Estimation of the Shapes and Distance of External Metal Around Underground Pipeline Using Magnetic Flux Leakage Sensors.** *C. Heo*[1], H. Jeong[1] and G. Park[1] *1. Pusan National University, Busan, The Republic of Korea*

IT-06. **Multimodal Magnetooptic Sensing of Magnetic Field, Electric Current and Temperature.** *F. Klingbeil*[1], S. Stölting[1] and J. McCord[1] *1. Institute for Materials Science, Kiel University, Kiel, Germany*

IT-07. **Tunnel Magnetoresistance Sensors for Real-Time Detection of Magnetic Nanoparticles.** *C. Ghemes*[1], M. Tibu[1], O. Dragos-Pinzaru[1], M. Lostun[1], N. Lupu[1] and H. Chiriac[1] *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*

IT-08. **Modelling Magnetostrictive Materials for Structural Health Monitoring of Carbon Fibre Composite.** *N. Ahmed*[1], R. Deffley[1,2] and N. Morley[1] *1. Materials Science and Engineering, The University of Sheffield Faculty of Engineering, Sheffield, United Kingdom; 2. Royce Translational Centre, The Henry Royce Institute, Sheffield, United Kingdom*

IT-09. **Rogowski Coil With Ferromagnetic Core.** *V. Grim*[1], P. Ripka[1], M. Mirzaei[1] and K. Draxler[2] *1. Department of Measurement, Ceske vysoke uceni technicke v Praze Fakulta elektrotechnicka, Praha, Czechia; 2. Department of electromagnetic quantities, Cesky metrologicky institut, Praha, Czechia*

ON-DEMAND SESSIONS

Session JA
AMORPHOUS AND NANOCRYSTALLINE SOFT MAGNETS AND APPLICATIONS

Rastislav Varga, Chair
Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia

JA-01. **Development of HighSaturation Induction Fe-Ni Based Metal Amorphous Nanocomposite by Optimization of Glass Forming Ability.** *Y. Krimer*[1], A. Barberis[1] and M. McHenry[1] *1. Materials science, Carnegie Mellon University, Carnegie Mellon University, Pittsburgh, PA, US, academic, Pittsburgh, PA, United States*

JA-02. **Development of an (Fe, Sn)-Based Nanocrystalline Soft Magnetic Alloy.** *P. Wang*[1] and M. Willard[1] *1. Material Science and Engineering, Case Western Reserve University, Cleveland, OH, United States*

JA-03. **Reducing the Core Losses of Fe-Si-B Amorphous Ribbons by High Cooling Rate Planar Flow Casting.** *D. Li*[1] and Z. Lu[1]
1. School of Electrical Engineering, Beijing Jiaotong University, Beijing, China

JA-04. **Laser Processing of Soft Magnetic Metal Amorphous Nanocomposites.** *A. Talaat*[1], D.W. Greve[2,3], Y. Liu[1], K. Byerly[4], M. McHenry[4], J. Wiezorek[1] and P. Ohodnicki[1,5]
1. Mechanical Engineering & Materials Science, University of Pittsburgh, Pittsburgh, PA, United States; 2. DWGreve Consulting, Sedona, AZ, United States; 3. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 4. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 5. Electrical and Computer Engineering, University of Pittsburgh, Pittsburgh, PA, United States

JA-05. **Effect of Process Parameters on the Properties of Compositionally Graded FeCoNi Films: a High Throughput Strategy.** *Z. Tsakadze*[1], V. Chaudhary[1], S.P. Padhy[1], W. Gan[2], G.J. Lim[2], W. Lew[2] and R. Ramanujan[1] *1. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore; 2. School of physical and mathematical sciences, Nanyang Technological University, Singapore, Singapore*

JA-06. **Soft Magnetic Properties of Severely Drawn Pearlitic-Ferritic Wires With Nanocrystalline Microstructure.** *S. Wurster*[1], M. Stückler[1], L. Weissitsch[1], H. Krenn[2], A. Hohenwarter[3], R. Pippan[1] and A. Bachmaier[1] *1. Erich Schmid Institut fur Materialwissenschaft, Leoben, Austria; 2. Institute of Physics, Karl Franzens Universitat Naturwissenschaftliche Fakultat, Graz, Austria; 3. Department of Materials Physics, Montanuniversitat Leoben, Leoben, Austria*

JA-07. **Detection of Diazinon Organophosphates Using Magnetoelastic Sensor.** *S. Atalay*[1], O. Inan[1], B. Ates[2], S. Balcioglu[2], S. Kolak[2], M. Simsek[2], V. Kolat[1], S. Koytepe[2] and T. Izgi[1] *1. Physics, Inonu Universitesi, Malatya, Turkey; 2. Chemistry, Inonu Universitesi, Malatya, Turkey*

JA-08. **Magnetic Substrate Coupled Broadband and Miniaturized Electromagnetic Interference Shielding Structure Using Deep Neural Network.** *V. Chaudhary*[1] and R. Panwar[1]
1. PDPM Indian Institute of Information Technology Design and Manufacturing Jabalpur, Jabalpur, India

JA-09. **Withdrawn**

JA-10. **Fe-SiC Composite Constituted Multilayer Gradient Perforated Microwave Absorbing Structure for Stealth Applications.** *R. Yadav*[1] and R. Panwar[1] *1. PDPM Indian Institute of Information Technology Design and Manufacturing Jabalpur, Jabalpur, India*

JA-11. **Experimental Investigation and Comparison of Magnetic Properties at High Frequency Between Non-Annealed and Annealed 1 µm-Thick Steels.** *G. Nguyen*[2,1], J. Tanase[1], K. Nambu[1], K. Fujisaki[1] and E. Tsuchida[3] *1. Toyota Technological Institute, Nagoya, Japan; 2. Nagoya University, Nagoya, Japan; 3. Maruyoshi Kogyo Co., Ltd., Kakamigahara, Japan*

JA-12. **Fine Tuning of the Magnetic Anisotropy Results in Temperature Independent Ferromagnetic Resonance Frequency for Bi-YIG Thin Films Grown by Pulsed Laser Deposition.** *D. Gouéré*[1], H. Merbouche[1], C. Carrétéro[1], J. Ben Youssef[2], E. Jacquet[1], R. Lebrun[1], P. Bortolotti[1], V. Cros[1] and A. Anane[1] *1. Unité Mixte de Physique CNRS, Thales, Université Paris Saclay, Palaiseau, France; 2. LabSTICC-UMR 6285/ CNRS, Université de Bretagne Occidentale, Brest, France*

JA-13. **Microwave Synthesis of Magnetic Hollow Nanosystem and Shape Anisotropy Contribution on Enhancement of the Heating Efficiency.** *G. Niraula*[1], J.A. Coaquira[2], G. Zoppellaro[3], D. Muraca[4] and S.K. Sharma[1,5] *1. Physics, Universidade Federal do Maranhao, Sao Luis, Brazil; 2. Physics, Universidade de Brasilia, Brasilia, Brazil; 3. Regional Centre of Advanced Technologies and Materials, Faculty of Science, Univerzita Palackeho v Olomouci Prirodovedecka fakulta, Olomouc, Czechia; 4. Physics, Universidade Estadual de Campinas, Campinas, Brazil; 5. Physics, Central University of Punjab, Bathinda, India*

ON-DEMAND SESSIONS

Session JB
CRYSTALLINE SOFT MAGNETS

Paul Ohodnicki, Chair
University of Pittsburgh, Allison Park, PA, United States

JB-01. **Flexible Ferromagnetic and Magnetoelectric Thin Films With Excellent Tunability.** ***(Invited)*** *Z. Zhou*[1], Y. Zhao[1], G. Dong[1] and M. Liu[1] *1. Electronic Materials Research Laboratory, Key Laboratory of the Ministry of Education, School of Electronic and Information Engineering, State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, China*

JB-02. **High-Throughput Studies of Magnetic High Entropy Alloys.** *R. Rowan-Robinson*[1], Z. Leong[1] and N. Morley[1] *1. Materials Science and Engineering, The University of Sheffield, Sheffield, United Kingdom*

JB-03. **Accelerated Development of Soft Magnetic Alloys.** *R. Ramanujan*[1], V. Chaudhary[1], S.P. Padhy[1], L. Tan[1] and Z. Tsakadze[1] *1. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore*

JB-04. **Compositionally Graded Fe/Co/Ni/NiFe/FeCoV Soft Magnetic Materials.** *V. Chaudhary*[1], Z. Tsakadze[1] and R. Ramanujan[1] *1. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore*

JB-05. **Parametric Semi-Empirical Design of Magnetic Properties in Complex Concentrated Alloys: Curie Temperature and Saturation Magnetisation.** *Z. Leong*[1], R. Rowan-Robinson[1], A. Quinata-Nedelcos[1] and N. Morley[1] *1. The University of Sheffield, Sheffield, United Kingdom*

JB-06. **Data Mining Based Development of Fe-Co-Ni Soft Magnetic Material.** *S.P. Padhy*[1], V. Chaudhary[1], G.J. Conduit[2], V. Sharma[1], L. Tan[1] and R. Ramanujan[1] *1. Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore; 2. Physics, University of Cambridge, Cambridge, United Kingdom*

JB-07. **Data Mining Approach to Development of Iron-Silicon Soft Magnetic Alloys.** *L. Tan*[1], V. Chaudhary[1], S.P. Padhy[1], V. Sharma[1], G.J. Conduit[2] and R. Ramanujan[1] *1. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore; 2. Department of Physics, University of Cambridge, Cambridge, United Kingdom*

JB-08. **Effect of Cutting Methods on Magnetic Properties of Electrical Steel.** *H. Wang*[1], J. Chen[1], Y. Jiang[1] and D. Wang[1] *1. The Key Laboratory of Science and Technology on Vessel Integrated Power System, Naval University of Engineering, Wuhan, China*

JB-09. **Crystallisation of Optically Thick Films of $Co_xFe_{(80-x)}B_{20}$: Evolution of the (Magneto-) Optical and Structural Properties.** *A. Sharma*[1], M.A. Hoffmann[2], P. Matthes[3], O. Hellwig[1,4], C. Kowol[3], S.E. Schulz[3], D.R. Zahn[1,5] and G. Salvan[1,5] *1. Institute of Physics, Technische Universitat Chemnitz, Chemnitz, Germany; 2. Center for Microtechnologies, Technische Universitat Chemnitz, Chemnitz, Germany; 3. Fraunhofer Institute for Electronic Nanosystems, Chemnitz, Germany; 4. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 5. Center for Materials, Architecture, and Integration of Nanomembranes (MAIN), Technische Universitat Chemnitz, Chemnitz, Germany*

JB-10. **The Secondary Recrystallization Texture and Magnetostriction in Fe-Ga Alloy Ultra-Thin Sheet.** *Z. He*[2,1], Y. Sha[1], F. Lei[1], H. Du[2], F. Zhang[1], L. Chen[2] and L. Zuo[1] *1. Key Laboratory for Anisotropy and Texture of Materials (Ministry of Education), Northeastern University, Shenyang, China; 2. School of Materials Science and Engineering, Shenyang University of Technology, Shenyang, China*

JB-11. **The 2D Magnetization Process in HGO Fe-Si Sheets.** E. Ferrara[1], C. Appino[1], *C. Ragusa*[2], O. de la Barrière[3] and F. Fiorillo[1] *1. Advanced Materials Metrology and Life Science Division, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Department of Energy, Politecnico di Torino, Torino, Italy; 3. Systemes et Applications des Technologies de l'Information et de l'Energie, Saclay, France*

JB-12. **Impact of Pulsed Laser Irradiation, Scribing and Ablation on 2-D Scalar and Vector Magnetic Losses and General Properties of Grain-Oriented Electrical Steels.** *P. Dupont*[1,2], M. Nesser[2,3], O. Maloberti[4,2], J. Dupuy[5], M. Lamblin[5], M. Ployard[1], D. Laloy[1] and J. Fortin[4,2] *1. Jeumont Electric, Jeumont, France; 2. Laboratoire des Technologies Innovantes (LTI), Amiens, France; 3. Universite de Picardie Jules Verne, Amiens, France; 4. UniLaSalle, Amiens, France; 5. Multitel A.S.B.L., Mons, Belgium*

JB-13. **Iron Loss Modeling of Anisotropic Soft Magnetic Steels in FEM Simulation Environment.** *L.A. Millan Mirabal*[1,2], O. Messal[1], A. Benabou[1], Y. Le Menach[1], J. Roger[2] and J. Ducreux[2] *1. Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Yncrea Hauts-de-France, ULR 2697 - L2EP, Lille, France; 2. EDF Lab Saclay, Palaiseau, France*

ON-DEMAND SESSIONS

Session JC
RE-BASED PERMANENT MAGNETS

Hossein Sepehri-Amin, Chair
Busshitsu Zairyo Kenkyu Kiko, Ibaraki, Japan

JC-01. **Advancing Additive Manufacturing of Bonded Permanent Magnets via *in-Situ* Magnetic Field Alignment During 3D Printing.** A. Sarkar[1], M. Somashekara[2], P.M. Paranthaman[3], M.J. Kramer[4] and *C.I. Nlebedim*[1] *1. Critical Materials Institute, Ames Laboratory, Ames, IA, United States; 2. Mechanical Engineering, Indian Institute of Technology Dharwad, Dharwad, India; 3. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 4. Division of Materials Science and Engineering, Ames Laboratory, Ames, IA, United States*

JC-02. **High Coercivity in Bulk Pr-Fe-Cu-B Alloys as a Stable Precursor for Permanent Magnets by Additive Manufacturing.** *L. Schäfer*[1], K. Skokov[1], J. Liu[1], F. Maccari[1], T. Braun[1], S. Riegg[1], I. Radulov[1], J. Gassmann[2], H. Merschroth[3], J. Harbig[3], M. Weigold[3] and O. Gutfleisch[1] *1. Functional Materials, Technische Universitat Darmstadt Fachbereich Material- und Geowissenschaften, Darmstadt, Germany; 2. Fraunhofer-Einrichtung fur Wertstoffkreislaufe und Ressourcenstrategie IWKS, Hanau, Germany; 3. Technische Universitat Darmstadt Institut fur Produktionstechnik und Umformmaschinen, Darmstadt, Germany*

JC-03. **Unexpected Coercivity Enhancement > 1 T for Nd-Fe-B Permanent Magnets With 20 wt.% Nd Produced by Laser Powder bed Fusion.** *F. Bittner*[1], J. Thielsch[1] and W. Drossel[1,2] *1. Additive Manufacturing, Fraunhofer-Institut fur Werkzeugmaschinen und Umformtechnik IWU, Dresden, Germany; 2. Technical University of Chemnitz, Chemnitz, Germany*

JC-04. **Batch Fabrication of 50 µm Thick Anisotropic NdFeB Micro-Magnets.** *F.O. Keller*[1], R. Haettel[1], T. Devillers[1] and N. Dempsey[1] *1. Institut Néel, UGA-CNRS, Grenoble, France*

JC-05. **Magnetic Properties and Microstructure of Sm_5Fe_{17}-Based two-Phase Magnets.** *I. Dirba*[1], H. Sepehri-Amin[2], K. Skokov[1], Y. Skourski[3], K. Hono[2] and O. Gutfleisch[1] *1. Functional Materials, Technische Universitat Darmstadt Fachbereich Material- und Geowissenschaften, Darmstadt, Germany; 2. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan; 3. Helmholtz-Zentrum Dresden Rossendorf, Dresden, Germany*

JC-06. **Microstructure and Hard Magnetic Properties of $Sm_{1-x}Zr_x(Fe,Co)_{11.3-y}Ti_{0.7}B_y$ Ingots and Thick Melt-Spun Ribbons.** *A. Gabay*[1] and G. Hadjipanayis[1] *1. University of Delaware, Newark, DE, United States*

JC-07. **"ARtificial Elements" Based on High Entropy Alloys as "Building Blocks" for Novel Magnetic Alloys Suitable for Permanent Magnets: Special Case $SmFe_3CoNi$.** *D. Niarchos*[1,2], E. Devlin[1], V. Psycharis[1] and M. Gjokas[1] *1. INN, Ethniko Kentro Ereunas Physikon Epistemon Demokritos, ATHENS, Greece; 2. R&D, AMEN New Technologies, Aghia paraskevi, Attikis, Greece*

JC-08. **Magnetic Alignment in Anisotropic Nd-Fe-B Bonded Magnets.** *X. Liu*[1], K. Gandha[1], P.M. Paranthaman[2] and C.I. Nlebedim[1] *1. Ames Laboratory, Ames, IA, United States; 2. Oak Ridge National Laboratory, Oak Ridge, TN, United States*

JC-09. **Anisotropic Fractal Dimension of Nd-Fe-B Permanent Magnets Fracture Surface.** *Q. Sun*[1,2], M. Zhu[1] and J. Bai[2] *1. Central Iron and Steel Research Institute Group, Beijing, China; 2. School of Materials Science and Engineering, Northeastern University, Shenyang, China*

JC-10. **Influence of Reducing Agent to Recovery of Nd2Fe14B Sludge Waste by Calcium Reduction Diffusion Method.** *H. Xu*[1], Q. Lu[1], W. Liu[1,2], X. Yi[2] and M. Yue[1,2] *1. Key Lab of Advanced Functional Materials, Beijing University of Technology, Beijing, China; 2. State Key Laboratory of rare earth permanent magnetic materials, Hefei, China*

JC-11. **Anisotropic Nd-Fe-B Magnets Prepared From Recycled Jet-Milled Powders With Spark-Plasma Sintering Technique.** *T. Tomše*[1], B. Podmiljšak[1], K. Zuzek Rozman[1], S. Šturm[1], C. Burkhardt[2] and S. Kobe[1] *1. Department for Nanostructured Materials, Institut Jozef Stefan, Ljubljana, Slovenia; 2. Institute for Precious and Technology Metals, Hochschule Pforzheim, Pforzheim, Germany*

JC-12. **Theoretical Investigation of the Orbital Moment of the Sm Ions in $SmFe_{12}$ With the GGA+U Method.** *S. Yamashita*[1], T. Yoshioka[1], H. Tsuchiura[1] and P. Novák[2] *1. Tohoku University, Sendai, Japan; 2. Czech National Academy of Science, Praha, Czechia*

Session JD
RE-FREE PERMANENT MAGNETS

Yusuke Hirayama, Chair
National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan

JD-01. **Correlation Between Atomic Ordering and Magnetic Properties in $L1_0$ Alloys.** ***(Invited)*** *S. Laureti*[1] *1. Institute for Structure of Matter, Consiglio Nazionale delle Ricerche, Roma, Italy*

JD-02. **High-Throughput and Data-Mining Search for Rare-Earth-Free Permanent Magnets.** *A. Vishina*[1], H.C. Herper[1] and O. Eriksson[1,2] *1. Uppsala Universitet, Uppsala, Sweden; 2. School of Science and Technology, Örebro University, Örebro, Sweden*

JD-03. **Fcc-Co Clusters in $L1_0$-FePt Matrix as Graded-Interface Magnetic Nanocomposite.** *C. Paleo*[1], V. Dupuis[1], F. Wilhelm[2], T. Epicier[3], N. Dempsey[4] and D. Le Roy[1] *1. Institut Lumiere Matiere, Villeurbanne, France; 2. ESRF, Grenoble, France; 3. Institut National des Sciences Appliquees de Lyon, Villeurbanne, France; 4. Institut NEEL, Grenoble, France*

JD-04. **Tuning Magnetic Anisotropy of MnBi Permanent Magnet With Sn*.** *M. Choi*[1], Y. Hong[1], H. Won[1], T. Lee[2] and J. Lee[2] *1. Electrical and Computer Engineering, The University of Alabama, Tuscaloosa, AL, United States; 2. Institute of Fundamental and Advanced Technology (IFAT), Hyundai Motor Company, Uiwang-si, The Republic of Korea*

JD-05. **Effects of Composition on the Ordered Phase Formation in Mn-Al and Mn-Ge Alloy Thin Films Grown on Cr(001) Single-Crystal Underlayers.** *S. Noro*[1], K. Nakano[1], M. Ohtake[1], M. Futamoto[1], T. Kawai[1], F. Kirino[2] and N. Inaba[3] *1. Faculty of Engineering, Yokohama National University, Yokohama, Japan; 2. Faculty of Fine Arts, Tokyo University of the Arts, Tokyo, Japan; 3. Faculty of Engineering, Yamagata University, Yonezawa, Japan*

JD-06. **The Dependence of the Intrinsic Magnetic Properties of Mn_3AlC on its Chemical Composition.** *F. Jürries*[1,2], K. Nielsch[1,2] and T. Woodcock[1] *1. Leibniz IFW Dresden, Dresden, Germany; 2. Technische Universitat Dresden, Dresden, Germany*

JD-07. **Tuning Spin and Magnetocrystalline Anisotropy of $L1_0$-Ordered MnAl With Transition Metal Elements (TM = Mn, Fe, Co, Ni)*.** *M. Choi*[1], Y. Hong[1], H. Won[1], C. Yeo[2], S. Kim[3], H. Lee[3] and W. Lee[3] *1. Electrical and Computer Engineering and Materials Science Ph.D. Program, The University of Alabama, Tuscaloosa, AL, United States; 2. Mechanical Engineering, Texas Tech University, Lubbock, TX, United States; 3. Materials Science & Engineering, Yonsei University, Seoul, The Republic of Korea*

JD-08. **MnAlC Permanent Magnets Obtained Directly From ε-Phase Gas-Atomized and Milled Powder by Hot-Pressing.** *C. Muñoz Rodriguez*[1], E.M. Palmero[1], J. Rial[1], L. Feng[2], T. Mix[2], B. Skårman[3], H. Vidarsson[3], P. Larsson[3], T. Woodcock[2] and A. Bollero[1] *1. Division of Permanent Magnets and Applications, Fundacion IMDEA Nanociencia, Madrid, Spain; 2. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV Institut fur Metallmaterialien, Dresden, Germany; 3. Hoganas AB, Hoganas, Sweden*

JD-09. **Additive Manufacturing of Rare Earth-Free and Hybrid Permanent Magnets: From Composites Synthesized by Solution Casting to Magnetic Filament and 3D-Printing of Magnets.** *E.M. Palmero*[1], D. Casaleiz[1], J. de Vicente[1] and A. Bollero[1] *1. Group of Permanent Magnets and Applications, Fundacion IMDEA Nanociencia, Madrid, Spain*

JD-10. **Morphology, Structure and Magnetic Coupling Relationship in Hard-Soft $SrFe_{12}O_{19}$-$CoFe_2O_4$ Nanostructures.** *P. Maltoni*[1], T. Sarkar[1], G. Barucca[2], G. Varvaro[3], F. Locardi[4], D. Peddis[4,3] and R. Mathieu[1] *1. of Materials Science and Engineering, Solid State Physics, Uppsala Universitet, Uppsala, Sweden; 2. Universita Politecnica delle Marche, Ancona, Italy; 3. Istituto di Struttura della Materia Consiglio Nazionale delle Ricerche Sede secondaria di Montelibretti, Montelibretti, Italy; 4. DCCI, Universita degli Studi di Genova, Genova, Italy*

JD-11. **Metal Nanowire–Strontium Ferrite Composites for Free Rare-Earth Magnets.** J. Guzmán Mínguez[1], S. Ruiz Gómez[2], L. Vicente Arche[1], C. Granados Miralles[1], C. Fernández González[3], F. Mompeán[4], M. Garcia Hernandez[4], S. Erohkin[5], D. Berkov[5], D. Mishra[6,7], L. Pérez García[2], A. Quesada[1] and *C. de Julian Fernandez*[7] *1. Instituto de Ceramica y Vidrio - CSIC, Madrid, Spain; 2. Departamento de Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 3. Instituto Madrileno de Estudios Avanzados, Madrid, Spain; 4. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 5. General Numerics Research Lab, Jena, Germany; 6. Department of Physics, Indian Institute of Technology Jodhpur, Jodhpur, India; 7. IMEM - CNR, Parma, Italy*

ON-DEMAND SESSIONS

Session JE
MAGNETO-CALORIC MATERIALS AND DEVICES I

Radhika Barua, Chair
Virginia Commonwealth University, Richmond, VA, United States

JE-01. **Overcoming the Limitations of Magnetocaloric Rare-Earth-Free High-Entropy Alloys.** ***(Invited)*** *J. Law*[1], Á. Díaz-García[1], L.M. Moreno-Ramírez[1] and V. Franco[1] *1. Department of Condensed Matter Physics, ICMS-CSIC, Universidad de Sevilla, Sevilla, Spain*

JE-02. **Designing Multicaloric Materials for Using Thermal Hysteresis in a Novel Multi-Stimuli Cooling Cycle.** *A. Taubel*[1], F. Scheibel[1], L. Pfeuffer[1], B. Beckmann[1], W. Liu[1], J. Lemke[1], M. Töllner[1], T. Gottschall[2], S. Ener[1], K. Skokov[1] and O. Gutfleisch[1] *1. Materials Science, Technical University of Darmstadt, Darmstadt, Germany; 2. Dresden High Magnetic Field Laboratory (HLD-EMFL), Helmholtz Zentrum Dresden-Rossendorf, Dresden, Germany*

JE-03. **Machine Learning Strategies for Screening Mn-T-X (T=Co, Fe, Ni; X=Si, Ge, Sn) Multicaloric Materials.** *T. Hartnett*[1], P. Balachandran[1,2], R. Barua[3] and V. Sharma[3] *1. Materials Scinece Engineering, University of Virginia, Charlottesville, VA, United States; 2. Mechanical Engineering, University of Virginia, Charlottesville, VA, United States; 3. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States*

JE-04. **Influence of Short-Ranged Correlation on Magnetocaloric Properties of $Tb_2Ni_{0.94}Si_{3.2}$ Alloy.** *R. U D*[1], A. K[1], S. S[1], A. Dzubinska[2], M. Reiffers[3,4] and N. R[1] *1. PHYSICS, National Institute of Technology Tiruchirappalli, Tiruchirappalli, India; 2. CPM-TIP, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 3. Science, Presovska univerzita v Presove Fakulta humanitnych a prirodnych vied, Presov, Slovakia; 4. Institute of Experimental Physics, Slovenska akademia vied, Bratislava, Slovakia*

JE-05. **Temperature-Induced Successive Martensitic and Inter-Martensitic Phase Transformations of $Ni_{2.15}Mn_{0.85}Ga$ Heusler Alloy.** *A.S. Madiligama*[1], P. Ari-Gur[2], Y. Ren[3], V. Shavrov[4], V. Koledov[4], Y. Ge[5] and J. George[6] *1. Science/ Physics, Penn State DuBois, DuBois, PA, United States; 2. Department of Mechanical and Aerospace Engineering, Western Michigan University, Kalamazoo, MI, United States; 3. X-ray Science Division, Argonne National Laboratory Advanced Photon Source, Lemont, IL, United States; 4. Laboratory of Magnetic Phenomena in Microelectronics, Kotelnikov Institute of Radio-engineering and Electronics of RAS, Moscow, Russian Federation; 5. Aalto-yliopisto, Aalto, Finland; 6. Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States*

JE-06. **Chemical Stability of Magnetocaloric $La(Fe_xCo_ySi_{1-x-y})_{13}$ Particles.** *V. Sharma*[1], K. Javed[1], S. Gupta[2], A. Biswas[2], V. Pecharsky[2,3], R. Barua[1] and R.L. Hadimani[1,4] *1. Department of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Division of Materials Science and Engineering, Ames Laboratory, Ames, IA, United States; 3. Department of Materials Science and Engineering, Iowa State University, Ames, IA, United States; 4. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, United States*

JE-07. **Analysis of the Magnetic Field Dependence of the Isothermal Entropy Change of Inverse Magnetocaloric Materials.** *L.M. Moreno-Ramírez*[1], J. Law[1], S. Pramana[2], A. Giri[3] and V. Franco[1] *1. Universidad de Sevilla, Sevilla, Spain; 2. Newcastle University, Newcastle upon Tyne, United Kingdom; 3. US CCDC Army Research Laboratory, Aberdeen Proving Ground, MD, United States*

JE-08. **Deconvolution of First and Second Order Phase Transitions Using the Scaling Laws of the Magnetocaloric Effect.** *Á. Díaz-García*[1], J. Law[1], A. Giri[2] and V. Franco[1] *1. Condensed Matter Physics, Universidad de Sevilla, Sevilla, Spain; 2. US CCDC Army Research Laboratory, Aberdeen Proving Ground, MD, United States*

JE-09. **T-FORC as a Tool for the Characterization of Magnetocaloric Materials: From Experiments to Models.** *V. Franco*[1], Á. Díaz-García[1], L.M. Moreno-Ramírez[1], J. Law[1], S. Fabbrici[2] and F. Albertini[2] *1. Universidad de Sevilla, Sevilla, Spain; 2. Istituto dei Materiali per l'Elettronica e il Magnetismo, Consiglio Nazionale delle Ricerche, Parma, Italy*

JE-10. **Half-Metallic Fe_2CoAl Heusler Nanoparticles: a Hunt for Spintronics and Magnetic Refrigeration Application.** *A. Ahmad*[1], S. Mitra[1], S.K. Srivastava[1] and A.K. Das[1] *1. Physics, Indian Institute of Technology Kharagpur, Kharagpur, India*

JE-11. **In-Silico Thermodynamic Description of Heusler Compounds Applied to Magnetocalorics by Monte Carlo Simulations Starting From ab-Initio.** *C. Amorim*[1], J.N. Gonçalves[1], V.S. Amaral[1] and J.S. Amaral[1] *1. Physics, Universidade de Aveiro CICECO, Aveiro, Portugal*

JE-12. **Unit Cell Volume Reduction of $Gd_5(Si,Ge)_4$ Nanoparticles Controlled by Bulk Compressibility.** *V.M. Andrade*[1], J.H. Belo[1], N. Checca[2], A. Rossi[2], F. Garcia[2], B. Gonçalves Almeida[3], J. Tedesco[4], A. Poulain[5], A. Pereira[1], M.S. Reis[6] and J. Pedro Esteves de Araújo[1] *1. Physics and Astronomy, (a) IFIMUP - Institute of Physics for Advanced Materials, Nanotechnology and Photonics of University of Porto, Porto, Portugal; 2. Centro Brasileiro de Pesquisas Físicas - CBPF, Rio de Janeiro, Brazil; 3. Department of Physics, Department of Physics, Minho, Portugal; 4. Polythecnic Institute - Rio de Janeiro State University, Rio de Janeiro, Brazil; 5. ESRF, Grenoble, France; 6. Instituto de Física, Universidade Federal Fluminense, Niteroi, Brazil*

ON-DEMAND SESSIONS

Session JF
MAGNETO-ELASTIC AND MAGNETO-OPTIC MATERIALS AND DEVICES

Nicola Morley, Co-Chair
University of Sheffield, Sheffield, United Kingdom
Lei Bi, Co-Chair
University of Electronic Science and Technology of China, Chengdu, China

JF-01. **All-Dielectric Magnetophotonics.** ***(Invited)*** *V.I. Belotelov*[1] *1. Lomonosov Moscow State University, Moscow, Russian Federation*

JF-02. **Magneto-Optical Effect in bcc Fe: Microscopic Origin and Topological Aspects.** *O. Stejskal*[1], M. Veis[1] and J. Hamrle[1] *1. Univerzita Karlova Matematicko-fyzikalni fakulta, Praha, Czechia*

JF-03. **Magnetic Anisotropy Switching Induced by Shape Memory Effect in NiTi/Ni Bilayer.** A. Kyianytsia[1], M. Poncot[1], E. Gaudry[1], P. Boulet[1], S. Migot[1], J. Ghanbaja[1], B. Kierren[1] and *T. Hauet*[1] *1. Institut Jean Lamour, Institut Jean Lamour, Nancy, Grand Est, FR, academic/chem, Nancy, France*

JF-04. **Influence of Additive Manufacturing Processes on the Microstructure and Magnetic Properties of Co-Ni-Ga Shape Memory Heusler Alloy.** *F. Scheibel*[1], C. Lauhoff[2], S. Riegg[1], P. Krooß[2], T. Niendorf[2] and O. Gutfleisch[1] *1. Institute of Materials Science, Technische Universitat Darmstadt, Darmstadt, Germany; 2. Institute of Materials Engineering, Universitat Kassel, Kassel, Germany*

JF-05. **Dynamic Response of Fe-Ga for Multiferroic Magnetic Field Transmitters.** *T.R. Mion*[1], M. Staruch[1], J. Yoo[2], N. Jones[2] and P. Finkel[1] *1. Material Science & Technology, US Naval Research Laboratory, Washington, DC, United States; 2. Naval Surface Warfare Center Carderock Division, West Bethesda, MD, United States*

JF-06. **Validation of a Reduced Order Magnetoelastic Beam Model.** *M.E. Goforth*[1], J.P. Domann[1] and A.N. Imhof[1] *1. Biomedical Engineering and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, United States*

JF-07. **Design and Analysis of a Fuel Injector Based on a Magnetostrictive Actuator.** L. Allocca[1], *D. Davino*[2], A. Montanaro[1] and C. Visone[3] *1. Istituto di Scienze e Tecnologie per l'Energia e la Mobilità Sostenibili (STEMS) - CNR, Napoli, Italy; 2. Dipartimento di Ingegneria, Università degli Studi del Sannio, Benevento, Italy; 3. DIETI, Universita degli Studi di Napoli Federico II, Napoli, Italy*

JF-08. **Approximation Methods for Hybrid Constitutive Model of Magnetostriction.** *A.N. Imhof*[1], J.P. Domann[1] and M.E. Goforth[1] *1. Biomedical Engineering and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, United States*

JF-09. **Prediction of Magnetic Field Strength in Magnetorheological Elastomers Using Feedforward Neural Network.** *M. Keshav*[1] and S. Chandramohan[2] *1. Mechnical Engineering, Pandit Deendayal Petroleum University School of Technology, Gandhinagar, India; 2. Dept. of Mechanical Engineering, Indian Institute of Technology Madras, Chennai, India*

JF-10. **Mutual Conversion Effect of Induction and Capacitance on the Magnetoelectric Gyrator Consisting of Ferrite/PZT-8/ Ferrite Laminate.** *J. Zhang*[1], K. Li[1], Q. Zhang[1] and G. Srinivasan[2] *1. Zhengzhou University of Light Industry, Zhengzhou, China; 2. Oakland University, Rochester, MI, United States*

JF-11. **Phase Transformation and Magnetostriction in $Fe_{100-x}Ga_x$ Bulk Alloys.** *M. Coisson*[1], K.D. N'Dri[2], L. Diallo[3], E.S. Olivetti[1], L. Martino[1], C.P. Sasso[1], F. Celegato[1], G. Barrera[1], M. Pasquale[1], P. Tiberto[1], J. Juraszek[3], S. Bahamida[4] and A. Fnidiki[3] *1. Advanced Materials and Life Sciences, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Universite de Lorraine Faculte des Sciences et Technologies, Vandoeuvre-les-Nancy, France; 3. Groupe de Physique des Materiaux, Sainte Etienne du Rouvray, France; 4. Universite M'Hamed Bougara Boumerdes, Boumerdes, Algeria*

JF-12. **Real Time Monitoring of the Precipitation of Calcium Oxalate by Using Corrosion Resistant Magnetoelastic Resonance Sensors.** *B. Sisniega Soriano*[1], A. Sagasti[1], J. Gutiérrez[1,2] and A. García-Arribas[1,2] *1. Electricidad y Electrónica, Universidad del Pais Vasco, Bilbao, Spain; 2. Fundacion BCMaterials - Basque Center for Materials Applications and Nanostructures, Leioa, Spain*

JF-13. **A Calculation of Magneto-Mechanical Sensitivity for Various Compositions of Galfenol.** *J. Yoo*[1], N. Jones[1], P. Finkel[2] and M. Staruch[2] *1. Naval Surface Warfare Center Carderock Division, West Bethesda, MD, United States; 2. US Naval Research Laboratory, Washington, DC, United States*

ON-DEMAND SESSIONS

Session JG
BIO-APPLICATIONS OF MAGNETISM I

Yuko Ichiyanagi, Chair
Yokohama National University, Yokohama, Japan

JG-01. **Aggregates and Dipolar Interactions in Nanoparticle Assemblies for Magnetic Hyperthermia.** *O. Iglesias*[1,2] *1. Condensed Matter Physics, Universitat de Barcelona, Barcelona, Spain; 2. IN2UB, Barcelona, Spain*

JG-02. **Shimming Design of Magnetic Shield Room Using Ferromagnetic Plates.** *S. Jin*[1], A. Kuwahata[1], S. Chikaki[1], M. Hatano[2] and M. Sekino[1] *1. Department of Electrical Engineering and Information Systems, Graduate School of Engineering, Tokyo University, Tokyo, Japan; 2. Department of Electrical Engineering and Information Systems, Graduate School of Engineering, Tokyo Institute of Technology, Tokyo, Japan*

JG-03. **Advanced Analysis of Magnetic Nanoflower Measurements to Leverage Their use in Biomedicine.** A. Karpavicius[1], A. Coene[2,3], P. Bender[4,5] and *J. Leliaert*[1] *1. Dept. of Solid State Sciences, Universiteit Gent Faculteit Wetenschappen, Gent, Belgium; 2. Dept. of of Electromechanical, Systems and Metal Engineering, Universiteit Gent Faculteit Ingenieurswetenschappen en Architectuur, Gent, Belgium; 3. Cancer Research Institute (CRIG), Universiteit Gent, Gent, Belgium; 4. Dept. of Physics and Materials Science, Universite du Luxembourg, Luxembourg, Luxembourg; 5. Heinz Maier-Leibnitz Zentrum (MLZ), Technische Universitat Munchen, Munchen, Germany*

JG-04. **Low Frequency Induction Heating of a Ferromagnetic Catheter for the Varicose Veins Treatment: Study of Feasibility.** *Y. Liu*[1,2], Z. Xiang[1], B. Ducharne[2,1], J. Garcia[3], B. Newell[3] and M. Le[1] *1. LGEF INSA Lyon, Villeurbanne, France; 2. ELyTMaX UMI 3757, CNRS – Université de Lyon – Tohoku University, International Joint Unit, Tohoku University, Sendai, Japan, Sendai, Japan; 3. Purdue University, West Lafayette, IN, United States*

JG-05. **Cation Leaching Alters the Properties of Mn Nanoferrites for Biomedical Applications.** D. García-Soriano[1], N. Lafuente-Gómez[1], P. Milán-Rois[1], Á. Somoza[1,2], C. Navío[1], F. Herranz[3], L. Gutiérrez[4] and *G. Salas*[1,2] *1. Fundacion IMDEA Nanociencia, Madrid, Spain; 2. Unidad Asociada de Nanobiotecnología (CNB-CSIC e IMDEA Nanociencia), Madrid, Spain; 3. Instituto de Química Médica, Consejo Superior de Investigaciones Cientificas, Madrid, Spain; 4. Universidad de Zaragoza Instituto de Nanociencia de Aragon, Zaragoza, Spain*

JG-06. **Vortex Nano-Discs: From Micromagnetic Simulations to Cancer Cells Internalization for Magneto-Mechanically Induced Damage Applications.** *C. Sousa*[1], R. Magalhães[1], S. Caspani[1], S. Moraes[1], L. Peixoto[1], D. Navas[2], C. Redondo[3], R. Morales[4,5], S. Lima[6], C. Nunes[6], S. Reis[6] and J. Pedro Esteves de Araújo[1] *1. IFIMUP and DFA, Faculdade de Ciências da Universidade do Porto, Porto, Portugal; 2. Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC, Madrid, Spain; 3. Dpto. de Química-Física, Universidad del País Vasco UPV/EHU, Madrid, Spain; 4. Dpto. de Química-Física & BCMaterials, Universidad del País Vasco UPV/EHU, Bilbao, Spain; 5. IKERBASQUE, Basque Foundation for Science, Bilbao, Spain; 6. LAQV, REQUIMTE, Faculty of Pharmacy of Porto University, Porto, Portugal*

JG-07. **Superparamagnetic and Bioactive Nanoparticles for Bone Cancer Treatment.** *F. Vergnaud*[1], C. Vichery[1] and J. Nedelec[1] *1. SIGMA Clermont Grande ecole d'ingenieurs, Aubiere, France*

JG-08. **Unidirectional Transport of Superparamagnetic Beads and Biological Cells Along an Oval Shaped Magnetic Element Path.** *F. Block*[1], F. Klingbeil[1], U. Sajjad[1], D. Seidler[1], C. Arndt[2,3], S. Sindt[2,3], C. Selhuber-Unkel[2,3] and J. McCord[1] *1. Nanoscale Magnetic Materials - Magnetic Domains, Institute for Materials Science, Kiel University, Kiel, Germany; 2. Biocompatible Nanomaterials, Institute for Materials Science, Kiel University, Kiel, Germany; 3. Institute for Molecular Systems Engineering (IMSE), Heidelberg University, Heidelberg, Germany*

JG-09. **In-Vitro Manipulation and Bio-Imaging of Cells Using Magnetic Nanodiamond.** *R. Selvam*[1], E. Perevedentseva[1,2], A. Karmenyan[1] and C. Cheng[1] *1. Department of physics, National Dong Hwa University, Shoufeng, Taiwan; 2. P.N. Lebedev Physics Institute of Rus. Acad. Sci, Moscow, Russian Federation*

JG-10. **Concentration Gradients of Magnetic Nanoparticles in non-Magnetic Fluids and non-Magnetic Particles in Magnetic Fluids for Rapid Toxicity Screening.** *L. Abelmann*[1,2], E. Gwag[1] and B. Sung[1] *1. Korea Institute of Science and Technology Europe Forschungsgesellschaft mbH, Saarbrucken, Germany; 2. Universiteit Twente, Enschede, Netherlands*

JG-11. **EPR Characterization of the Mixed Radiation Field of a Boron Neutron Capture Therapy Irradiation Facility: a Dual Natural Lithium Formate/L-Alanine Dosimeter.** *G. Alejandro*[1,2], J.M. Longhino[3], N.R. Álvarez[1], E. Pawlak[4] and A. Butera[2,3] *1. Centro Atómico Bariloche - Comisión Nacional de Energía Atómica (CNEA), San Carlos de Bariloche, Argentina; 2. Consejo Nacional de Investigaciones Científicas y Técnicas (Conicet), San Carlos de Bariloche, Argentina; 3. Centro Atómico Bariloche - Comisión Nacional de Energía Atómica (CNEA) and Instituto Balseiro (UNCuyo), San Carlos de Bariloche, Argentina; 4. Centro Atómico Ezeiza - Comisión Nacional de Energía Atómica (CNEA), Ezeiza, Argentina*

JG-12. **A Novel Magnetic Respiratory Sensor for Real-Time Tracking of Coronavirus Progress.** ***(Invited)*** K. Hwang[1], V. Jimenez[1], B. Muchharla[1] and *M. Phan*[1] *1. Department of Physics, University of South Florida College of Arts & Sciences, Tampa, FL, United States*

ON-DEMAND SESSIONS

Session JH
MAGNETIC PARTICLES, MAGNETIC FLUIDS, AND SEPARATION

Jungjin Park, Co-Chair
University of Maryland at College Park, College park, MD, United States
Oscar Iglesias, Co-Chair
University of Barcelona, Barcelona, Spain

JH-01. **High Magnetic Sorting Efficiency in a Microfluidic Device.** *L. Descamps*[1], S. Mekkaoui[1], J. Howard[1], M. Audry[1], A. Deman[1] and D. Le Roy[2] *1. Institut des Nanotechnologies de Lyon, Villeurbanne, France; 2. Institut Lumiere Matiere, Villeurbanne, France*

JH-02. **Development and Characterization of Magnetically Actuated Milli-Robots by Stereolithography.** *B.H. Domac*[1], H. Alshammari[1], N. Gunduz Akdogan[2] and O. Akdogan[1] *1. Bahcesehir Universitesi, Istanbul, Turkey; 2. Piri Reis Universitesi, Istanbul, Turkey*

JH-03. **A Study on the Effects of Graphite Flakes on Torque Transmission of a Magnetorheological Fluid Clutch.** *M.A. Fernández*[1] and J. Chang[1] *1. Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan*

JH-04. **A Novel Sealing Method Using Nano-Micron Magnetic Powders and its Leakage Rate Analysis.** *Z. Li*[1] and D. Li[1] *1. State Key Laboratory of Tribology, Beijing, China*

JH-05. **A Novel Magnetofluidic System to Cool Solar Cells.** *V.B. Varma*[1,2], S. Cheekati[1,2], M.S. Pattanaik[1,2] and R. Ramanujan[1,2] *1. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore; 2. Singapore-HUJ Alliance for Research and Enterprise (SHARE), Nanomaterials for Energy and Energy-Water Nexus (NEW), Campus for Research Excellence And Technological Enterprise, Singapore, Singapore*

JH-06. **Magnetic Manipulation of Hydrogel Droplets in Culture Media for Biological Applications.** *S. Yuan*[1], A. Shum[2] and P. Pong[3,1] *1. Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong; 2. Department of Mechanical Engineering, University of Hong Kong, Hong Kong; 3. Department of Electrical and Computer Engineering, New Jersey Institute of Technology, Newark, NJ, United States*

JH-07. **Crucial Role of the Co Cations on the Destabilization of the Ferrimagnetic Alignment in Co-Ferrite Nanoparticles With Tunable Structural Defects.** C. Moya[1,2], *A. Fraile Rodríguez*[1], M. Escoda-Torroella[1], M. García del Muro[1], S.R. Avula[3], C. Piamonteze[3], X. Batlle[1] and A. Labarta[1] *1. Física de la Matèria Condensada, Institut de Nanociència i Nanotecnologia (IN2UB), Universitat de Barcelona, Universitat de Barcelona, Barcelona, Catalunya, ES, academic, Barcelona, Spain; 2. Engineering of Molecular Nanosystems, Universite Libre de Bruxelles, Bruxelles, Belgium; 3. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland*

JH-08. **Selective Control of Reagents as a Tuning Knob for Iron Oxide Nanoparticles With Controlled Morphology, Oxidation State and Magnetic Response.** *M. Escoda-Torroella*[1,2], C. Moya[2,3], A. Fraile Rodríguez[1,2], X. Batlle[1,2] and A. Labarta[1,2] *1. Física de la Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia, Universitat de Barcelona, Barcelona, Spain; 3. Engineering of Molecular Nanosystems, Universite Libre de Bruxelles, Bruxelles, Belgium*

JH-09. **Tailored Magnetic Field Sequences for Improved Magnetic Nanoparticle Characterization and Imaging.** *A. Coene*[1,2] and J. Leliaert[3] *1. Department of Electromechanical, Systems and Metal Engineering, Universiteit Gent, Gent, Belgium; 2. Cancer Research Institute, Universiteit Gent, Gent, Belgium; 3. Department of solid state sciences, Universiteit Gent, Gent, Belgium*

JH-10. **Time-Dependent AC Magnetometry of Magnetite Nanoparticles in the Monodomain-Multidomain Limit.** *I. Morales Casero*[1], P. de la Presa[1,2], N. Mille[3,4], J. Carrey[3,4], P. Morales[5,6] and A. Hernando[1] *1. Universidad Complutense de Madrid Instituto de Magnetismo Aplicado, Madrid, Spain; 2. Departamento de Materiales, Universidad Complutense de Madrid Facultad de Ciencias Fisicas, Madrid, Spain; 3. Laboratoire de Physique et Chimie des Nano-objets, Toulouse, France; 4. INSA Toulouse, Toulouse, France; 5. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 6. Consejo Superior de Investigaciones Cientificas, Madrid, Spain*

JH-11. **Chain Formation of PNIPAM Coated Magnetic Nanoparticles in an External Magnetic Field and the Effect of Temperature.** *N. Taib*[1,2], R. Woodward[3], K. Iyer[4] and T. St. Pierre[2] *1. Faculty of Applied Sciences, Perak Branch, Tapah Campus, 35400, Universiti Teknologi MARA, Tapah Road, Malaysia; 2. School of Physics, Mathematics, and Computing, The University of Western Australia, Perth, WA, Australia; 3. John Forrest Secondary College, Morley, WA, Australia; 4. School of Molecular Sciences, The University of Western Australia, Perth, WA, Australia*

ON-DEMAND SESSIONS

Session JI
NANOPARTICLES AND NANOWIRES

Tomoyuki Ogawa, Chair
Tohoku University, Sendai, Japan

JI-01. **Engineered Self-Assembled Magnetic Nanochains.** ***(Invited)*** *M. Sedrpooshan*[1,2], C. Preger[2,3], C.E. Bulbucan[1,2], P. Ternero[2,3], M. Josefsson[2,3], S. Finizio[4], A.M. Burke[2,3], M.E. Messing[2,3] and R. Westerström[1,2] *1. Synchrotron Radiation Research, Lunds Universitet, Lund, Sweden; 2. NanoLund, Lunds Universitet, Lund, Sweden; 3. Solid State Physics, Lunds Universitet, Lund, Sweden; 4. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland*

JI-02. **Controlled Magnetization by Magnetic Fields in Multisegmented Cylindrical Nanowires.** *C. Bran*[1], J. Fernandez-Roldan[1,2], E. Saugar[1], R. del Real[1], A. Asenjo[1], A. Fraile Rodríguez[3], M. Foerster[4], L. Aballe[4], O. Chubykalo-Fesenko[1] and M. Vázquez[1] *1. Instituto de Ciencia de Materiales de Madrid (ICMM-CSIC), Madrid, Spain; 2. Universidad de Oviedo Departamento de Fisica, Oviedo, Spain; 3. Departament de Física de la Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 4. ALBA Synchrotron Light Facility, Barcelona, Spain*

JI-03. **Phase Diagram of Magnetization Reversal Modes in Cylindrical Ni Nanowires.** *M.P. Proenca*[1,2], J. Rial[1], J. Pedro Esteves de Araújo[1] and C. Sousa[1] *1. Departamento de Física e Astronomia, Faculdade de Ciências da Universidade do Porto, IFIMUP - Institute of Physics for Advanced Materials, Nanotechnology and Photonics of University of Porto, Porto, Portugal; 2. Instituto de Sistemas Optoelectrónicos y Microtecnología (ISOM), Universidad Politécnica de Madrid, Madrid, Spain*

JI-04. **Ferromagnetism of Single Vertical Cobalt Nanotubes Grown by Focused Electron Beam Induced Deposition.** *J. Pablo-Navarro*[1,2], L. Rodríguez[3], I. Andersen[4], D. Sanz Hernandez[5], A. Fernandez-Pacheco[5], C. Gatel[4], E. Snoeck[4], J. De Teresa[2] and C. Magén[2] *1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Instituto de Nanociencia y Materiales de Aragón (INMA), CSIC-University of Zaragoza, Zaragoza, Spain; 3. Centro de Excelencia de Nuevos Materiales, Universidad del Valle, Cali, Colombia; 4. Centre d'Elaboration de Matériaux et d'Etudes Structurales–CNRS, Toulouse, France; 5. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

JI-05. **Non-Planar Geometrical Effects on the Magnetoelectrical Signal in a 3D Nanomagnetic Circuit.** *F. Meng*[1]*, C. Donnelly[1], C. Abert[2], L. Skoric[1], S. Holmes[3], Z. Xiao[1], J. Liao[1], P. Newton[1], C. Barnes[1], D. Sanz Hernandez[4], A. Hierro Rodriguez[5], D. Seuss[2], R. Cowburn[1] and A. Fernandez-Pacheco[6] *1. University of Cambridge, Cambridge, United Kingdom; 2. Universitat Wien, Wien, Austria; 3. London Centre for Nanotechnology, London, United Kingdom; 4. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 5. Universidad de Oviedo, Oviedo, Spain; 6. University of Glasgow, Glasgow, United Kingdom*

JI-06. **Magnetocuring and Magnetorheology of Composites.** *R. Chaudhary*[1], V. Chaudhary[1], R. Ramanujan[1] and T.W. Steele[1] *1. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore*

JI-07. **Long-Range Exchange Interaction Between Ferromagnetic Nanoparticles Embedded in Carbon Nanotubes.** *S.L. Prischepa*[1,2], A.L. Danilyuk[1] and A.V. Kukharev[1] *1. Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus; 2. National Research Nuclear University MEPhI, Moscow, Russian Federation*

JI-08. **Advanced Size Distribution Determination of Superparamagnetic Nanoparticles.** *R. Shao*[1], C. Zambrzycki[2], R. Güttel[2] and U. Herr[1] *1. Institute of Functional Nanosystems, Ulm University, 89081 Ulm, Germany; 2. Institute of Chemical Engineering, Ulm University, 89081 Ulm, Germany*

JI-09. **Revealing Magnetic Morphologies and Spin Disorder in Ferrite Nanoparticles Using Polarized SANS.** D. Zákutná[1,2], D. Honecker[3] and *S. Disch*[1] *1. Universitat zu Koln, Köln, Germany; 2. Institut Laue-Langevin, Grenoble, France; 3. Rutherford Appleton Laboratory, Didcot, United Kingdom*

JI-10. **Epitaxially Grown Single-Crystalline Cobalt Nanowires With High Coercivity.** *J. Mohapatra*[1], M. Xing[1] and P. Liu[1] *1. Department of Physics, The University of Texas at Arlington, Arlington, TX, United States*

JI-11. **On Metamagnetic Phase Transition in 150 nm B2-Like FeRh Film of Nanoclusters Assembled.** *G.A. Herrera Huerta*[1], A. Robert[1], V. Dupuis[1], I. Cañero Infante[2], P. Rojo-romero[2], B. Vilquin[2], E. Otero[3], P. Ohresser[3], O. Boisron[1], C. Albin[1], L. Bardotti[1], D. Le Roy[1], F. Tournus[1] and A. Tamion[1] *1. Institut Lumiere Matiere, Villeurbanne, France; 2. Institut des Nanotechnologies de Lyon, Villeurbanne, France; 3. Synchrotron SOLEIL, Gif-sur-Yvette, France*

JI-12. **Hybrid Metallic Nanowires: Tailoring Magnetic and Plasmonic Properties by Pulsed Laser Deposition.** *T. Tran*[1], D. Demaille[1], B. Gallas[1], G. Patriarche[2], Y. Zheng[1] and F. Vidal[1] *1. Institut des NanoSciences de Paris, Sorbonne Universite, Paris, France; 2. Centre de Nanosciences et de Nanotechnologies, Universite Paris-Saclay, Saint-Aubin, France*

JI-13. **A Roadmap Toward Expanding Magnetic Nanobarcodes Signatures.** *M. Zamani Kouhpanji*[1], J. Um[1] and B. Stadler[1] *1. University of Minnesota, Minneapolis, MN, United States*

Session JP
BIO-APPLICATIONS OF MAGNETISM II (Poster Session)

Arantxa Fraile Rodríguez, Co-Chair
Universitat de Barcelona, Universitat de Barcelona, Barcelona, Catalunya, ES, academic, Barcelona, Spain
Jonathan Leliaert, Co-Chair
Ghent University, Ghent, Belgium

JP-01. **Neural Network Model for Estimation of the Induced Electric Field During Transcranial Magnetic Stimulation.** *O.F. Afuwape*[1,2], O.O. Olafasakin[2] and D.C. Jiles[1] *1. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, United States; 2. Department of Mechanical Engineering, Iowa State University, Ames, IA, United States*

JP-02. **Low Temperature Synthesis of Functionalized Magnetic Nanoparticles Engineering for Cancer Theranostics.** *K. Chinnasamy*[2] and V. Harris[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States; 2. Manheim Township High School, Lancaster, PA, United States*

JP-03. **Cancer Cells Death Induced by Magneto-Mechanical Actuation of Fe-Cr-Nb-B Magnetic Particles Carried by Stem Cells to the Cancer Cells Area.** *H. Chiriac*[1], A. Minuti[1,2], C. Stavila[1,2], L. Labusca[1], D. Herea[1] and N. Lupu[1] *1. Dept. of Magnetic Materials & Devices, National Institute of R&D for Technical Physics, Iasi, Romania; 2. Faculty of Physics, "Alexandru Ioan Cuza" University, Iasi, Romania*

JP-04. **Observation of Red Blood Cell Membrane Charge Using Magnetic Beads Under Pulsed Magnetic Field.** *Y. Choi*[1], S. Bang[1] and H. Lee[1] *1. Oriental Biomedical Engineering, Sangji University, Wonju, The Republic of Korea*

JP-05. **Multifunctional Fe-Au Nanostructures for Biomedical Applications.** *S.C. Freitas*[1], J.H. Belo[1], C. Sousa[1], R. Magalhães[1], H. Crespo[1], M. Canhota[1], M.P. Almeida[2], E. Pereira[2], B. Gonçalves Almeida[3], B. Machado da Silva[3] and J. Pedro Esteves de Araújo[1] *1. IFIMUP, Universidade do Porto Faculdade de Ciencias, Porto, Portugal; 2. LAQV/REQUIMTE, Universidade do Porto Faculdade de Ciencias, Porto, Portugal; 3. CF-UM-UP, Universidade do Minho, Braga, Portugal*

JP-06. **Possibilities of Registration of Biological Molecules via Magnetic Particles.** *L.P. Ichkitidze*[2,1], M. Belodedov[3], A. Gerasimenko[2,1], D. Telyshev[2,1], Y. Rezvantseva[1] and S. Selishchev[2] *1. I.M.Sechenov First Moscow State Medical University, Moscow, Russian Federation; 2. National Research University of Electronic Technology, MIET, Zelenograd, Moscow, Russian Federation; 3. National Research University of Technology (BMSTU), Moscow, Russian Federation*

JP-07. **PEGylation of Ni1-xZnxFe2O4 Nanoparticles With Heat Dissipation Based on Néel and Brownian Relaxation.** *K. Kodama*[1], S. Hamada[1], K. Nashimoto[1], K. Aoki[2] and Y. Ichiyanagi[1,3] *1. Engineering, Yokohama Kokuritsu University, Yokohama, Japan; 2. Environmental information, Yokohama Kokuritsu University, Yokohama, Japan; 3. Research Center for Thermal and Entropic Science, Osaka University, Suita, Japan*

JP-08. **Influence of ELF Magnetic Field on Thyroxine-Inducing Forced Metamorphosis of Axolotl (*Ambystoma Mexicanum*).** *H. Nakagawa*[1], S. Fujiwara[2] and T. Tadokoro[1] *1. Department of Electrical and Electronic Engineering, Tokyo Denki University, Tokyo, Japan; 2. Division of Clinical Research, CPCC, Tokyo, Japan*

JP-09. **Research on X-Shape Quad Helix Coil for Transcranial Magnetic Stimulation.** N. Zhang[1], J. Shi[1], Y. Zhang[1], P. Song[1], B. Lai[3], T. Zhu[1], *S. Ning*[2] and S. Wang[1] *1. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2. School of Electronic Information and Artificial Intelligence, Shaanxi University of Science and Technology, Xi'an, China; 3. Quanzhou Experimental Middle School, Quanzhou, China*

JP-10. **Transcranial Magnetic Stimulation: the Effect of Age and Other Factors on the Intensity of the Quadruple Butterfly Coil.** O.F. Afuwape[1,2], *J. Runge*[1] and D.C. Jiles[1] *1. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, United States; 2. Department of Mechanical Engineering, Iowa State University, Ames, IA, United States*

JP-11. **The Series Study of the $CoZnFe_2O_4Ag$ in the MRI Contrast.** *V. Sabie*[1], C. Constantin[1], O. Caltun[1] and R. Danila[2] *1. Universitatea Alexandru Ioan Cuza Facultatea de Fizica, Iasi, Romania; 2. Faculty of Chemistry, Universitatea Alexandru Ioan Cuza, Iasi, Romania*

JP-12. **The Effect of Silica Shell Thickness on Magnetic and Proton Relaxometric Properties: Fe_3O_4@$MSiO_2$ Nanoparticles.** *N. Taib*[1,2], T. St. Pierre[2] and R. Woodward[3] *1. Faculty of Applied Sciences, Perak Branch, Tapah Campus, 35400, Universiti Teknologi MARA, Tapah Road, Malaysia; 2. School of Physics, Mathematics, and Computing, The University of Western Australia, Perth, WA, Australia; 3. John Forrest Secondary College, Morley, WA, Australia*

JP-13. **A Simple Localization Method of Magnetic Particles for Hyperthermia Therapy Using Figure-8 Coil.** *L. Ton That*[1], R. Hirota[1], T. Kitamura[1], K. Okita[2] and S. Yabukami[1,2] *1. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 2. Graduate School of Biomedical Engineering, Tohoku University - Aobayama Campus, Sendai, Japan*

JP-14. **Study on Non-Thermal Intervention of Lung Tumor by Fe_3O_4@SiO_2 Nanoparticles in a Magnetic Field.** *N. Zhang*[1,2], Z. Wang[1], S. Ning[3], S. Wang[1], B. Lai[4], C. Zhang[2], S. Wang[1] and H. Qiu[1] *1. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2. Department of Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; 3. School of Electronic Information and Artificial Intelligence, Shaanxi University of Science and Technology, Xi'an, China; 4. Quanzhou Experimental Middle School, Quanzhou, China*

JP-15. **Optically Powered Diamagnetically Levitated Robots for Biomedical Applications.** *M. Beauchamp*[1], S. Yee[1], I. O'Carroll[1], E. Chapman[1] and H. ElBidweihy[1] *1. US Naval Academy, Annapolis, MD, United States*

Session JQ
BIO-MAGNETISM, MAGNETIC FLUIDS, AND SEPARATION
(Poster Session)

Horia Chiriac, Chair
National Institute of Research and Development for Technical Physics, Iasi, Romania

JQ-01. **Capture of Magnetic Particulate Matter Directly From air on Silicon Substrates.** *L. Abelmann*[1,2] *1. Korea Institute of Science and Technology Europe Forschungsgesellschaft mbH, Saarbrucken, Germany; 2. Universiteit Twente, Enschede, Netherlands*

JQ-02. **Hybrid Coil Design for Shapeable Magnetic Field for Transcranial Magnetic Stimulation.** *J. Boldrey*[1], G. Goss[1], Z. Higgs[1] and D.C. Jiles[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA, United States*

JQ-03. **Optimum Design of the Eccentric Trapezoidal Magnetic Stimulation Coil With Trade-off Between Stimulation Effect and Heat Dissipation.** *X. Fang*[1], W. Liu[1], Y. Luo[1], C. Liu[2] and Z. He[2] *1. College of Nuclear Technology and Automation Engineering, Chengdu University of Technology, Sichuan, China; 2. State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology, Wuhan, China*

JQ-04. **Enhanced Magnetorheological Response of Particle Added Carbonyl Iron Suspension.** *H. Kim*[1] and H. Choi[1] *1. Inha University, Incheon, The Republic of Korea*

JQ-05. **Fabrication and Magnetorheological Characteristics of Core-Shell Typed Poly(2-Methylaniline)/Carbonyl Iron Microspheres.** *Q. Lu*[1] and H. Choi[1] *1. Inha University, Incheon, The Republic of Korea*

JQ-06. **Development of Individualized Brain Model and Physical Phantom of Small Animals for Experimental Verification of Transcranial Magnetic Stimulation.** *C. Nimonkar*[1,2], E. Knight[1], H.A. Magsood[1], I.C. Carmona[1] and R.L. Hadimani[1,3] *1. Department of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Mills E. Godwin High School, Richmond, VA, United States; 3. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, United States*

JQ-07. **Structure and Magnetic Properties of Maghemite Nanoparticles for DNA Extraction.** *S. Stolyar*[1], S.V. Komogortsev[2], R. Yaroslavtsev[1], A. Gorbenko[1], I. Olkhovskiy[1], D.S. Neznakhin[3] and R. Iskhakov[2] *1. FGBNU Federal Research Center Krasnoyarsk Scientific Center Siberian Branch of the RAS, Krasnoarsk, Russian Federation; 2. Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 3. Ural Federal University, Ekaterinburg, Russian Federation*

JQ-08. **Design and Analysis of High-Gradient Magnetic Field Source at Micro-Scale for Microfluidic Magnetophoresis Applications.** *V.K. Yadav*[1], S. Das[2] and D. Mallick[1] *1. Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi, India; 2. Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi, India*

JQ-09. **Research on Cell Proliferation Model Based on A549 Cell Line With Magnetic Field Intervention.** *N. Zhang*[1,2], Z. Wang[1], S. Ning[3], S. Wang[1], B. Lai[4], T. Zhu[1] and H. Qiu[1] *1. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2. Department of Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; 3. School of Electronic Information and Artificial Intelligence, Shaanxi University of Science and Technology, Xi'an, China; 4. Quanzhou Experimental Middle School, Quanzhou, China*

ON-DEMAND SESSIONS

Session JR
NANOPARTICLES AND NANOWIRES (Poster Session)

Mariana Proenca, Chair
IFIMUP (Portugal) and ISOM-UPM (Spain), Porto, Portugal

JR-01. **Magnetic Vortex Formation of Cubic Fe_3O_4 Submicron Particles.** *E. Nomura*[1], M. Chiba[1], S. Matsuo[1], S. Kobayashi[1], J. Manjanna[2], Y. Kawamura[3], J. Suzuki[3], K. Ohishi[3] and K. Hiroi[4] *1. Iwate University, Morioka, Japan; 2. Rani Channamma University, Belagavi, India; 3. Ippan Zaidan Hojin Sogo Kagaku Kenkyu Kiko, Tsuchiura, Japan; 4. Nihon Genshiryoku Kenkyu Kaihatsu Kiko, Naka-gun, Japan*

JR-02. **Size-Specific Magnetic Configurations in Epitaxial Iron Nano-Cuboids.** *S. Guo*[1], M. Henschel[1], V. Neu[1], T. Blon[2], D. Pohl[3] and K. Leistner[1] *1. Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 2. Laboratoire de Physique et Chimie des Nano-Objets, Université de Toulouse, Toulouse, France; 3. Dresden Center for Nanoanalysis (DCN), Center for Advancing Electronics Dresden (cfaed), TU Dresden, Dresden, Germany*

JR-03. **Temperature-Dependent FORC Investigation of Electrodeposited Magnetic Shape Memory Nanowires Array.** *M. Varga*[1,2], L. Galdun[1], B. Kunca[3], K. Saksl[4], P. Diko[3] and R. Varga[1] *1. TIP, CPM-TIP, P.J. Safarik University in Kosice, Košice, Slovakia; 2. Department of Condensed Matter Physics, Univerzita Pavla Jozefa Safarika v Kosiciach Prirodovedecka fakulta, Košice, Slovakia; 3. Institute of Experimental Physics, Slovenska Akademia Vied v Kosiciach, Košice, Slovakia; 4. Institute of Materials Research, Slovenska Akademia Vied v Kosiciach, Košice, Slovakia*

JR-04. **Optimal Control of Magnetization Switching in Nanowires.** M. Badarneh[1], G. Kwiatkowski[1] and *P. Bessarab*[1,2] *1. Science Institute, University of Iceland, Haskoli Islands, Reykjavik, IS, academic, Reykjavik, Iceland; 2. National Research Saint Petersburg State University of ITMO, St. Petersburg, Russian Federation*

JR-05. **Isotropic Magnetic Behavior of Multi-Segmented FeCo Nanowire Arrays.** *V.M. Andrade*[1], S. Caspani[1], J. Pedro Esteves de Araújo[1], C. Sousa[1] and M.P. Proenca[1,2] *1. Universidade do Porto Instituto de Fisica dos Materiais Instituto de Nanociencia e Nanotecnologia, Porto, Portugal; 2. (b) ISOM - Institute of Optoelectronic and Microtechnology Systems, Technical University of Madrid (UPM), Madrid, Spain*

JR-06. **Core-Shell and Bi-Segmented Cobalt-Nickel Nanorods Prepared by Electroless Deposition.** *E. Denisova*[1,2], L. Chekanova[1], S.V. Komogortsev[1], M.V. Rautskii[1], I.V. Nemtsev[1,2], R. Iskhakov[1], V.V. Tkachev[3], V.S. Plotnikov[3] and M.V. Dolgopolova[2] *1. Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Krasnoyarsk, Russian Federation; 2. Siberian Federal University, Krasnoyarsk, Russian Federation; 3. Far Eastern Federal University, Vladivostok, Russian Federation*

JR-07. **Unexpected Longitudinal Kerr Rotation in two Dimensional Magneto Plasmonic Structure.** *S. Sadeghi*[1] and S. Hamidi[1] *1. Laser and Plasma research Institute, Shahid Beheshti University, Tehran, The Islamic Republic of Iran*

JR-08. **The Annealing Effect on Domain Wall Dynamics in Wires With Induced Gradient of the Perpendicular Anisotropy.** *L. Fecova*[1,2], K. Richter[1,3] and R. Varga[2] *1. Department of Condensed Matter Physics, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 2. CPM-TIP, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 3. Institute for Materials Science, Christian-Albrechts-Universitat zu Kiel, Kiel, Germany*

JR-09. **Superparamagnetic Nanosphere Arrays: Self-Assembly and the Effect of Applied Magnetic Fields.** *A. Mourkas*[1], A. Zarlaha[1], N. Kourkoumelis[2] and I.V. Panagiotopoulos[1] *1. Materials Science and Engineering, University of Ioannina, Ioannina, Greece; 2. Faculty of Medicine, University of Ioannina, Ioannina, Greece*

JR-10. **Monte Carlo and Experimental Study of the Magnetic Relaxation of Superparamagnetic Nanoparticle Ensembles.** *É. Martin*[1], Q. Vuong[1] and Y. Gossuin[1] *1. Service de Physique Biomédicale, Universite de Mons Faculte de Medecine et Pharmacie, Mons, Belgium*

JR-11. **Magnetic Hardening of Cobalt Ferrite Nanoparticles by a Controlled Solvent-Mediated Annealing.** A. López-Ortega[1,3], B. Muzzi[2,4], E. Lottini[7], D. Peddis[5], G. Bertoni[6], C. Sangregorio[2,7] and *C. de Julian Fernandez*[8] *1. Universidad Publica de Navarra Departamento de Ciencias, Pamplona, Spain; 2. I.C.C.O.M. - C.N.R., Sesto Fiorentino, Italy; 3. Institute for Advanced Materials and Mathematics INAMAT2, Universidad Pública de Navarra, Pamplona, Spain; 4. Dept. of Biotechnology, Chemistry and Pharmacy, University of Siena, Siena, Italy; 5. Universita degli Studi di Genova, Genova, Italy; 6. NANO - C. N. R, Modena, Italy; 7. University of Florence and INSTM, Sesto Fiorentino, Italy; 8. I.M.E.M.- C.N.R, Parma, Italy*

JR-12. **Field Dependence of Blocking and Irreversibility Temperature in Fe_3O_4 Magnetic Nanoparticles Coated by Oleic and Citric Acid.** *A. Galluzzi*[1,2], M. Modestino[1], S. Pace[1,2], M. Iuliano[3], P. Ciambelli[3], M. Sarno[1,4] and M. Polichetti[1,2] *1. Department of Physics "E.R. Caianiello", Universita degli Studi di Salerno, Fisciano, Italy; 2. CNR-SPIN, Consiglio Nazionale delle Ricerche, Fisciano, Italy; 3. Department of Industrial Engineering, Universita degli Studi di Salerno, Fisciano, Italy; 4. NANO_MATES Research Centre, Universita degli Studi di Salerno, Fisciano, Italy*

JR-13. **Deducing Uniaxial Anisotropy for Various NiCr Nanostructures.** M. Bohra[1], *S. Battula*[2] and V. Alman[1] *1. Physics, Mahindra Ecole Centrale, Hyderabad, India; 2. Electrical and Electronics, Mahindra Ecole Centrale, Hyderabad, India*

ON-DEMAND SESSIONS

Session JS
MAGNETO-CALORIC AND MAGNETO-OPTIC MATERIALS AND DEVICES (Poster Session)

Lei Bi, Co-Chair
University of Electronic Science and Technology of China, Chengdu, China
Karl Sandeman, Co-Chair
Brooklyn College, Brooklyn, NY, United States

JS-01. **Magnetic Emulsions as Prospective Magneto-Optical Media.** *C.V. Yerin*[1] and S.S. Belykh[1] *1. Physical and Technical Faculty, North Caucasus Federal University, Stavropol, Russian Federation*

JS-02. **Design Improvements for a Magnetic Field Pulser: a Look Into Switching Device and Circuit Effects.** *W. Theh*[1], N. Prabhu Gaunkar[1] and M. Mina[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA, United States*

JS-03. **Photonic Crystal Nanostructures With the Magnetic Layer of Gradient Thickness for Optical Magnetic Switching.** O. Borovkova[1], M. Kozhaev[2,3], *A. Kalish*[1,2] and V.I. Belotelov[1,2] *1. Lomonosov Moscow State University, Faculty of Physics, Moscow, Russian Federation; 2. Russian Quantum Center, Moscow, Russian Federation; 3. Institute of Physics, Moscow, Russian Federation*

JS-04. **Enhancement of a Diffracted Beam by Optimizing an Incident Beam and Cap Layer Thickness in a Domain-Wall-Motion Type Light Modulator Array.** *R. Higashida*[1], N. Funabashi[1], K. Aoshima[1] and K. Machida[1] *1. Nihon Hoso Kyokai, Shibuya-ku, Japan*

JS-05. **Amplification of Faraday Rotation in Iron Garnets Using a Multilayer Fabry-Perot Cavity.** *A. Schwarz*[1] *1. Electrical and Computer Engineering, University of Minnesota Twin Cities, Minneapolis, MN, United States*

JS-06. **Inverse Magnetocaloric Effect and the Magnetostructural Transition in $Pr_{0.15}Ca_{0.85}MnO_3$ Manganite.** *K. Thangavel*[1,2], A.V. Morozkin[3], M. V R K[1], S. Rayaprol[4], A. Pöppl[2] and N. R[1] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Felix Bloch Institute for Solid State Physics, Leipzig University, Leipzig, Germany; 3. Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation; 4. Mumbai Centre, UGC-DAE Consortium for Scientific Research, Mumbai, India*

JS-07. **Magnetocaloric Study of $La_{0.45}Nd_{0.25}Sr_{0.3}MnO_3$/ MO (MO=CuO, CoO and Ni) Nanocomposites.** *D. Neupane*[1], A. Pathak[2] and S.R. Mishra[1] *1. Physics and Materials Science, The University of Memphis, Memphis, TN, United States; 2. Physics, SUNY Buffalo State College, Buffalo, NY, United States*

JS-08. **Structural and Electronic Properties on $Gd_3Fe_{5-x}Al_xO_{12}$ (x= 0.25, 0.5, 1.00) Using Rietveld, Maximum Entropy Method (MEM).** *D. Neupane*[1], K.S. Ali[2] and S.R. Mishra[1] *1. Physics and Materials Science, The University of Memphis, Memphis, TN, United States; 2. Harmony School of Excellence, Houston, TX, United States*

JS-09. **On the Real Potential of $R_{1-x}a_xMnO_3$ Oxides in Magnetic Cooling: $Pr_{0.6}Sr_{0.4}MnO_3$ as a Case of Study.** *O. Chdil*[1], M. Balli[1], O. Mounkachi[2] and K. El maalam[3] *1. AMEEC team, LERMA, College of Engineering and Architecture, Universite Internationale de Rabat, Sale, Morocco; 2. LaMCScI Laboratory, B.P. 1014, Faculty of science, Universite Mohammed V de Rabat, Rabat, Morocco; 3. Materials and Nanomaterials Center, Moroccan Foundation for Advance Science Innovation and Research, Rabat, Morocco*

JS-10. **Multiferroic Electroactive Polymer Blend/Ferrite Nanocomposite Film for Cooling Devices.** *P. Thandapani*[1], F. Béron[1], R. Aepuru[2], M. Ramalinga Viswanathan[3,4], F. Luis Zabotto[5], J. A Jiménez[6] and J. C Denardin[7] *1. Materials and Low-temperature Laboratory, Institute of Physics Gleb Wataghin, Universidade Estadual de Campinas, Campinas, Brazil; 2. Department of Mechanical Engineering, Faculty of Engineering, Universidad Tecnologica Metropolitana, Santiago, Chile; 3. Advanced Ceramics and Nanotechnology Laboratory, Department of Materials Engineering, Faculty of Engineering, Universidad de Concepcion, Concepcion, Chile; 4. Technological Development Unit (UDT), Universidad de Concepcion, Concepcion, Chile; 5. Physics Department, Universidade Federal de Sao Carlos, Sao Carlos, Brazil; 6. Department of Physical Metallurgy, Consejo Superior de Investigaciones Cientificas, Madrid, Spain; 7. Department of Physics, Universidad de Santiago de Chile, Santiago de Chile, Chile*

ON-DEMAND SESSIONS

Session JT
MAGNETO-CALORIC MATERIALS AND DEVICES II (Poster Session)

Jia-Yan Law, Chair
Universidad de Sevilla, Sevilla, Spain

JT-01. **Elastocaloric and Magnetocaloric Effects Through the Martensitic Transformation in Bulk $Ni_{55}Fe_{11}Mn_7Ga_{27}$ Alloys Produced by arc-Melting and Spark Plasma Sintering.** *J.D. Navarro-Garcia*[1], J.P. Camarillo-Garcia[2], F. Alvarado-Hernández[2], J.L. Sánchez Llamazares[1] and H. Flores-Zúñiga[1] *1. Potosino Institute of Scientific and Technological Research, San Luis Potosi, Mexico; 2. Universidad Autonoma de Zacatecas, Zacatecas, Mexico*

JT-02. **Enhancement of Curie Transition by Substituting Sb in $MnCo_{1-x}Sb_xGe$ (x=0, 0.2, 0.4, 0.6) Alloys and its Structural, Morphological, Magnetic, Magneto Caloric Investigations.** *D. U*[1,3], M. S[2] and V. C[1] *1. Department of Nuclear Physics, University of Madras, Chennai, India; 2. Physics and Materials Chemistry Division, National Chemical Laboratory CSIR, Pune, India; 3. Department of Physics, Indian Institute of Science Education and Research, Pune, India*

JT-03. **Magnetocaloric Effect in the Alloy $Ni_{45}Mn_{44}in_{11}$ Subjected to the Thermobaric Treatment.** *S. Emelyanova*[1], T. Dyachkova[2], A. Tyutyunnik[2], Y. Zainulin[2], E. Marchenkova[1] and V. Marchenkov[1,3] *1. Mikheev Institute of Metal Physics Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russian Federation; 2. Institute of Solid State Chemistry Ural'sky branches of the Russian Academy of Sciences, Ekaterinburg, Russian Federation; 3. Ural Federal University, Ekaterinburg, Russian Federation*

JT-04. **Modified Arrott Plot and Critical Exponent Study on Series of Magnetocaloric *Ni_2FeGa* Based Heusler Glass-Coated Microwires.** *M. Hennel*[1,2], L. Galdun[1,3], T. Ryba[3] and R. Varga[1,3] *1. CPM - TIP, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 2. Institute of physics, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 3. RVmagnetics, a. s., Košice, Slovakia*

JT-05. **Functional Heusler Nanowires.** *L. Galdun*[1], M. Varga[1,2], P. Szabo[3], V. Vega[4], V. Prida[4] and R. Varga[1] *1. CPM-TIP, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 2. Condensed matter physics, Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia; 3. Institute of Experimental Physics, Slovenska Akademia Vied v Kosiciach, Kosice, Slovakia; 4. Universidad de Oviedo, Oviedo, Spain*

JT-06. **Kinetics of First-Order Phase Transitions in Magnetocaloric Materials.** *R. Almeida*[5], J.H. Belo[5], R. Costa[5], C. Amorim[3], J.S. Amaral[3], T. Del Rose[4], Y. Mudryk[4], V. Pecharsky[4,6], L. Pfeuffer[1], B. Beckmann[1], K. Skokov[1], O. Gutfleisch[1], E. Lovell[2], A. Pereira[5] and J. Pedro Esteves de Araújo[5] *1. Technical University of Darmstadt, Institute of Materials Science, Darmstadt, Germany; 2. Blackett Laboratory, Imperial College, London, London, United Kingdom; 3. CICECO-Aveiro Institute of Materials and Department of Physics University of Aveiro, Aveiro, Portugal; 4. The Ames Laboratory U.S. Department of Energy, Iowa State University, Ames, Ames, IA, United States; 5. IFIMUP Institute of Physics for Advanced Materials, Nanotechnology and Photonics, Physics and Astronomy Department, University of Porto, Porto, Portugal; 6. Department of Materials Science and Engineering, Iowa State University, Ames, Ames, IA, United States*

JT-07. **Predicting the Performance of Magnetocaloric Heat Pumps Using Statistical Learning Algorithms.** *D. Silva*[1], J. Ventura[1] and J. Pedro Esteves de Araújo[1] *1. Universidade do Porto Faculdade de Ciencias, Porto, Portugal*

JT-08. **High Efficient Magnetic Refrigeration Using Static Bias Magnetic Field.** *H. Mamiya*[1], N. Terada[1] and H. Kitazawa[1] *1. Busshitsu Zairyo Kenkyu Kiko, Tsukuba, Japan*

JT-09. **Substitution of Fe by Ti and Mn in GdFeSi.** *S. Platonov*[1], A. Kuchin[1], A. Lukoyanov[1,2], A. Volegov[1,2], V. Gaviko[1,2] and M. Yakovleva[1] *1. Mikheev Institute of Metal Physics, Ekaterinburg, Russian Federation; 2. Ural Federal University, Ekaterinburg, Russian Federation*

JT-10. **Breaking the Magnetic Symmetry by Reorientation Transition Near 50 K in Multiferroic, Magnetocaloric HoFeO3.** *A. Ovsianikov*[1,5], H. Thoma[2], V. Hutanu[1], T. Chatterji[3], P. Brown[6], S. Barilo[4], L. Peters[1] and O. Usmanov[5] *1. Rheinisch-Westfalische Technische Hochschule Aachen Institut fur Kristallographie, Aachen, Germany; 2. Forschungszentrum Julich GmbH Julich Centre for Neutron Science, Julich, Germany; 3. Institut Laue-Langevin, Grenoble, France; 4. GO National Science and Practice Center Academy of Sciences of Belarus in Materials Science, Minsk, Belarus; 5. FGBU Petersburg Institute of Nuclear Physics, Gatcina, Russian Federation; 6. University of Cambridge, Cambridge, United Kingdom*

JT-11. **Magnetocaloric Effect in $Hf_{1-x}Ta_xFe_2B_y$.** *K. Matsumoto*[1], K. Ishihara[1], J. Gouchi[2], Y. Uwatoko[2] and K. Hiraoka[1] *1. Ehime University, Matsuyama, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

JT-12. **Magnetocaloric Properties of Ball Milled Gd Powder Subjected to Heat Treatments.** *A.V. Arkhipov*[1], D.S. Neznakhin[1], S.V. Andreev[1], A. Larrañaga[2], G.V. Kurlyandskaya[1,3] and A. Svalov[1] *1. Institute of Natural Sciences and Mathematics, Ural Federal University, Ekaterinburg, Russian Federation; 2. Servicios Generales de Investigación, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 3. Departamento de Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Bilbao, Spain*

JT-13. **Magnetic and Transport Properties of Multicomponent Laves Phase Intermetallic Compound $Gd_{0.2}Tb_{0.2}Dy_{0.2}Ho_{0.2}Er_{0.2}Al_2$.** *J. P K*[1], A. J[2], A. Nigam[3] and N. R[1] *1. Indian Institute of Technology Madras, Chennai, India; 2. DRDO Defence Metallurgical Research Laboratory, Hyderabad, India; 3. Tata Institute of Fundamental Research, Mumbai, India*

ON-DEMAND SESSIONS

Session JU
MAGNETO-ELASTIC MATERIALS AND DEVICES (Poster Session)

Dhritiman Bhattacharya, Chair
Georgetown University, Washington, DC, United States

JU-01. **The Design and Output Characteristics of Ultrasonic Transducer Based on Rare-Earth Giant Magnetostrictive Material.** *Y. Li*[1], W. Huang[2] and B. Wang[2] *1. School of Electrical Engineering and Automation, Qilu University of Technology, Jinan, China; 2. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

JU-02. **Structural and Magnetic Phase Transitions in $Fe_{100-x}Al_x$ Alloys: an *ab Initio* Studies.** A. Koshkin[1], *M. Zagrebin*[1], M. Matyunina[1], V. Sokolovskiy[1] and V. Buchelnikov[1] *1. Celabin State University, Celyabinsk, Russian Federation*

JU-03. **Effects of Geometrical and Physical Parameters on a Cantilever Beam Energy Harvester in Periodic Steady State Conditions.** V. Apicella[1], D. Davino[1] and *C. Visone*[2] *1. Dipartimento di Ingegneria, Universita degli Studi del Sannio, Benevento, Italy; 2. DIETI - Dipartimento di Ingegneria Elettrica e Tecnologie dell'Informazione, Universita degli Studi di Napoli Federico II, Napoli, Italy*

JU-04. **Improvement of Gyration Effects by Dysprosium Doping in Spinel Ferrite/Piezoelectric Magnetoeletric Gyrators.** *J. Zhang*[1], Z. Wang[1], Q. Zhang[1], H. Zhao[1], K. Li[1], J. Liu[1], G. Bingfeng[1] and L. Cao[2] *1. College of Electrical and Information Engineering, Zhengzhou University of Light Industry, Zhengzhou, China; 2. International Education College, Zhengzhou University of Light Industry, Zhengzhou, China*

JU-05. **A Dual-Output Magnetoelectric Energy Harvester in Ferrite/Piezoelectric Toroidal Magnetoelectric Composites.** *J. Zhang*[1], G. Bingfeng[1], J. Liu[1], Z. Wang[1], H. Zhao[1], K. Li[1] and Q. Zhang[1] *1. College of Electrical and Information Engineering, Zhengzhou University of Light Industry, Zhengzhou, China*

JU-06. **Magnetic Properties of FeGa on Rigid and Flexible Substrates.** *G. Pradhan*[1,2], M. Coisson[1], F. Celegato[1], G. Barrera[1] and P. Tiberto[1] *1. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Department of Chemistry, Universita degli Studi di Torino, Torino, Italy*

JU-07. **High-Frequency Losses Calculating Model for Magnetostrictive Materials Considering Variable DC Bias.** P. Guo[1], *W. Huang*[1], W. Guo[1] and L. Weng[1] *1. Hebei University of Technology School of Electrical Engineering, Tianjin, China*

JU-08. **High Frequency Characteristic Test and Loss Calculation of TbDyFe Alloy Under Variable Temperature.** *W. Huang*[1], Z. Xia[1] and P. Guo[1] *1. Hebei University of Technology, Tianjin, China*

JU-09. **Effective Magneto-Deformation Behavior of Soft Magnetically Susceptible Elastomer Composites.** *W.M. Kiarie*[1], D. Sitarski[2] and D.C. Jiles[3,1] *1. Materials Science and Engineering, Iowa State University, Ames, IA, United States; 2. Aerospace Engineering, Iowa State University, Ames, IA, United States; 3. Electrical and Computer Engineering, Iowa State University, Ames, IA, United States*

JU-10. **Temperature-Dependent Magnetic Properties of Magnetorheological Elastomers.** *W.M. Kiarie*[1], K. Gandha[2], I.C. Nlebedim[2] and D.C. Jiles[3,1] *1. Materials Science and Engineering, Iowa State University, Ames, IA, United States; 2. Critical Materials Insititute, Ames Laboratory, Ames, IA, United States; 3. Electrical and Computer Engineering, Iowa State University, Ames, IA, United States*

JU-11. **Measurement of Built-in Magnetic Anisotropy After Load Cycle for Polymer Composite Embedded Magnetostrictive Particles.** *J. Yoo*[1], N. Jones[1], A.J. Hall[2] and M.D. Coatney[2] *1. Naval Surface Warfare Center Carderock Division, West Bethesda, MD, United States; 2. Vehicle Technology Directorate, US Army Research Laboratory, Aberdeen Proving Ground, MD, United States*

JU-12. **Enhanced Power and Energy Conversion of Magnetoelectric Laminate Heterostructures Based on High-Permeability FeCuNbSiB Nanocrystalline.** *L. Liu*[1], J. Qiu[1], Y. Huang[1], Q. Chang[1] and H. Liu[1] *1. Chongqing University College of Optoelectronic Engineering, Chongqing, China*

Session JW
RE-BASED AND RE-FREE PERMANENT MAGNETS (Poster Session)

Alberto Bollero, Co-Chair
IMDEA Nanoscience, Madrid, Spain
Kinjal Gandha, Co-Chair
Iowa State University, Ames, IA, United States

JW-01. **Anisotropic Nanocrystalline $SmCo_5$ Permanent Magnet Prepared by Hot Extrusion.** *H. Wang*[1], D. Zhang[1], Y. Tang[1], Y. Li[1], W. Liu[1] and M. Yue[1] *1. Faculty of Materials and Manufacturing, Beijing University of Technology, Beijing, China*

JW-02. **Magnetic Properties of $(Sm,Zr)Fe_{10}$ Melt-Spun Ribbons.** *T. Saito*[1] *1. Chiba Institute of Technology, Narashino, Japan*

JW-03. **Preparation of $SmCo_5$ and Fe Magnetic Precursor for Realizing Anisotropic Bulk Nanocomposite Magnet by low Oxygen Powder Metallurgy Process.** *K. Park*[1,2], Y. Hirayama[2], W. Yamaguchi[2], M. Kobashi[1] and K. Takagi[2] *1. Department of Materials Process Engineering, Nagoya University, Nagoya, Japan; 2. Magnetic Powder Metallurgy Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan*

JW-04. **Measurement and Analysis of Temperature-Dependent AC Loss of Sm_2Co_{17} Magnets.** Y. Li[1], *Z. Fan*[1], C. Zhang[1] and H. Geng[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

JW-05. **Development of a Modified Mechanochemical Process for High-Performance Sm-Co Particles.** *G. Lee*[1], M. Kang[1], C. Bae[1], K. Lee[1] and J. Kim[1] *1. Materials Science and Chemical Engineering, Hanyang University - Ansan Campus, Ansan, The Republic of Korea*

JW-06. **Magnetic Properties of $Sm(FeTi)_{12}$ hot Deformed Magnets.** *T. Saito*[1], Y. Ogawa[1] and D. Nishio-Hamane[2] *1. Chiba Kogyo University, Chiba, Japan; 2. The University of Tokyo, Bunkyo-ku, Japan*

JW-07. **Phase and Magnetism Evolution in $Pr_2Fe_{14}C$ System Upon B Doping and Heat Treatment.** *H. Yao*[1], H. Zhang[1], W. Liu[1] and M. Yue[1] *1. Beijing University of Technology, Beijing, China*

JW-08. **Characterization and Magnetic Properties of Ce-FeCo-B Nanoparticles Prepared by Cryo-Milling.** *M. Grigoras*[1], M. Lostun[1], G. Stoian[1], H. Chiriac[1] and N. Lupu[1] *1. Institutul National de Cercetare-Dezvoltare pentru Fizica Tehnica, Iasi, Romania*

JW-09. **Study on Magnetization Reversal Processes of Anisotropic HDDR $Pr_2Fe_{14}B$-Type Magnetic Materials.** Z. Lin[1], *J. Han*[1], Y. Zhang[1], X. Zhang[1], S. Liu[1], C. Wang[1], J. Yang[1] and Y. Yang[1] *1. Peking University, Beijing, China*

JW-10. **Optimisation of Atomistic Modelling Parameters for Nd2Fe14B-Type Rare Earth Ferromagnets, Using the Curie Temperature and First Order Magnetic Phase Transitions as Figures of Merit.** *A. Naden*[1], R.W. Chantrell[1] and R.F. Evans[1] *1. Physics, University of York, York, United Kingdom*

JW-11. **Nano-Sized Anisotropic Sm-Fe-N Particle Preparation by Induction Thermal Process.** *Y. Hirayama*[1], L. Zheng[1] and K. Takagi[1] *1. National Institute of Advanced Industrial Science and Technology, Nagoya, Japan*

JW-12. **Fabrication and Characterisation of Polymer-Bonded Flexible Anisotropic Micro-Magnet Arrays.** *E. Fontana*[1], L. Motyckova[1], F.O. Keller[1], G. Groza[1], M. Bonfim[2], L. Ranno[1], T. Devillers[1] and N. Dempsey[1] *1. Institut Néel, UGA-CNRS, Grenoble, France; 2. DELT, Universidade Tecnologica Federal do Parana, Curitiba, Brazil*

JW-13. **Magnetic Anisotropy of Chemically Ordered CoPt and FePt Nanoparticles, why is it so Different?** *F. Tournus*[1], A. Tamion[1], A. Rogalev[2], F. Wilhelm[2], J. Gutierrez[3], L.E. Diaz-Sanchez[3], G.M. Pastor[4] and V. Dupuis[1] *1. Institut Lumiere Matiere, Villeurbanne, France; 2. ESRF, Grenoble, France; 3. Universidad Autonoma del Estado de Mexico, Toluca, Mexico; 4. Institut fur Theoretishe Physik, Universitat Kassel, Kassel, Germany*

JW-14. **Manipulation of Phase Transformation and Microstructure in Mn_3Ga Using Magnetic Field Annealing.** *G. Kirste*[1], C. Blum[1], J. Freudenberger[1], S. Wurmehl[1] and B. Büchner[1] *1. IFW Dresden, Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Sachsen, DE, academic/physics, Dresden, Germany*

JW-15. **Magnetic Properties of Bulk Magnets Manufactured by the Cryo-Milled $Mn_{54}Bi_{46}$ Powder.** *C. Bae*[1], H. Lee[1], G. Lee[1], M. Kang[1] and J. Kim[1] *1. Materials Science and Chemical Engineering, Hanyang University - Ansan Campus, Ansan-si, The Republic of Korea*

JW-16. **Temperature Dependence of Magnetic Properties of Sb Substituted LTP-MnBi Alloy Ribbons.** *M. Kang*[1], H. Lee[1] and J. Kim[1] *1. Hanyang University Department of Materials Science and Chemical Engineering, Ansan, The Republic of Korea*

JW-17. **Synthesis of α''-$(Fe, M)_{16}N_2$ Nanoparticles Obtained by Hydrogen Reduction and Subsequent Nitridation Starting From α-(Fe, M)OOH (M= Co, Al).** *M. Tobise*[1] and S. Saito[1] *1. Electronic engineering, Tohoku University, Sendai, Japan*

JW-18. **Permanent Magnet Non-Linear Demagnetization Model for FEM Simulation Environment.** *W. Bekir*[1], O. Messal[1] and A. Benabou[1] *1. Univ. Lille, Arts et Metiers Institute of Technology, centrale Lille, Junia, ULR 2697 – L2EP, F-5900 Lille, France, Lille, France*

Session JX
SOFT MAGNETIC ALLOYS AND OXIDES (Poster Session)

Tianxiang Nan, Co-Chair
Tsinghua University, Beijing, China
Raju Ramanujan, Co-Chair
Nanyang Technological University, Singapore, Singapore

JX-01. **Magnetic and Structural Properties Analysis of Cerium Substituted Nickel Zinc Ferrites.** *R. Dosoudil*[1], M. Šoka[1], M. Ušáková[1], E. Ušák[1], V. Jančárik[1] and E. Dobročka[2]
1. Institute of Electrical Engineering, Faculty of Electrical Engineering and Information Technology, Slovak University of Technology in Bratislava, Slovenska technicka univerzita v Bratislave, Bratislava, SK, academic, Bratislava, Slovakia; 2. Institute of Electrical Engineering, Slovenska akademia vied, Bratislava, Slovakia

JX-02. **Oxidation Process of FeO_x Films and the Growth Conditions of Epitaxial Fe_3O_4 on GaAs(100).** *Z. Zhang*[1], X. Lu[1] and Y. Xu[1] *1. Nanjing University, Nanjing, China*

JX-03. **Modeling Stray-Field Distribution Generated by Domain-Walls in Rare-Earth Substituted Iron Garnets.** *A. Napolitano*[2,1], C. Ragusa[3] and F. Laviano[2,1] *1. Istituto Nazionale di Fisica Nucleare Sezione di Torino, Torino, Italy; 2. Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy; 3. Department of Energy, Politecnico di Torino Dipartimento di Energia, Torino, Italy*

JX-04. **Quantitative Retrieving of the Magnetic Moment of Iron Oxide Nanoparticles Through Structural Characterizations.** M.S. Darcheville[1], C. Boscher[1], *A. Adenot-Engelvin*[1], J. Greneche[2], C. Lefevre[3], C. Sanchez[4] and A. Thiaville[5]
1. Commissariat a l'energie atomique et aux energies alternatives Direction des applications militaires Le Ripault, Monts, France; 2. Institut des Molecules et Materiaux du Mans, Le Mans, France; 3. Institut de Physique et Chimie des Materiaux de Strasbourg, Strasbourg, France; 4. UPMC-CNRS-Collège de France, Paris, France; 5. Laboratoire de Physique des Solides, Orsay, France

JX-05. **Soft Magnetic Properties of $Ni_{81}Fe_{19}$ and its Domain Structure by Micromagnetic Simulation.** *Z. He*[1], C. Wu[1], Y. Wang[1], X. Jiang[1], Z. Yu[1], Z. Lan[1] and K. Sun[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

JX-06. **$La_6Pd_{2+x}Sb_{15}$ (x = 0.28): a Rare-Earth Palladium Intermetallic Compound With Extended Pnictogen Ribbons.** *M.I. Sturza*[1], M. Amigó[1], J. Facio[2], F. Caglieris[3], S. Wurmehl[1] and B. Büchner[4] *1. Synthesis and Crystal Growth, Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 2. Institute for Theoretical Solid State Physics, Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 3. Transport and Scanning Probe Microscopy Research Team, Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany; 4. Institute for Solid State Research, Leibniz-Institut fur Festkorper- und Werkstoffforschung Dresden eV, Dresden, Germany*

JX-07. **Pressure Effect on Magnetization of Heusler Alloy FeCoCrAl.** *S. Tsujikawa*[1], I. Shigeta[1], J. Gouchi[2], T. Kanomata[3], R. Y. Umetsu[4], Y. Uwatoko[2] and M. Hiroi[1] *1. Department of Physics and Astronomy, Kagoshima University, Kagoshima, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Research Institute for Engineering and Technology, Tohoku Gakuin University, Tagajo, Japan; 4. Institute for Materials Research, Tohoku University, Sendai, Japan*

JX-08. **Critical Behavior of the Magnetization in Heusler Alloy $Co_2TiGa_{0.8}Sn_{0.2}$.** *T. Yokoyama*[1], I. Shigeta[1], A. Nomura[2], K. Yubuta[2], T. Yamauchi[3], T. Kanomata[4], H. Nishihara[5], R. Y. Umetsu[2] and M. Hiroi[1] *1. Department of Physics and Astronomy, Kagoshima University, Kagoshima, Japan; 2. Institute for Materials, Tohoku University, Sendai, Japan; 3. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 4. Research Institute for Engineering and Technology, Tohoku Gakuin University, Tagajo, Japan; 5. Faculty of Science and Technology, Ryukoku University, Otsu, Japan*

JX-09. **Antisite Disorder and Defect Phase Segregation and its Role in Magnetic Properties of Mn_2NiSn.** *S.V. Malik*[1], A. Nigam[2] and K. Priolkar[1] *1. School of Physical and Applied Sciences, Goa University, Taleigao, India; 2. Tata Institute of Fundamental Research, Mumbai, India*

JX-10. **High Entropy Alloys: the Next big Thing in Functional Magnetic Alloys.** J. Harris[1], M. Anis[1], R. Osman[1], R. Rowan-Robinson[1], A. Quinata-Nedelcos[1,2], Z. Leong[1] and *N. Morley*[1] *1. The University of Sheffield, Sheffield, United Kingdom; 2. New Model Institute for Technology and Engineering (NMITE), Hereford, United Kingdom*

JX-11. **Heat Treatment Investigations of Fe-Based Alloys.** *M.G. Ozden*[1], Z. Leong[1] and N. Morley[1] *1. The University of Sheffield, Sheffield, United Kingdom*

JX-12. **Withdrawn**

JX-13. **Magnetic Performance Improvement Caused by Tensile Stress in Equivalent Iron Core Fabricated by High-Strength Non-Oriented Electrical Steel.** R. Pei[1], *H. Zhang*[1] and L. Gao[2] *1. Electrical Engineering, Shenyang University of Technology, Shenyang, China; 2. Suzhou InnMag New Energy Ltd., Suzhou, China*

JX-14. **Influence of Size and Position of Stacking-Hole on Local Vector Magnetic Properties of Grain-Oriented Steel Sheet.** *R. Dou*[1], Y. Li[1], Z. Lin[1], M. Yang[1] and L. Yang[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

JX-15. **Effect of Punching on Magnetic Properties of Non-Oriented Electrical Steel.** C. Zhang[2,1], *L. Yang*[2,1], Y. Li[2,1], Y. Dou[2,1] and Q. Yang[3] *1. Hebei University of Technology, Tianjin, China; 2. Hebei University of Technology State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Tianjin, China; 3. Tianjin University of Technology, Tianjin, China*

ON-DEMAND SESSIONS

Session JY
SOFT MAGNETIC MATERIALS AND APPLICATIONS (Poster Session)

Paola Tiberto, Co-Chair
INRIM, Torino, Italy
Carlo Stefano Ragusa, Co-Chair
Politecnico di Torino, Torino, Italy

JY-01. **Time-Resolved Observation of a Domain Wall Motion in Microwires With Positive Magnetostriction.** *K. Richter*[2,1], O. Vahovsky[2], R. Varga[2] and J. McCord[1] *1. Christian-Albrechts-Universitat zu Kiel, Kiel, Germany; 2. Univerzita Pavla Jozefa Safarika v Kosiciach, Kosice, Slovakia*

JY-02. **Magneto-Impedance Behavior of Soft Ferromagnetic Microwires at Ghz-Frequency for the Application of High-Performance Magnetic Sensory Devices.** *J. Alam*[1], M.G. Nematov[2], N.A. Yudanov[1] and L. Panina[1,2] *1. Technology of Electronics Materials, National University of Science and Technology, MISIS, Moscow, Russian Federation; 2. Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation*

JY-03. **Transformation of the Magnetostriction of Amorphous Microwires by Heat Treatment.** *S. Evstigneeva*[1], M.G. Nematov[2], I. Baraban[2], V. Rodionova[2] and L. Panina[1,2] *1. National University of Science and Technology, MISiS, Moscow, Russian Federation; 2. Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation*

JY-04. **Correlation Between Structural Relaxation and Magnetic Behavior in Amorphous Submicron Magnetic Wires.** S. Corodeanu[1], C. Rotarescu[1], C. Hlenschi[1], H. Chiriac[1], N. Lupu[1] and *T.A. Ovari*[1] *1. Dept. of Magnetic Materials & Devices, National Institute of R&D for Technical Physics, Iasi, Romania*

JY-05. **Study on the Soft and High-Frequency Magnetic Properties of Amorphous Co-Fe-B Thin Films With Various Co Compositions.** *Y. Endo*[1], H. Tanaka[1], S. Hashi[2] and T. Miyazaki[3] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Research Institute of Electrical Communication, Tohoku Univerisity, Sendai, Japan; 3. Technical Division, School of Engineering, Tohoku University, Sendai, Japan*

JY-06. **Anisotropy Field Change With Piezoelectric Strain in Ultrathin Pt/Co(Fe)B/Ir Films.** *K.N. Alshammari*[1], M. Ali[1] and T. Moore[1] *1. School Of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

JY-07. **Effect of Meander Structure on Magnetoimpedance Characteristics in FeNi/Cu/FeNi Films.** *J. Jiang*[1,2], F. Jin[1,2], K. Dong[1,2], W. Mo[1,2], Y. Hui[1,2], J. Song[1,2], L. Xu[1,2] and Y. Biao[1,2] *1. School of Automation, China University of Geosciences, Wuhan, China; 2. Hubei key Laboratory of Advanced Control and Intelligent Automation for Complex Systems, China University of Geosciences, Wuhan, China*

JY-08. **Magnetic Properties Evolution During Thermal Ageing of High Permeability Nanocrystalline FeSiCuNbB Alloys Annealed With Longitudinal Field.** *R. Saoudi*[1], L. Morel[1] and M. Raulet[1] *1. Ampère laboratory, UMR 5005, University of Lyon1, Villeurbanne, France*

JY-09. **Nb Effects on the Magnetic and Microstructural Properties of Fe-Based Nano-Crystalline Alloys.** *K. Lee*[1], J. Ahn[1] and J. Kim[1] *1. Hanyang University - Ansan Campus, Ansan, The Republic of Korea*

JY-10. **Magnetic Properties Measurement and Loss Calculation of the High-Frequency Core With Air Gap.** Y. Li[1], *H. Liu*[1], H. Sun[1] and Z. Wan[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

JY-11. **Temperature Dependence of Powder Cores Magnetic Properties for High Frequency Applications.** *W. Zhang*[1], Y. Li[1], Q. Yang[2], Z. Lin[1] and M. Yang[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 2. School of Electrical and Electronic Engineering, Tianjin University of Technology, Tianjin, China*

JY-12. **Comprehensive Analysis of Nanocrystalline Ribbon Cores in High-Power-Density WPT Pads for Electric Vehicles.** *W. Zhang*[1], Y. Li[1], Q. Yang[2], Z. Lin[1], M. Yang[1] and M. Mi[1] *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 2. School of Electrical and Electronic Engineering, Tianjin University of Technology, Tianjin, China*

JY-13. **The Microwave Absorption Properties of $Fe_{16}N_2$ Nanoparticles.** *Y. Wang*[1], Z. Lin[1], G. Qiao[2], Z. Liu[1], P. Zhang[1], K. Li[1], W. Yang[1], J. Han[1], S. Liu[1], C. Wang[1], L. Qiao[3] and J. Yang[1] *1. Physics, Peking University, Beijing, China; 2. Peking University, Beijing, China; 3. Physics, Lanzhou University, Lanzhou, China*

JY-14. **Design and Simulation of Electromagnetic Metamaterial Unit for High-Frequency Transformer.** Y. Wang[1], *Y. Wang*[1], S. Wu[1] and W. Fu[2] *1. School of Mechanical Electronic & Information Engineering, China University of Mining and Technology - Beijing Campus, Beijing, China; 2. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

JY-15. **Linear-to-Circular Polarization Converter Based on Meander-Line Metasurfaces.** *Y. Zhao*[1], J. Fu[1], W. Chen[1], B. Lv[2] and Z. Wang[1] *1. Harbin Institute of Technology, Harbin, China; 2. Harbin Engineering University, Harbin, China*

JY-16. **Design of a Rectenna With Metamaterial Grounding Plane.** F.L. Souza[1] and *Ú.d. Resende*[1] *1. Electrical engineering, Centro Federal de Educacao Tecnologica de Minas Gerais, Belo Horizonte, Brazil*

JY-17. **Fabrication of Polyindole Coated Zinc Ferrite Particles and Their Dual Rheological Response Under Magnetic and Electric Fields.** *S. Kang*[1] and H. Choi[1] *1. Inha University, Incheon, The Republic of Korea*

JY-18. **Fabrication and Shear Response of Conducting Polymer Coated Zinc Ferrite Particles Under Magnetic/Electric Field.** *T. Kim*[1] and H. Choi[1] *1. Inha University, Incheon, The Republic of Korea*

JY-19. **Modelling of the Intracrystalline Interactions in Trigonal Weak Ferromagnets With Zero Orbital Moment.** K. Seleznyova[1], *Y. Mogilenec*[1], S. Yagupov[1], M. Strugatsky[1] and J. Kliava[2] *1. Physics and Technology Institute, V.I. Vernadsky Crimean Federal University, Simferopol, Russian Federation; 2. LOMA, Universite de Bordeaux, Talence, France*

- A -

A Jiménez, J. (JS-10) 172
Ababei, R.V. (GB-09) 115
Abad, L. (DF-02) 77
Aballe, L. (DD-07) 75
Aballe, L. (FH-06) 109
Aballe, L. (GA-02) 113
Aballe, L. (GB-03) 114
Aballe, L. (HA-04) 120
Aballe, L. (HD-04) 126
Aballe, L. (IH-12) 139
Aballe, L. (JI-02) 163
Abd-El-Hafiz, S. (CS-08) 68
Abelmann, L. (AC-10) 7
Abelmann, L. (JG-10) 160
Abelmann, L. (JQ-01) 167
Abert, C. (GD-04) 118
Abert, C. (JI-05) 164
Adachi, Y. (BJ-03) 33
Adachi, Y. (CQ-01) 64
Adelmann, C. (EC-07) 88
Adenot-Engelvin, A. (JX-04) 178
Adeyeye, A.O. (ED-01) 88
Adly, A. (CS-08) 68
Aepuru, R. (JS-10) 172
Afanasyev, K. (ID-05) 133
Afrasiabi, S. (BG-12) 30
Afsar, M. (ID-11) 134
Afuwape, O.F. (CQ-10) 65
Afuwape, O.F. (JP-01) 165
Afuwape, O.F. (JP-10) 166
Agarwal, N. (FD-05) 103
Ageron, B. (CF-06) 58
Aggarwal, S. (CF-01) 58
Aguirre, M. (FC-04) 101
Agustsson, S. (FH-13) 110
Ahmad, A. (JE-10) 157
Ahmad, G. (BD-01) 25
Ahmad, H. (AC-07) 6
Ahmad, H. (BB-05) 23
Ahmad, H. (BG-08) 29
Ahmad, M. (BI-10) 33
Ahmed, N. (IT-08) 148
Ahn, J. (AR-12) 16
Ahn, J. (JY-09) 181
Ahrens, V. (EE-06) 92
Ait Oukaci, K. (EB-03) 85
Ajejas, F. (CC-11) 53
Ajejas, F. (DB-09) 71
Ajejas, F. (HC-02) 124
Ajejas, F. (HC-09) 125
Ajejas, F. (IH-14) 139
Akagi, F. (IP-01) 140
Akagi, F. (IP-04) 140
Akaki, M. (DP-04) 81
Akano, Y. (IA-09) 129
Akbar, S. (DE-08) 76
Akdogan, O. (JH-02) 161
Åkerman, J. (FB-08) 99
Akinola, O.G. (GB-02) 114
Al Ma'mari, F. (HA-01) 120
Al Mamoori, M. (GA-02) 113
Al-Mahdawi, M. (CP-15) 63
Alam, J. (JY-02) 180
Alamdar, M. (GB-02) 114
Albertini, F. (JE-09) 157
Albin, C. (JI-11) 164
Albrecht, M. (FA-05) 98
Albuquerque, G. (IA-10) 129
Alejandro, G. (FB-06) 99
Alejandro, G. (JG-11) 161
Alekhina, I.A. (ID-04) 133
Alekseev, S. (FB-03) 98
Aleksic, O. (IS-12) 146
Aleszkiewicz, P. (IG-02) 136
Algarín, J. (YA-01) 1
Ali, K.S. (JS-08) 171
Ali, M. (DP-09) 81
Ali, M. (JY-06) 181
Ali, Q. (BB-08) 23
Alia, M. (DC-12) 73
Alimi, R. (GC-08) 117
Allende, S. (ED-10) 90
Allia, P. (YA-04) 2
Allocca, L. (JF-07) 158
Allwood, D. (GA-02) 113
Allwood, D. (GB-03) 114
Allwood, D. (GB-04) 114
Allwood, D. (GB-09) 115
Allwood, D. (GB-11) 115
Alman, V. (JR-13) 170
Almeida, M.P. (JP-05) 165
Almeida, R. (JT-06) 173
Alonso, J. (YA-01) 1
Alotibi, S. (DP-09) 81
Alshammari, H. (JH-02) 161
Alshammari, K.N. (JY-06) 181
Alshammari, S.J. (AU-02) 20
Althammer, M. (CE-05) 56
Althammer, M. (FG-10) 107
Alvarado-Hernández, F. (JT-01) . . . 172
Alvarez Prado, L. (EC-05) 87
Alvarez-Hérault, J. (IB-07) 130
Álvarez, N.R. (JG-11) 161
Álvaro Gómez, L. (DD-07) 75
Amann, A. (BK-05) 35
Amara, S. (GB-06) 114
Amara, Y. (BA-06) 22
Amara, Y. (BD-11) 26
Amaral, J.S. (DF-10) 78
Amaral, J.S. (IC-07) 132
Amaral, J.S. (JE-11) 157
Amaral, J.S. (JT-06) 173
Amaral, V.S. (DF-10) 78
Amaral, V.S. (IC-07) 132
Amaral, V.S. (JE-11) 157
Ambrose, T. (CG-05) 60
Amemiya, K. (DG-07) 80
Amigó, M. (JX-06) 179
Amorim, C. (DF-10) 78
Amorim, C. (IC-07) 132
Amorim, C. (JE-11) 157
Amorim, C. (JT-06) 173
An, K. (EA-04) 84
An, K. (ED-04) 89
Anadón, A. (DB-09) 71
Anadón, A. (IH-14) 139
Anadón, A. (IR-16) 145
Anane, A. (EB-02) 85
Anane, A. (ED-02) 89
Anane, A. (ED-03) 89
Anane, A. (ED-07) 89
Anane, A. (FH-12) 110
Anane, A. (JA-12) 150
Andersen, I. (AA-04) 3
Andersen, I. (DD-07) 75
Andersen, I. (JI-04) 163
Ando, K. (CE-12) 57
Ando, Y. (CP-03) 61
Ando, Y. (CP-15) 63
Ando, Y. (IT-03) 147
Andrade, V.M. (JE-12) 157
Andrade, V.M. (JR-05) 169
Andreev, N. (DP-08) 81
Andreev, S.V. (JT-12) 174
Andrew, J. (ID-02) 133
Andrews, B. (BE-03) 27
Andrews, B. (BE-04) 27
Andrieu, S. (DD-10) 75
Andrieu, S. (DE-01) 75
Andrieu, S. (DE-03) 76
Andrieu, S. (ID-01) 132

*Best student presentation award finalist

Androvitsaneas, P. (CB-03) 51
Ang, C.C. (HB-04) 122
Anghel, L. (GB-05) 114
Anis, M. (JX-10) 179
Ansalone, P. (EB-11) 86
Ansalone, P. (GC-04) 116
Ansermet, J. (FC-02) 100
Antonov, G. (CS-02) 67
Antonov, V. (GA-05) 113
Aoki, K. (JP-07) 166
Aoshima, K. (JS-04) 171
Apicella, V. (JU-03) 174
Appino, C. (JB-11) 151
Aquino, H.O. (EE-11) 92
Arena, D. (IG-06) 136
Ari-Gur, P. (JE-05) 156
Arkhipov, A.V. (JT-12) 174
Arnay, I. (DB-09) 71
Arnay, I. (IH-14) 139
Arnay, I. (IR-16) 145
Arndt, C. (JG-08) 160
Arnold, D. (ID-02) 133
Arora, N. (ED-15) 91
Arregi Uribeetxebarria, J.A. (FD-05) 103
Arriola Córdova, A.Y. (CC-08) 53
Arriola Córdova, A.Y. (HB-01) 121
Artemchuk, P. (EB-10) 86
Artemova, A. (ER-13) 97
Asa, M. (FG-14) 107
Asam, N. (IA-01) 128
Asenjo, A. (AA-05) 3
Asenjo, A. (IG-04) 136
Asenjo, A. (JI-02) 163
Asselberghs, I. (GD-09) 118
Atalay, S. (JA-07) 149
Atallah, K. (AU-02) 20
Atallah, K. (BF-03) 27
Atallah, K. (BF-04) 28
Atcheson, G. (AD-02) 8
Ates, B. (JA-07) 149
Attané, J. (CB-02) 51
Attané, J. (CD-02) 54
Attané, J. (CD-06) 55
Attané, J. (CD-11) 55
Attané, J. (CD-13) 56
Attané, J. (DC-11) 73
Attané, J. (DG-07) 80
Attané, J. (FE-02) 104
Attané, J. (GD-02) 117
Attané, J. (IP-10) 141
Atxitia, U. (FG-02) 105
Aubert, A. (CR-05) 66
Audry, M. (JH-01) 161
Auffret, S. (CF-06) 58
Auffret, S. (CF-07) 58
Auffret, S. (CF-11) 59
Auffret, S. (ER-06) 96
Auffret, S. (FE-02) 104
Auffret, S. (FH-02) 108
Auffret, S. (HB-07) 122
Auffret, S. (HC-05) 124
Auffret, S. (HD-04) 126
Auffret, S. (IR-02) 143
Avci, C. (CC-06) 53
Avci, C. (CC-13) 54
Avci, C. (CD-11) 55
Avci, C. (FE-01) 104
Avilés, L. (FB-06) 99
Avula, S.R. (JH-07) 162
Awaji, S. (IR-05) 143
Awano, H. (CD-05) 55
Awano, H. (CP-15) 63
Ayani, C. (IH-14) 139
Aydin, M. (BE-02) 26
Aydin, M. (BG-04) 29
Aydin, M. (BG-07) 29
Aydin, M. (BH-06) 31
Azevedo, A. (FB-07) 99
Azuma, T. (AV-01) 21

- B -

Ba, S. (AC-18) 8
Babaytsev, G.V. (IR-14) 145
Babenkov, S. (FH-13) 110
Babu, N.K. (EC-08) 88
Bachmaier, A. (IR-13) 144
Bachmaier, A. (JA-06) 149
Bachmann, J. (DD-05) 74
Bachmann, J. (DD-06) 74
Back, C.H. (CC-03) 52
Back, C.H. (EB-09) 86
Back, C.H. (FD-05) 103
Backes, D. (FG-06) 106
Badarneh, M. (JR-04) 169
Badelin, A. (DP-06) 81
Badura, A. (FG-08) 107
Badura, A. (FH-08) 109
Bae, C. (JW-05) 176
Bae, C. (JW-15) 177
Baek, M. (AR-12) 16
Baek, Y. (AU-08) 20
Bagschik, K. (HB-02) 122
Bahamida, S. (JF-11) 159
Bahl, C.R. (BE-07) 27
Bahl, C.R. (BK-03) 35
Bai, B. (AS-11) 18
Bai, B. (AS-13) 18
Bai, B. (AS-14) 18
Bai, B. (AS-15) 18
Bai, B. (AS-16) 18
Bai, H. (DC-08) 73
Bai, H. (HA-05) 121
Bai, J. (BF-06) 28
Bai, J. (BT-02) 43
Bai, J. (JC-09) 153
Bailleul, M. (EB-03) 85
Bairagi, K. (HD-04) 126
Bal, M. (FG-09) 107
Balachandran, P. (JE-03) 156
Balachandran, T. (BB-07) 23
Balakrishnan, P.P. (DE-07) 76
Balcioglu, S. (JA-07) 149
Bald, C. (IB-02) 130
Baldrati, L. (FG-04) 106
Baldrati, L. (FG-06) 106
Balédent, V. (EC-12) 88
Bali, R. (FB-02) 98
Bali, R. (IA-03) 128
Ballet, P. (DC-11) 73
Balli, M. (JS-09) 171
Baltz, V. (CD-11) 55
Baltz, V. (FG-08) 107
Baltz, V. (FH-02) 108
Baltz, V. (FH-08) 109
Bang, S. (JP-04) 165
Bang, T. (AP-12) 13
Bang, T. (AQ-07) 14
Bang, T. (AU-08) 20
Bang, T. (BQ-05) 38
Bang, T. (BQ-09) 38
Bang, T. (BQ-10) 38
Bang, T. (BR-06) 40
Bang, T. (BS-02) 41
Bang, T. (BS-04) 42
Bang, T. (BV-09) 48
Bao, X. (AP-10) 12
Bao, X. (AQ-05) 13
Bao, X. (AU-09) 20
Bao, X. (BW-02) 48
Bao, X. (CR-03) 65
Baraban, I. (JY-03) 180
Baraduc, C. (HB-07) 122

*Best student presentation award finalist

Baraduc, C. (HP-04) 127
Baraduc, C. (IB-07) 130
Baraduc, C. (IR-02) 143
Barakat, G. (BA-06) 22
Barakat, G. (BD-11) 26
Barberis, A. (JA-01) 148
Barbour, A. (AB-05) 4
Bardotti, L. (JI-11) 164
Barilo, S. (DF-09) 78
Barilo, S. (JT-10) 173
Baringthon, L. (FB-01) 98
Barker, C. (AE-11) 11
Barnes, C. (JI-05) 164
Baron, M. (AC-16) 7
Barrera, G. (JF-11) 159
Barrera, G. (JU-06) 175
Barrera, G. (YA-04) 2
Barrett, R. (BF-03) 27
Barrett, R. (BF-04) 28
Bartell, J. (AB-05) 4
Barthélémy, A. (ED-02) 89
Barton, C. (HC-06) 124
Barua, R. (JE-03) 156
Barua, R. (JE-06) 156
Barucca, G. (JD-10) 155
Baryshev, A. (ID-05) 133
Bas, D.A. (EC-11) 88
Basit, A. (BD-07) 25
Basso, V. (CC-14) 54
Basso, V. (EB-11) 86
Basu, D. (BJ-02) 33
Basumatary, H. (FB-04) 98
Batlle, X. (IG-01) 136
Batlle, X. (JH-07) 162
Batlle, X. (JH-08) 162
Battula, S. (JR-13) 170
Bauer, G.E. (EA-04) 84
Bauer, J. (CE-08) 57
Bauer, J. (IQ-03) 142
Bauer, M. (ID-02) 133
Baumgaertl, K. (EC-03) 87
Baumgaertl, K. (ED-12) 90
Baumgaertl, K. (ED-14) 90
Bayzi Isfahani, V. (DB-01) 70
Bazrov, M. (CB-01) 51
Béa, H. (FE-08) 105
Béa, H. (HB-07) 122
Béa, H. (HP-04) 127
Béa, H. (IR-02) 143
Beach, G. (AB-05) 4
Beach, G. (FE-05) 104
Beach, G. (FE-06) 104
Beach, G. (FH-04) 108
Beach, G. (FH-07) 109
Beach, G. (HB-02) 122
Beauchamp, M. (JP-15) 167
Beaulieu, N. (EA-04) 84
Beaulieu, N. (ED-04) 89
Beaulieu, N. (EE-08) 92
Beaulieu, N. (FP-06) 111
Becherer, M. (EE-06) 92
Beckmann, B. (JE-02) 156
Beckmann, B. (JT-06) 173
Becle, E. (GB-05) 114
Becnel, A. (YB-06) 3
Bedoya PInto, A. (DB-04) 70
Beg, M. (DD-04) 74
Beg, M. (GC-05) 116
Begari, K. (FP-10) 111
Beginin, E. (EC-04) 87
Beginin, E. (EP-09) 94
Beginin, E. (EQ-04) 94
Beginin, E. (EQ-06) 95
Beginin, E. (EQ-07) 95
Behbahani, R. (AD-03) 8
Beik Mohammadi, J. (CF-10) 59
Bekir, W. (JW-18) 177
Belguerras, L. (BA-03) 22
Belkhou, R. (DD-07) 75
Belkhou, R. (GD-02) 117
Bell, C. (IH-13) 139
Bello, J. (CC-08) 53
Bellouard, C. (ID-01) 132
Belmeguenai, M. (FE-09) 105
Belmeguenai, M. (GD-01) 117
Belmeguenai, M. (HD-04) 126
Belmeguenai, M. (IR-01) 143
Belmeguenai, M. (IR-02) 143
Belo, J.H. (JE-12) 157
Belo, J.H. (JP-05) 165
Belo, J.H. (JT-06) 173
Belodedov, M. (JP-06) 165
Belotelov, V.I. (EB-14) 86
Belotelov, V.I. (FP-04) 111
Belotelov, V.I. (FP-07) 111
Belotelov, V.I. (JF-01) 157
Belotelov, V.I. (JS-03) 171
Belykh, S.S. (JS-01) 170
Ben Ahmed, H. (BA-06) 22
Ben Youssef, J. (EA-04) 84
Ben Youssef, J. (ED-04) 89
Ben Youssef, J. (EE-08) 92
Ben Youssef, J. (FP-06) 111
Ben Youssef, J. (JA-12) 150
Ben, T. (BE-01) 26
Benabou, A. (BJ-11) 34
Benabou, A. (JB-13) 152
Benabou, A. (JW-18) 177
Bender, P. (JG-03) 159
Bendjeddou, I. (ID-07) 133
Bendjeddou, I. (ID-08) 133
Benetti, L. (DD-09) 75
Benguettat, I. (IR-02) 143
Benitez, L.A. (DA-03) 69
Benlloch, J. (YA-01) 1
Bennett, C.H. (GB-02) 114
Bennett, S.P. (IB-03) 130
Bensmann, J. (FA-05) 98
Berganza, E. (AA-05) 3
Berganza, E. (IG-04) 136
Berger, F. (YA-02) 1
Berger, H. (HC-07) 124
Berges, L. (AE-10) 11
Berges, L. (FH-06) 109
Berges, L. (HD-08) 126
Bergtholdt, J. (AC-11) 7
Berkov, D. (JD-11) 155
Bernand-Mantel, A. (FE-08) 105
Bernot, F. (BI-07) 32
Bernstein, G.H. (EE-11) 92
Béron, F. (JS-10) 172
Bertacco, R. (DB-06) 71
Bertacco, R. (IR-15) 145
Bertoni, G. (JR-11) 170
Bertran, F. (DE-01) 75
Bespas, J. (AD-02) 8
Bessarab, P. (JR-04) 169
Bessonov, S. (HP-11) 128
Betsunoh, R. (BS-09) 42
Bevis, C. (EA-06) 85
Bhat, V. (ED-14) 90
Bhat, V. (EE-03) 91
Bhatt, R.C. (IP-09) 141
Bhatti, I. (IB-05) 130
Bhatti, S. (HB-11)* 123
Bhowmik, D. (GB-01) 114
Bi, Y. (AQ-03) 13
Biacchi, A. (AC-13) 7
Bialek, M. (FC-02) 100
Bian, Z. (GB-08) 115
Biao, Y. (JY-07) 181
Bibes, M. (ED-02) 89
Bibes, M. (FE-02) 104
Biela, J. (BJ-01) 33

*Best student presentation award finalist

Bierhance, G. (DC-12) 73
Binda, F. (CD-11) 55
Bingfeng, G. (IS-05) 146
Bingfeng, G. (IS-08) 146
Bingfeng, G. (JU-04) 175
Bingfeng, G. (JU-05) 175
Bingham, N. (AA-03) 3
Bir, A.S. (ER-01) 95
Bird, J. (BA-04) 22
Bird, J. (BF-10) 28
Birge, N.O. (FH-04) 108
Birge, N.O. (FH-07) 109
Birowska, M. (DC-13) 73
Birowska, M. (DG-03) 79
Biswas, A. (JE-06) 156
Bitla, Y. (CP-05) 62
Bittner, F. (JC-03) 152
Bjørk, R. (BE-07) 27
Bjørk, R. (BH-01) 31
Bjørk, R. (BK-03) 35
Bjørk, R. (GC-09) 117
Blanc, B. (AC-06) 6
Blanco-López, M.C. (YA-05) 2
Block, F. (JG-08) 160
Blon, T. (JR-02) 168
Blügel, S. (CE-12) 57
Blügel, S. (FD-04) 103
Blügel, S. (FH-10) 109
Blum, C. (JW-14) 177
Bobrovskii, S. (ER-13) 97
Bocher, L. (FH-06) 109
Boddapati, L. (DB-01) 70
Bodnar, S. (FH-13) 110
Bogy, D. (IA-08) 129
Bohra, M. (JR-13) 170
Boisron, O. (JI-11) 164
Bokor, J. (GD-08) 118
Bokor, J. (HB-01) 121
Boldrey, J. (JQ-02) 167
Bollero, A. (IG-11) 137
Bollero, A. (IH-08) 139
Bollero, A. (JD-08) 155
Bollero, A. (JD-09) 155
Bolyachkin, A. (GC-07) 116
Bommanaboyena, S. (FH-11) 109
Bommanaboyena, S. (FH-13) 110
Bonetti, S. (FA-02) 97
Bonetti, S. (FD-08) 103
Bonfim, M. (JW-12) 177
Bonnet, C. (ID-01) 132
Bono, D. (FH-04) 108
Borders, W.A. (FC-09) 102
Borders, W.A. (GB-10) 115
Borel, S. (ID-03) 133
Borisenko, I. (EA-02) 84
Borisov, K. (AD-02) 8
Borodavka, F. (DF-07) 78
Borovkova, O. (FP-04) 111
Borovkova, O. (JS-03) 171
Borreguero, J. (YA-01) 1
Bortolotti, P. (ED-02) 89
Bortolotti, P. (ED-03) 89
Bortolotti, P. (ED-07) 89
Bortolotti, P. (IB-04) 130
Bortolotti, P. (ID-08) 133
Bortolotti, P. (JA-12) 150
Bosch, R. (YA-01) 1
Boscher, C. (JX-04) 178
Böse, H. (YB-04) 2
Boselli, M. (CD-08) 55
Bostrem, I.G. (EQ-08) 95
Botsch, L. (GC-11) 117
Böttcher, M. (HB-02) 122
Bottegoni, F. (CB-05) 52
Bouckaert, W. (HP-09) 128
Bouda, N. (CR-11) 66
Boulet, P. (JF-03) 158
Boulle, O. (CD-06) 55
Boulle, O. (HB-07) 122
Boulle, O. (HD-04) 126
Boulle, O. (HP-04) 127
Boumesbah, A. (BH-05) 31
Bourdel, S. (ID-08) 133
Bouzehouane, K. (AB-11) 5
Bouzehouane, K. (DB-02) 70
Bouzehouane, K. (DD-10) 75
Bouzehouane, K. (GA-01) 112
Bouzehouane, K. (HC-02) 124
Bouzehouane, K. (HC-09) 125
Bouzehouane, K. (IQ-08) 142
Boventer, I. (ED-02) 89
Boventer, I. (ED-03) 89
Boventer, I. (FH-12) 110
Bowen, D. (BJ-02) 33
Bowman, R. (FC-08) 101
Bowman, R. (IQ-09) 142
Boynov, K.O. (BI-04) 32
Bozhko, D. (CA-02) 50
Bracher, D. (HA-01) 120
Brächer, T. (ED-11) 90
Brächer, T. (EE-04) 91
Bradley, H. (ED-08) 89
Bran, C. (JI-02) 163
Brandão, G.L. (ER-04) 96
Brandl, G. (AC-17) 8
Brataas, A. (EB-06) 86
Brataas, A. (FH-12) 110
Brataas, A. (HB-10) 123
Bratschitsch, R. (FA-05) 98
Braun, T. (JC-02) 152
Breitbach, D. (ED-11) 90
Brems, M. (FG-05) 106
Brems, M. (HC-10) 125
Brenac, A. (CD-06) 55
Brenac, A. (CD-11) 55
Brenac, A. (DC-11) 73
Breth, L. (AD-04) 9
Briático, J. (FC-04) 101
Brink, J. (DC-06) 72
Brock, J. (HD-09) 127
Broomhall, T.J. (GA-02) 113
Brown, P. (JT-10) 173
Brückel, T. (AC-17) 8
Brückl, H. (AD-04) 9
Brunn, O. (DQ-09) 83
Brunn, O. (DQ-11) 83
Brus, P. (DB-02) 70
Buchanan, K. (AE-12) 11
Buchelnikov, V. (JU-02) 174
Büchner, B. (JW-14) 177
Büchner, B. (JX-06) 179
Buda-Prejbeanu, L.D. (CF-11) 59
Buda-Prejbeanu, L.D. (CG-03) 60
Buda-Prejbeanu, L.D. (ED-10) 90
Buda-Prejbeanu, L.D. (HB-07) 122
Buda-Prejbeanu, L.D. (HD-04) 126
Buda-Prejbeanu, L.D. (HP-04) 127
Buda-Prejbeanu, L.D. (IQ-05) 142
Buettner, F. (AB-05) 4
Buettner, F. (HB-02) 122
Bui, T.Q. (AC-13) 7
Bukhari, S. (BW-04) 49
Bukharia, K. (IH-07) 138
Bulbucan, C.E. (IG-10) 137
Bulbucan, C.E. (JI-01) 163
Bull, C. (FB-13) 100
Bunyaev, S.A. (FC-07) 101
Burke, A.M. (JI-01) 163
Burkhardt, C. (JC-11) 153
Burnell, G. (HA-01) 120
Busch, O. (FG-01) 105
Busel, O. (EE-07) 92
Bussmann, K. (DF-04) 77
Bussmann, K. (IB-03) 130

*Best student presentation award finalist

Butera, A. (FB-06) 99
Butera, A. (FC-04) 101
Butera, A. (JG-11) 161
Büttel, G. (ER-11) 97
Butterling, M. (DF-02) 77
Butterling, M. (IA-03) 128
Buzdakov, A. (FP-14) 112
Buzdin, A. (FH-02) 108
Buznikov, N.A. (ID-04) 133
Byeon, C. (AP-03) 12
Byerly, K. (JA-04) 149
Bykov, I. (ID-05) 133
Bykova, I. (HB-05) 122

- C -

C Denardin, J. (JS-10) 172
C, L. (BP-01) 35
C, V. (JT-02) 172
Caçoilo, N. (CG-03) 60
Caglieris, F. (JX-06) 179
Cagnon, L. (DD-07) 75
Cai, F. (BU-11) 46
Cai, F. (BU-18) 46
Cai, H. (GB-08) 115
Cai, J. (FC-05) 101
Cai, K. (IA-05) 129
Cai, S. (BC-01) 24
Cai, T. (AR-04) 15
Cai, W. (FG-07) 106
Cai, Z. (AU-07) 20
Cai, Z. (CS-13) 68
Calarco, R. (DB-06) 71
Calleja, F. (IH-14) 139
Calo, C. (ED-07) 89
Caltun, O. (JP-11) 166
Calverley, S.D. (BF-03) 27
Calverley, S.D. (BF-13) 28
Camacho, G. (YB-01) 2
Camarero, J. (AE-08) 10
Camarero, J. (DB-09) 71
Camarero, J. (IB-05) 130
Camarero, J. (IG-11) 137
Camarero, J. (IH-08) 139
Camarero, J. (IH-14) 139
Camarero, J. (IR-16) 145
Camarillo-Garcia, J.P. (JT-01) 172
Camley, R.E. (HA-06) 121
Camosi, L. (HB-08) 122
Canals, B. (DG-11) 80
Canals, B. (DQ-09) 83
Canals, B. (DQ-11) 83
Canals, B. (GA-01) 112
Cañero Infante, I. (JI-11) 164
Canhota, M. (JP-05) 165
Canon Bermudez, G. (IB-01) 130
Cantoni, M. (DB-06) 71
Cantoni, M. (FG-14) 107
Cantoni, M. (IR-15) 145
Cao, G. (BC-02) 24
Cao, G. (BQ-02) 37
Cao, H. (BC-04) 24
Cao, H. (DP-12) 82
Cao, J. (BQ-07) 38
Cao, K. (IH-01) 138
Cao, L. (BU-12) 46
Cao, L. (BV-05) 47
Cao, L. (JU-04) 175
Cao, S. (AV-04) 22
Cao, W. (AP-08) 12
Cao, X. (AS-14) 18
Capotondi, F. (FD-03) 103
Cardoso de Olivero, R. (FB-10) 99
Caretta, L.M. (FE-05) 104
Carley, R. (FD-05) 103
Carlotti, G. (EC-05) 87
Carlotti, G. (HC-06) 124
Carmona, I.C. (AC-16) 7
Carmona, I.C. (CQ-10) 65
Carmona, I.C. (JQ-06) 167
Carpenter, R. (CF-12) 59
Carpenter, R. (CG-13) 61
Carpenter, R. (IG-09) 137
Carpentieri, M. (FD-02) 102
Carpentieri, M. (HA-05) 121
Carpentieri, M. (HC-11) 125
Carreira, S. (FC-04) 101
Carrétéro, C. (ED-02) 89
Carrétéro, C. (JA-12) 150
Carrey, J. (JH-10) 162
Caruana, A. (IA-03) 128
Carver, K. (BE-03) 27
Casaleiz, D. (JD-09) 155
Casanova, F. (CC-01) 52
Casanova, F. (CE-04) 56
Caspani, S. (JG-06) 160
Caspani, S. (JR-05) 169
Castell-Queralt, J. (GC-03) 116
Castro, M. (ED-10) 90
Cating-Subramanian, E. (EA-06) 85
Cecchi, B.M. (DG-01) 79
Cecchi, S. (DB-06) 71
Cecchini, R. (DC-01) 72
Cecchini, R. (DC-12) 73
Celegato, F. (JF-11) 159
Celegato, F. (JU-06) 175
Centala, G. (EC-08) 88
Céspedes-Berrocal, D. (CC-08) 53
Céspedes, O. (DP-09) 81
Ceylan, D. (BI-04) 32
Chahed, L. (IR-02) 143
Chai, F. (AQ-03) 13
Chai, F. (BP-09) 36
Chai, F. (BQ-12) 38
Chai, F. (BV-01) 47
Chai, S. (BP-13) 36
Chakraborty, A. (DC-02) 72
Chambard, M. (GA-02) 113
Chan, J. (CE-06) 57
Chanda, A. (IG-06) 136
Chandramohan, S. (JF-09) 158
Chang, J. (BE-06) 27
Chang, J. (FE-05) 104
Chang, J. (IC-04) 132
Chang, J. (IC-05) 132
Chang, J. (JH-03) 161
Chang, K. (DB-04) 70
Chang, L. (DF-12) 79
Chang, Q. (JU-12) 175
Chang, T. (BU-07) 45
Chang, T. (DC-03) 72
Chang, Y. (CC-12) 54
Chantrell, R.W. (FD-06) 103
Chantrell, R.W. (FG-02) 105
Chantrell, R.W. (HB-03) 122
Chantrell, R.W. (JW-10) 177
Chao, W. (HA-05) 121
Chao, X. (FP-03) 111
Chapman, E. (JP-15) 167
Charipar, N. (AD-06) 9
Charipar, N. (CS-03) 67
Charipar, N. (CS-04) 67
Charlier, J. (DB-02) 70
Charlier, J. (DC-07) 73
Charlton, T. (BE-04) 27
Chashin, D.V. (AU-01) 20
Chatelain, C. (ID-01) 132
Chatterjee, J. (GD-08) 118
Chatterji, T. (JT-10) 173
Chatzimpaloglou, K. (CB-03) 51
Chau, K. (AS-02) 17
Chau, K. (AU-03) 20
Chau, K. (BU-12) 46
Chau, K. (BV-05) 47

*Best student presentation award finalist

Chau, K. (BW-14) 50
Chau, K. (BW-16) 50
Chaudhary, R. (JI-06) 164
Chaudhary, V. (JA-05) 149
Chaudhary, V. (JA-08) 149
Chaudhary, V. (JB-03) 150
Chaudhary, V. (JB-04) 150
Chaudhary, V. (JB-06) 151
Chaudhary, V. (JB-07) 151
Chaudhary, V. (JI-06) 164
Chauleau, J. (CD-08) 55
Chavent, A. (AC-06) 6
Chdil, O. (JS-09) 171
Che Lah, N. (AC-07) 6
Che, P. (ED-12) 90
Che, P. (HC-07) 124
Checca, N. (JE-12) 157
Chechenin, N.G. (IR-14) 145
Cheekati, S. (JH-05) 162
Cheenikundil, R. (AE-04) 10
Chekanova, L. (JR-06) 169
Chen, B. (BW-11) 49
Chen, C. (BT-04) 43
Chen, D. (AS-11) 18
Chen, D. (AS-13) 18
Chen, D. (AS-14) 18
Chen, D. (AS-15) 18
Chen, D. (AS-16) 18
Chen, G. (AT-05) 19
Chen, G. (AU-09) 20
Chen, G. (FG-03) 106
Chen, H. (AB-02) 4
Chen, H. (DG-04) 79
Chen, H. (EQ-09) 95
Chen, H. (FH-01) 108
Chen, H. (GB-04) 114
Chen, H. (HP-09) 128
Chen, J. (AP-04) 12
Chen, J. (BB-04) 23
Chen, J. (BJ-12) 34
Chen, J. (CF-08) 59
Chen, J. (ED-12) 90
Chen, J. (GB-08) 115
Chen, J. (IB-12) 131
Chen, J. (IF-04) 135
Chen, J. (IH-01) 138
Chen, J. (JB-08) 151
Chen, K. (AC-09) 6
Chen, L. (BE-01) 26
Chen, L. (BQ-12) 38
Chen, L. (IQ-02) 142
Chen, L. (JB-10) 151
Chen, M. (BD-01) 25
Chen, M. (BF-07) 28
Chen, M. (BV-02) 47
Chen, Q. (AR-17) 16
Chen, S. (BE-05) 27
Chen, T. (BP-09) 36
Chen, T. (CC-02) 52
Chen, T. (CC-10) 53
Chen, T. (CC-12) 54
Chen, T. (FH-05) 108
Chen, W. (CS-07) 67
Chen, W. (IQ-06) 142
Chen, W. (JY-15) 182
Chen, X. (BW-17) 50
Chen, X. (FB-12) 100
Chen, X. (HB-12) 123
Chen, X. (HC-04) 124
Chen, Y. (AQ-04) 13
Chen, Y. (AR-04) 15
Chen, Y. (AS-09) 17
Chen, Y. (AU-11) 21
Chen, Y. (AV-05) 22
Chen, Y. (BR-09) 40
Chen, Y. (BU-03) 45
Chen, Y. (BU-04) 45
Chen, Y. (BU-05) 45
Chen, Y. (CF-09) 59
Chen, Y. (CS-09) 68
Chen, Z. (AR-06) 15
Chen, Z. (FA-03) 97
Chen, Z. (FC-05) 101
Chen, Z. (IP-09) 141
Cheng, C. (BW-03) 48
Cheng, C. (JG-09) 160
Cheng, H. (CC-03) 52
Cheng, H. (CF-08) 59
Cheng, H. (IH-01) 138
Cheng, J. (CP-12) 63
Cheng, L. (BE-06) 27
Cheng, L. (BR-02) 39
Cheng, L. (BR-07) 40
Cheng, Q. (IA-08) 129
Cheng, S. (AQ-02) 13
Cheng, W. (BC-02) 24
Cheng, W. (BQ-02) 37
Cheng, W. (IQ-01) 141
Cheng, X. (AE-12) 11
Cheng, Y. (FG-15) 108
Cheng, Z. (CS-06) 67
Chengkun, S. (HC-10) 125
Chérif, S. (IR-02) 143
Cherif, S.M. (IR-01) 143
Cherkasskii, M. (FD-07) 103
Chernichenko, A. (IR-17) 145
Chernov, S.V. (FH-13) 110
Chernyshov, D. (DF-06) 78
Cherubini, G. (IA-09) 129
Chiba, M. (JR-01) 168
Chichkov, V. (DP-08) 81
Chigarev, S. (FP-02) 110
Chikaki, S. (JG-02) 159
Childress, J.R. (IB-07) 130
Childress, J.R. (IR-12) 144
Chin, J. (AU-10) 21
Ching, T. (BT-05) 43
Ching, T. (BV-05) 47
Chinnasamy, C. (BE-03) 27
Chinnasamy, K. (JP-02) 165
Chiriac, H. (IS-03) 146
Chiriac, H. (IT-07) 148
Chiriac, H. (JP-03) 165
Chiriac, H. (JW-08) 176
Chiriac, H. (JY-04) 180
Chistyakov, V. (DB-11) 71
Cho, H. (AQ-07) 14
Cho, H. (BQ-10) 38
Cho, H. (BR-06) 40
Cho, H. (BS-04) 42
Cho, H. (BV-09) 48
Cho, K. (DC-02) 72
Cho, Y. (IH-09) 139
Choi, G. (CP-14) 63
Choi, H. (DQ-06) 82
Choi, H. (DQ-07) 83
Choi, H. (JQ-04) 167
Choi, H. (JQ-05) 167
Choi, H. (JY-17) 182
Choi, H. (JY-18) 182
Choi, J. (AP-12) 13
Choi, J. (AQ-07) 14
Choi, J. (AU-08) 20
Choi, J. (BQ-05) 38
Choi, J. (BQ-06) 38
Choi, J. (BQ-09) 38
Choi, J. (BQ-10) 38
Choi, J. (BR-06) 40
Choi, J. (BS-01) 41
Choi, J. (BS-02) 41
Choi, J. (BS-04) 42
Choi, J. (BS-07) 42
Choi, J. (BV-07) 48
Choi, J. (BV-09) 48

*Best student presentation award finalist

Choi, M. (JD-04) 154
Choi, M. (JD-07) 154
Choi, S. (DP-03) 81
Choi, W. (CC-01) 52
Choi, Y. (CB-03) 51
Choi, Y. (DP-03) 81
Choi, Y. (DP-05) 81
Choi, Y. (JP-04) 165
Choi, Y. (YB-03) 2
Chopdekar, R. (FG-15) 108
Chowdhury, B. (ID-09) 134
Chshiev, M. (CB-02) 51
Chshiev, M. (CB-05) 52
Chshiev, M. (CF-04) 58
Chshiev, M. (DF-02) 77
Chshiev, M. (IP-10) 141
Chtchelkatchev, N. (DG-09) 80
Chubykalo-Fesenko, O. (AE-08) 10
Chubykalo-Fesenko, O. (FD-06) . . . 103
Chubykalo-Fesenko, O. (FG-02) . . . 105
Chubykalo-Fesenko, O. (HB-03) . . . 122
Chubykalo-Fesenko, O. (HP-07) . . . 128
Chubykalo-Fesenko, O. (IG-04) . . . 136
Chubykalo-Fesenko, O. (JI-02) 163
Chue, E. (HB-12) 123
Chuhan, L. (FP-13) 112
Chumak, A. (ED-11) 90
Chumak, A. (EE-04) 91
Chung, H. (CE-06) 57
Churikova, A. (FH-04) 108
Churikova, A. (FH-07) 109
Ciambelli, P. (JR-12) 170
Cideciyan, R.D. (IA-09) 129
Ciftja, O. (DQ-05) 82
Ciprian, C. (HC-04) 124
Ciubotaru, F. (EC-07) 88
Clark, A.T. (AE-12) 11
Clement, S. (YA-06) 2
Clendenning, S. (DA-04) 69
Clénet, S. (BH-05) 31
Coaquira, J.A. (JA-13) 150
Coatney, M.D. (JU-11) 175
Coene, A. (JG-03) 159
Coene, A. (JH-09) 162
Coester, B. (CD-03) 54
Cogulu, E. (CF-09) 59
Cogulu, E. (FG-15) 108
Coisson, M. (JF-11) 159
Coisson, M. (JU-06) 175
Collin, S. (CC-11) 53
Collin, S. (DB-02) 70
Collin, S. (HC-02) 124
Collin, S. (IQ-08) 142
Collingwood, J. (YA-03) 1
Conduit, G.J. (JB-06) 151
Conduit, G.J. (JB-07) 151
Connell, L. (AE-06) 10
Constantin, C. (JP-11) 166
Cooke, G. (BF-04) 28
Cooke, G. (BF-13) 28
Cooper, J.F. (GA-02) 113
Cooper, N.R. (AA-03) 3
Corodeanu, S. (IS-03) 146
Corodeanu, S. (JY-04) 180
Coronado, E. (DB-03) 70
Correa, D.C. (ER-05) 96
Correa, E. (AC-13) 7
Cortés, D. (HP-07) 128
Cosset-Cheneau, M. (CD-06) 55
Cosset-Cheneau, M. (CD-11) 55
Cosset-Cheneau, M. (CD-13) 56
Cosset-Cheneau, M. (DC-11) 73
Cosset-Cheneau, M. (FE-02) 104
Costa-Krämer, J. (DF-02) 77
Costa, R. (JT-06) 173
Costache, M.V. (DA-03) 69
Couet, S. (CF-12) 59
Couet, S. (CG-13) 61
Couet, S. (GD-09) 118
Cowburn, R. (JI-05) 164
Cramer, J. (FD-03) 103
Crespo, H. (FC-07) 101
Crespo, H. (JP-05) 165
Cros, V. (CC-08) 53
Cros, V. (CC-11) 53
Cros, V. (DD-10) 75
Cros, V. (EB-02) 85
Cros, V. (ED-03) 89
Cros, V. (ED-07) 89
Cros, V. (HC-02) 124
Cros, V. (HC-09) 125
Cros, V. (IB-04) 130
Cros, V. (ID-08) 133
Cros, V. (JA-12) 150
Crotti, D. (CF-12) 59
Crotti, D. (CG-13) 61
Csaba, G. (EE-06) 92
Cubukcu, M. (DC-09) 73
Cubukcu, M. (HC-06) 124
Cui, C. (GB-02) 114
Cui, C. (HD-01) 125
Cui, S. (HP-01) 127
Cui, W. (BG-11) 30
Cui, X. (AS-15) 18
Cui, X. (AS-16) 18
Curti, M. (AS-10) 18
Curto, D. (BD-04) 25
Cussac, S. (AC-06) 6
Cutugno, F. (FD-02) 102
Czettl, C. (AD-04) 9

- D -

d'Aquino, M. (EB-11) 86
d'Aquino, M. (FD-08) 103
d'Aquino, M. (GC-04) 116
d'Aquino, M. (GC-10) 117
D'Souza, S. (FH-13) 110
da Costa Neves, C.G. (BF-08) 28
da Costa Neves, C.G. (BG-14) 30
da Costa Neves, C.G. (BG-15) 30
Dai, L. (BR-03) 39
Dai, L. (BR-11) 40
Dai, Q. (IA-08) 129
Dalganan, A. (BE-04) 27
Damas, H. (CC-08) 53
Damian, A. (IS-03) 146
Damnjanovic, M. (IS-12) 146
Dang, T. (FB-01) 98
Daniels, B. (BI-04) 32
Daniels, M. (GA-04) 113
Daniels, M. (GB-12) 115
Danila, R. (JP-11) 166
Danilyuk, A.L. (JI-07) 164
Dao, D. (CQ-11) 65
Dao, D. (CR-09) 66
Dao, D. (IT-01) 147
Darcheville, M.S. (JX-04) 178
Das, A.K. (JE-10) 157
Das, P. (ED-15) 91
Das, P. (HP-08) 128
Das, S. (JQ-08) 168
Dash, S.P. (DC-04) 72
Datskaya, Z. (DP-06) 81
Davies, J. (IB-08) 131
Davino, D. (JF-07) 158
Davino, D. (JU-03) 174
Davydenko, A. (CB-01) 51
Davydenko, A. (IH-06) 138
Dawidek, R. (GA-02) 113
Dawidek, R. (GB-03) 114
De Graef, M. (AB-08) 5
De Graef, M. (GD-06) 118
De Graef, M. (IG-03) 136

*Best student presentation award finalist

de Julian Fernandez, C. (JD-11). . . . 155
de Julian Fernandez, C. (JR-11). . . . 170
de la Barrière, O. (JB-11). 151
De La Figuera, J. (IH-12). 139
De La Figuera, J. (IR-04). 143
de la Presa, P. (JH-10) 162
de Loubens, G. (EA-04). 84
de Loubens, G. (EB-02). 85
de Loubens, G. (ED-04). 89
de Loubens, G. (FP-06) 111
de Loubens, G. (HC-09). 125
de Matos Gomes, E. (DB-01) 70
de Melo, C. (DD-10) 75
de Melo, C. (DE-03) 76
De Moro do Carmo, C. (ER-10) 97
De Riz, A. (DD-05) 74
De Riz, A. (DD-06) 74
De Riz, A. (DD-08) 75
de Rojas, J. (DF-02). 77
de Souza Batalha, R.M. (ER-05) 96
de Souza Batalha, R.M. (ER-10) 97
De Teresa, J. (EB-02). 85
De Teresa, J. (JI-04). 163
de Toro, J. (IH-08) 139
de Vicente, J. (JD-09). 155
de Vicente, J. (YB-01) 2
De Zoysa Karunathilaka, V.
(CC-09). 53
Deffley, R. (IT-08) 148
DeHerrera, M. (CF-01) 58
Del Pizzo, A. (BJ-14). 34
del Real, R. (JI-02). 163
Del Rose, T. (JT-06). 173
Del-Valle, N. (GC-03) 116
Delgado Soria, G. (IR-04) 143
Delprat, S. (IQ-08). 142
Demaille, D. (JI-12). 164
Deman, A. (JH-01). 161
Demeter, L. (BP-15). 37
Demidov, V.E. (EA-02) 84
Demidov, V.E. (ED-07) 89
Demidov, V.E. (EE-08) 92
Demidov, V.E. (FB-05) 98
Demidov, V.E. (FG-03) 106
Demir, J. (ER-11). 97
Demir, Y. (BG-04) 29
Demokritov, S. (EA-02). 84
Demokritov, S. (ED-07). 89
Demokritov, S.O. (EE-08) 92
Demokritov, S.O. (FB-05) 98
Demokritov, S.O. (FG-03) 106
Dempsey, N. (JC-04) 152
Dempsey, N. (JD-03) 154
Dempsey, N. (JW-12). 177
Dendooven, J. (DF-02) 77
Deng, C. (BQ-13). 38
Deng, H. (AC-17) 8
Deng, H. (DG-04) 79
Deng, J. (AS-01) 17
Deng, Z. (BC-02). 24
Deng, Z. (BE-05). 27
Deng, Z. (BQ-02). 37
Denisova, E. (JR-06) 169
Dennis, C. (AC-13) 7
Derzhavin, I. (DP-06) 81
Descamps, L. (JH-01) 161
Desplat, L. (GC-01). 116
Desplat, L. (HA-06). 121
Detavernier, C. (DF-02). 77
Devillers, T. (JC-04). 152
Devillers, T. (JW-12) 177
Devlin, E. (JC-07) 153
Devolder, T. (DD-10). 75
Devolder, T. (HB-06). 122
Devolder, T. (HC-09). 125
Dhesi, S. (GA-02) 113
Dhesi, S. (GB-03) 114
Dhillon, S. (FB-01) 98
Dhiman, A.K. (IH-03) 138
Di Pietro Martínez, M. (IG-08) 137
Di Ventra, M. (GB-13). 115
Di, C. (AP-10) 12
Di, C. (AQ-05). 13
Di, C. (AU-09). 20
Di, C. (BW-02). 48
Di, C. (CR-03) 65
Diab, H. (BD-11) 26
Diallo, L. (JF-11) 159
Diao, K. (BW-07). 49
Díaz-Caballero, E. (YA-01) 1
Díaz-García, Á. (JE-01). 155
Díaz-García, Á. (JE-08). 157
Díaz-García, Á. (JE-09). 157
Diaz-Sanchez, L.E. (JW-13) 177
Diaz, J. (EC-05) 87
Diaz, S.A. (HC-08) 125
Dieny, B. (AE-07) 10
Dieny, B. (CF-04) 58
Dieny, B. (CF-06) 58
Dieny, B. (CF-07) 58
Dieny, B. (CF-11). 59
Dieny, B. (CG-03) 60
Dieny, B. (ED-10) 90
Dieny, B. (ER-06) 96
Dieny, B. (ID-07). 133
Diep, H.T. (HD-07) 126
Diez, J.M. (DB-09) 71
Diez, J.M. (IG-11) 137
Diez, J.M. (IH-14) 139
Diez, J.M. (IR-16) 145
Diez, L.H. (FE-09). 105
Diko, P. (JR-03) 169
Dimier, T. (BJ-01) 33
Dimoulas, A. (DC-01) 72
Din, E. (CG-05) 60
Ding, B. (HB-09). 123
Ding, B. (IF-04). 135
Ding, H. (CP-10) 62
Ding, H. (CP-12) 63
Ding, J. (CP-12). 63
Ding, S. (FG-06) 106
Ding, X. (ER-07) 96
Ding, Y. (AR-04) 15
Ding, Z. (AT-08). 19
Dinh, C. (CQ-11) 65
Dinh, C. (CR-09) 66
Dinh, C. (IT-01) 147
Diop, L. (DQ-04). 82
Dirba, I. (JC-05). 153
Disch, S. (JI-09). 164
Dittrich, F. (HC-10) 125
Divinskiy, B. (EA-02) 84
Divinskiy, B. (ED-07) 89
Divinskiy, B. (EE-08) 92
Divinskiy, B. (FB-05) 98
Divinskiy, B. (FG-03) 106
Dizhur, S. (FB-03) 98
Dlubak, B. (DB-02) 70
Dlubak, B. (DB-03) 70
do Carmo Resende, Ú. (ER-05). 96
do Carmo Resende, Ú. (ER-04). 96
Doan, V. (CQ-11). 65
Doan, V. (CR-09). 66
Doan, V. (IT-01). 147
Dobročka, E. (JX-01). 178
Dobrogoski, W. (IH-03). 138
Dobrovolskiy, O. (EC-02) 87
Dobrovolskiy, O. (ED-11) 90
Dohi, T. (FG-05) 106
Dohi, T. (HC-10) 125
Dohi, T. (IH-03). 138
Dolezal, P. (FG-08) 107

*Best student presentation award finalist

Dolgopolova, M.V. (JR-06) 169
Dolisy, B. (BA-03) 22
Doludenko, I. (FP-02) 110
Domac, B.H. (JH-02) 161
Domann, J.P. (JF-06) 158
Domann, J.P. (JF-08) 158
Domozhirova, A. (DB-11) 71
Dong, G. (JB-01) 150
Dong, H. (IB-09) 131
Dong, J. (CP-07) 62
Dong, K. (CP-02) 61
Dong, K. (CP-08) 62
Dong, K. (GP-05) 119
Dong, K. (HP-06) 127
Dong, K. (IQ-04) 142
Dong, K. (IS-16) 147
Dong, K. (JY-07) 181
Dong, X. (BU-10) 46
Dong, Y. (HA-05) 121
Donnelly, C. (AA-03) 3
Donnelly, C. (JI-05) 164
Dorrell, D.G. (AS-01) 17
Doshita, H. (IA-09) 129
Dosoudil, R. (JX-01) 178
Dou, R. (JX-14) 180
Dou, Y. (CQ-06) 64
Dou, Y. (CQ-07) 64
Dou, Y. (JX-15) 180
Doucet, M. (BE-04) 27
Dounia, S. (IB-07) 130
Dragan, R. (BF-03) 27
Dragan, R. (BF-04) 28
Dragan, R. (BF-13) 28
Dragos-Pinzaru, O. (IT-07) 148
Draxler, K. (IT-09) 148
Drossel, W. (JC-03) 152
Drouhin, M. (GA-02) 113
Drozdz, P. (IG-07) 137
Drozdz, P. (IH-10) 139
Drozdz, P. (IH-11) 139
Du, B. (CR-07) 66
Du, H. (JB-10) 151
Du, J. (FC-05) 101
Du, J. (IS-09) 146
Du, Y. (AU-12) 21
Du, Y. (BQ-13) 38
Du, Y. (BR-05) 39
Du, Y. (CR-08) 66
Duan, N. (CS-10) 68
Dubois, S.M. (DB-02) 70
Dubs, C. (ED-11) 90
Dubs, C. (EE-04) 91
Ducharne, B. (AD-09) 9
Ducharne, B. (AD-10) 9
Ducharne, B. (JG-04) 160
Ducreux, J. (JB-13) 152
Ducruet, C. (IR-12) 144
Dumas, R.K. (IC-07) 132
Dumesnil, K. (ID-01) 132
Dupé, B. (HA-06) 121
Dupé, B. (HB-02) 122
Dupont, P. (JB-12) 152
Dupuis, V. (JD-03) 154
Dupuis, V. (JI-11) 164
Dupuis, V. (JW-13) 177
Dupuy, J. (JB-12) 152
Duquesne, J. (FB-10) 99
Durbha, R. (ID-11) 134
Durin, G. (FE-09) 105
Durr, H. (FD-05) 103
Durrenfeld, P. (FB-08) 99
Dutta, R. (DF-06) 78
Dutta, T. (FH-03) 108
DuttaGupta, S. (CC-09) 53
DuttaGupta, S. (FG-05) 106
Dyachkova, T. (JT-03) 172
Dzhun, I.O. (IR-14) 145
Dzubinska, A. (DQ-01) 82
Dzubinska, A. (JE-04) 156

- E -

Eames, P. (IB-08) 131
Ebels, U. (EA-04) 84
Ebels, U. (ED-10) 90
Ebels, U. (ER-06) 96
Ebels, U. (IB-04) 130
Ebels, U. (ID-07) 133
Ebels, U. (ID-08) 133
Ebermann, P. (IA-09) 129
Ebert, H. (CD-04) 55
Eda, G. (DA-06) 69
Eda, G. (DC-03) 72
Eggert, B. (IA-03) 128
Ehrler, J. (FB-02) 98
Ehrlich, A. (AD-06) 9
Ehrlich, J. (YB-04) 2
Eichenberger, L. (DQ-04) 82
Eimer, S.R. (IH-01) 138
Eisebitt, S. (AB-05) 4
Eisebitt, S. (HB-02) 122
Ekomasov, A. (CS-02) 67
Ekomasov, E.G. (CS-02) 67
Ekomasov, E.G. (EQ-08) 95
El Hamdi, A. (CD-08) 55
El Kanj, A. (ED-03) 89
El maalam, K. (JS-09) 171
ElBidweihy, H. (JP-15) 167
Ellis, M.O. (FD-06) 103
Ellis, M.O. (GA-02) 113
Ellis, M.O. (GB-04) 114
Ellis, M.O. (GB-09) 115
Ellis, M.O. (GB-11) 115
Elmers, H. (FH-13) 110
Elphick, K. (CE-03) 56
Elphick, K. (CG-06) 60
Elphick, K. (IE-02) 134
Emelyanova, S. (JT-03) 172
Emerenciano Santos, H. (BG-14) . . . 30
Encica, L. (BA-02) 22
Encomendero, J. (IH-09) 139
Endo, H. (DP-04) 81
Endo, Y. (CC-09) 53
Endo, Y. (EE-05) 91
Endo, Y. (FB-09) 99
Endo, Y. (FP-11) 112
Endo, Y. (JY-05) 181
Endoh, T. (CC-09) 53
Endoh, T. (CF-03) 58
Endoh, T. (CF-05) 58
Endoh, T. (CG-07) 60
Ener, S. (JE-02) 156
Engel, D. (HB-02) 122
Enger, L. (IB-05) 130
Ensinger, W. (GD-02) 117
Epicier, T. (JD-03) 154
Eremin, E. (DQ-08) 83
Eremin, M. (DF-11) 78
Eriksson, O. (JD-02) 154
Eroglu, A. (ID-09) 134
Erohkin, S. (JD-11) 155
Escoda-Torroella, M. (JH-07) 162
Escoda-Torroella, M. (JH-08) 162
Escrig, J. (HP-07) 128
Esien, K. (AE-06) 10
Esien, K. (DG-10) 80
Eskandari, H. (BH-04) 31
Espanet, C. (AC-12) 7
Esquinazi, P.D. (GC-11) 117
Estemirova, S. (DP-06) 81
Evans, R.F. (FD-06) 103
Evans, R.F. (FG-02) 105

*Best student presentation award finalist

Evans, R.F. (JW-10) 177
Everaert, K. (AC-08) 6
Evstigneeva, S. (JY-03) 180
Exl, L. (GC-06) 116
Ezawa, M. (HD-07) 126

- F -

Fabbrici, S. (JE-09) 157
Fabian, J. (DC-13) 73
Facio, J. (JX-06) 179
Fagan, P. (AD-09) 9
Fan, D. (AQ-12) 14
Fan, D. (BB-01) 23
Fan, W. (BP-08) 36
Fan, X. (BJ-06) 33
Fan, X. (FH-09) 109
Fan, Y. (BG-13) 30
Fan, Z. (JW-04) 176
Fang, C. (CB-01) 51
Fang, C. (CP-07) 62
Fang, C. (CP-11) 63
Fang, C. (FB-12) 100
Fang, C. (GP-02) 119
Fang, D. (AS-11) 18
Fang, S. (BT-03) 43
Fang, X. (JQ-03) 167
Fang, Y. (BI-06) 32
Fang, Y. (BU-13) 46
Fang, Y. (BU-15) 46
Fangohr, H. (DD-04) 74
Fangohr, H. (GC-05) 116
Faria Junior, P.E. (DC-13) 73
Fariborzi, H. (GB-06) 114
Farle, M. (FB-02) 98
Farle, M. (FD-07) 103
Fassatoui, A. (FE-08) 105
Fassatoui, A. (HB-07) 122
Fassatoui, A. (HB-08) 122
Fassbender, J. (GD-04) 118
Faupel, F. (IB-02) 130
Favaro, F. (AB-11) 5
Fecher, G. (IA-11) 129
Fecova, L. (JR-08) 169
Fedchenko, O. (FH-13) 110
Felser, C. (CA-05) 51
Felser, C. (DC-06) 72
Felser, C. (HP-02) 127
Felser, C. (IA-11) 129
Felton, S. (AE-06) 10
Felton, S. (DG-10) 80
Feng, J. (CC-05) 53
Feng, L. (BW-05) 49
Feng, L. (JD-08) 155
Feng, S. (BU-10) 46
Feng, X. (BS-10) 42
Feng, Y. (AB-09) 5
Feng, Y. (AP-07) 12
Feng, Y. (AQ-01) 13
Feng, Z. (AS-01) 17
Fermon, C. (IB-04) 130
Fernández Cuñado, J.L. (IG-11) . . . 137
Fernández González, C. (DD-07) . . . 75
Fernández González, C. (JD-11) . . . 155
Fernandez Scarioni, A. (GA-05) . . . 113
Fernandez-Pacheco, A. (JI-04) 163
Fernandez-Pacheco, A. (JI-05) 164
Fernandez-Roldan, J. (IG-04) 136
Fernandez-Roldan, J. (JI-02) 163
Fernández, M.A. (JH-03) 161
Ferrara, E. (JB-11) 151
Ferreira, A.H. (ER-05) 96
Ferreira, R. (DD-09) 75
Ferreira, R. (ER-08) 96
Ferreira, R. (ID-08) 133
Ferrer, S. (CQ-08) 64
Ferroudj, A. (DQ-02) 82
Fert, A. (CB-05) 52
Fert, A. (CC-08) 53
Fert, A. (CC-11) 53
Fert, A. (DB-02) 70
Fert, A. (HC-02) 124
Fetisov, L.Y. (AU-01) 20
Fetisov, Y.K. (AU-01) 20
Fiebig, M. (CE-04) 56
Fil'chenkov, I. (EQ-04) 94
Filianina, M. (FG-06) 106
Filipe Horto Belo da Silva, J. (DB-01) 70
Fillion, C. (HB-07) 122
Fillion, C. (HP-04) 127
Finazzi, M. (CB-05) 52
Finco, A. (AB-11) 5
Finizio, S. (AA-03) 3
Finizio, S. (DD-05) 74
Finizio, S. (ED-05) 89
Finizio, S. (HA-01) 120
Finizio, S. (JI-01) 163
Finkel, P. (DF-04) 77
Finkel, P. (IB-03) 130
Finkel, P. (JF-05) 158
Finkel, P. (JF-13) 159
Finocchio, G. (FD-02) 102
Finocchio, G. (FG-06) 106
Finocchio, G. (HA-03) 120
Finocchio, G. (HA-05) 121
Finocchio, G. (HC-11) 125
Fiorillo, F. (JB-11) 151
Fischbacher, J. (AD-04) 9
Fischer, H. (ID-01) 132
Fischer, J. (AB-11) 5
Fisher, E. (GC-08) 117
Fix, M. (FA-05) 98
Flajšman, L. (ED-05) 89
Flament, S. (IB-05) 130
Flatau, A. (YB-06) 3
Flores Filho, A.F. (BF-08) 28
Flores Filho, A.F. (BG-14) 30
Flores Filho, A.F. (BG-15) 30
Flores-Zúñiga, H. (JT-01) 172
Fnidiki, A. (JF-11) 159
Foerster, M. (DD-07) 75
Foerster, M. (FH-06) 109
Foerster, M. (GA-02) 113
Foerster, M. (GB-03) 114
Foerster, M. (HD-04) 126
Foerster, M. (IH-12) 139
Foerster, M. (JI-02) 163
Fong, C. (DP-11) 82
Fontana, E. (JW-12) 177
Forestier, G. (FH-02) 108
Forment-Aliaga, A. (DB-03) 70
Förster, J. (ED-05) 89
Fortin, J. (JB-12) 152
Foury, P. (EC-12) 88
Fraile Rodríguez, A. (IG-01) 136
Fraile Rodríguez, A. (JH-07) 162
Fraile Rodríguez, A. (JH-08) 162
Fraile Rodríguez, A. (JI-02) 163
Francis, F. (DP-02) 81
Franco, V. (DP-01) 80
Franco, V. (JE-01) 155
Franco, V. (JE-07) 156
Franco, V. (JE-08) 157
Franco, V. (JE-09) 157
Francoual, S. (AC-11) 7
Franke, K.J. (FE-03) 104
Franklin, J.D. (AB-10) 5
Franklin, J.D. (DC-10) 73
Franzitta, V. (BD-04) 25
Freimuth, F. (FD-03) 103
Freimuth, F. (FD-04) 103
Freimuth, F. (FH-10) 109
Freindl, K. (IR-04) 143

*Best student presentation award finalist

Freitas, F.M. (ER-04) 96
Freitas, P.P. (DD-09) 75
Freitas, S.C. (JP-05) 165
Freudenberger, J. (JW-14) 177
Friedman, J.S. (GB-02) 114
Frost, W. (CG-06) 60
Fruchart, O. (CG-03) 60
Fruchart, O. (DD-05) 74
Fruchart, O. (DD-06) 74
Fruchart, O. (DD-07) 75
Fruchart, O. (DD-08) 75
Fruchart, O. (GD-02) 117
Fruchart, O. (HB-08) 122
Fry, P. (GA-02) 113
Fry, P. (GB-03) 114
Fu, C. (IQ-10) 143
Fu, J. (CS-07) 67
Fu, J. (ER-07) 96
Fu, J. (JY-15) 182
Fu, W. (AP-01) 11
Fu, W. (BS-03) 41
Fu, W. (BU-03) 45
Fu, W. (BU-04) 45
Fu, W. (BU-05) 45
Fu, W. (BU-11) 46
Fu, W. (BU-16) 46
Fu, W. (BU-17) 46
Fu, W. (BU-18) 46
Fu, W. (JY-14) 182
Fu, Y. (CD-11) 55
Fu, Y. (CQ-06) 64
Fu, Y. (CQ-07) 64
Fu, Y. (DC-11) 73
Fuad, A. (EA-04) 84
Fuhrmann, F. (FG-06) 106
Fujii, J. (DB-06) 71
Fujisaki, K. (JA-11) 150
Fujisaki, K. (TU-02) 1
Fujiwara, K. (CD-09) 55
Fujiwara, S. (JP-08) 166
Fukami, S. (CC-09) 53
Fukami, S. (CG-01) 59
Fukami, S. (CG-02) 60
Fukami, S. (FC-09) 102
Fukami, S. (FD-01) 102
Fukami, S. (FG-05) 106
Fukami, S. (GB-10) 115
Fukami, S. (IH-03) 138
Fukushima, A. (CD-10) 55
Fukushima, A. (GB-07) 115
Fukushima, A. (IB-04) 130
Fukushima, A. (IH-04) 138
Fulara, H. (FB-08) 99
Fullerton, E. (HD-09) 127
Funabashi, N. (JS-04) 171
Funatsu, T. (GB-10) 115
Furrer, S. (IA-09) 129
Fusil, S. (AB-11) 5
Fusil, S. (ED-02) 89
Futamoto, M. (JD-05) 154

- G -

G. V., V. (DP-02) 81
Gabay, A. (JC-06) 153
Gabor, M. (IQ-05) 142
Gabor, M. (IR-01) 143
Gabsi, M. (BA-06) 22
Gaida, J. (HB-02) 122
Galanakis, I. (DP-01) 80
Galbiati, M. (DB-02) 70
Galbiati, M. (DB-03) 70
Galceran, R. (DB-03) 70
Galdun, L. (DQ-01) 82
Galdun, L. (IC-03) 132
Galdun, L. (JR-03) 169
Galdun, L. (JT-04) 173
Galdun, L. (JT-05) 173
Gallas, B. (JI-12) 164
Galluzzi, A. (JR-12) 170
Galve, F. (YA-01) 1
Gambardella, P. (CC-06) 53
Gambardella, P. (CC-13) 54
Gambardella, P. (CD-11) 55
Gambardella, P. (CE-04) 56
Gambardella, P. (HB-06) 122
Gambarelli, S. (CD-11) 55
Gamcova, J. (IC-03) 132
Gan, Q. (BU-13) 46
Gan, W. (CD-03) 54
Gan, W. (HB-04) 122
Gan, W. (JA-05) 149
Gandha, K. (JC-08) 153
Gandha, K. (JU-10) 175
Gao, J. (BP-16) 37
Gao, J. (BR-03) 39
Gao, J. (BR-11) 40
Gao, J. (CE-04) 56
Gao, L. (AR-17) 16
Gao, L. (JX-13) 179
Gao, P. (ED-12) 90
Gao, Q. (IQ-10) 143
Gao, T. (CE-12) 57
Gao, X. (BJ-04) 33
Gao, Y. (CS-11) 68
Gao, Z. (IP-12) 141
García del Muro, M. (IG-01) 136
García del Muro, M. (JH-07) 162
Garcia Hernandez, M. (JD-11) 155
García-Arribas, A. (JF-12) 159
Garcia-Sanchez, F. (GA-05) 113
García-Soriano, D. (JG-05) 160
Garcia, C. (FC-04) 101
Garcia, C. (FC-07) 101
Garcia, F. (JE-12) 157
Garcia, J. (JG-04) 160
Garcia, J.H. (CB-06) 52
Garcia, J.H. (DA-03) 69
Garcia, V. (AB-11) 5
Garcia, V. (ED-02) 89
Garello, K. (AC-06) 6
Garello, K. (CF-12) 59
Garello, K. (CG-13) 61
Garello, K. (FE-02) 104
Garello, K. (GD-09) 118
Gargiani, P. (DB-04) 70
Gariglio, S. (CD-08) 55
Garst, M. (HB-10) 123
Garten, L. (DF-04) 77
Gassmann, J. (JC-02) 152
Gatel, C. (GA-05) 113
Gatel, C. (JI-04) 163
Gaudin, G. (HB-07) 122
Gaudin, G. (HC-05) 124
Gaudin, G. (HD-04) 126
Gaudry, E. (JF-03) 158
Gaviko, V. (JT-09) 173
Gavriloaea, P.I. (HB-03) 122
Gavrilov, S. (DF-09) 78
Ge, H. (BP-17) 37
Ge, J. (IB-09) 131
Ge, Q. (BS-08) 42
Ge, Y. (BH-02) 31
Ge, Y. (FG-05) 106
Ge, Y. (HC-10) 125
Ge, Y. (JE-05) 156
Gegenwart, P. (DG-04) 79
Géhanne, P. (AE-02) 10
Geilen, M. (EB-03) 85
Geng, H. (JW-04) 176
Geng, L. (BV-01) 47
Geng, W. (AR-05) 15
Geng, W. (BV-04) 47
Genuzio, F. (HB-08) 122

*Best student presentation award finalist

Genuzio, F. (IH-11) 139
George, J. (CB-05) 52
George, J. (CC-11) 53
George, J. (FB-01) 98
George, J. (JE-05) 156
Geprägs, S. (CE-05) 56
Geprägs, S. (FG-10) 107
Gerasimenko, A. (JP-06) 165
Gerasimova, N. (FD-05) 103
Gerken, M. (IB-02) 130
Gerlach, T. (YB-04) 2
Gerlinger, K. (HB-02) 122
Ghanbaja, J. (CC-08) 53
Ghanbaja, J. (JF-03) 158
Ghandour, M. (BD-11) 26
Ghemes, C. (IT-07) 148
Ghosh, A. (HD-05) 126
Ghosh, S. (CB-02) 51
Ghosh, S. (FD-04) 103
Ghosh, S. (IP-10) 141
Giebultowski, M. (AC-03) 6
Gilbert, D. (FG-07) 106
Gillon, F. (AP-06) 12
Gillon, F. (BJ-11) 34
Gilroy, E.R. (IH-13) 139
Giordano, A. (HA-03) 120
Giordano, A. (HC-11) 125
Giraud, A. (BJ-08) 34
Giri, A. (JE-07) 156
Giri, A. (JE-08) 157
Gjokas, M. (JC-07) 153
Gladii, O. (FH-02) 108
Gliga, S. (AA-03) 3
Gliniors, B. (CD-04) 55
Gloskovskii, A. (FH-13) 110
Glowinski, H. (EC-08) 88
Go, D. (CE-12) 57
Go, D. (FH-10) 109
Go, G. (EC-10) 88
Göbel, B. (FG-01) 105
Göbel, B. (HD-03) 126
Göbel, B. (HP-02) 127
Godel, F. (DB-02) 70
Godel, F. (DB-03) 70
Godel, F. (IQ-08) 142
Godinho, J. (AB-04) 4
Goennenwein, S.T. (FG-08) 107
Goennenwein, S.T. (FH-08) 109
Goforth, M.E. (JF-06) 158
Goforth, M.E. (JF-08) 158
Goldys, E. (YA-06) 2
Golubeva, E. (IB-02) 130
Gomes Rolo, A. (DB-01) 70
Gomez-Perez, J. (CE-04) 56
Gomez, C. (FH-02) 108
Gomez, G. (CR-05) 66
Gómez, J. (FB-06) 99
Gómez, J. (FC-04) 101
Gomonay, O. (FD-04) 103
Gomonay, O. (FG-04) 106
Gomonay, O. (FG-11) 107
Gompertz, J. (IG-09) 137
Gonçalves Almeida, B. (DB-01) 70
Gonçalves Almeida, B. (DE-06) 76
Gonçalves Almeida, B. (JE-12) 157
Gonçalves Almeida, B. (JP-05) 165
Gonçalves, J.N. (JE-11) 157
Gong, M. (IH-09) 139
Gong, Y. (BP-14) 36
Gong, Y. (FC-05) 101
González-Gómez, L. (GC-03) 116
Gonzalez-Hernandez, R. (FG-08) . . . 107
González, J. (YA-01) 1
Gonzalez, T. (IB-05) 130
Goovaerts, E. (FB-06) 99
Gopal, R.K. (DP-10) 81
Gopman, D.B. (IH-05) 138
Gorbenko, A. (JQ-07) 168
Gorchon, J. (FD-01) 102
Gorchon, J. (HB-01) 121
Gorchon, J. (ID-01) 132
Gorkovenko, A. (IR-10) 144
Gorkovenko, A. (IR-11) 144
Gort, R. (FD-05) 103
Gosavi, T. (CC-01) 52
Gosavi, T. (DA-04) 69
Goss, G. (JQ-02) 167
Gossuin, Y. (JR-10) 169
Goto, M. (GA-03) 113
Gotoh, Y. (IC-02) 132
Gotoh, Y. (IS-15) 147
Gottschall, T. (JE-02) 156
Gouchi, J. (JT-11) 174
Gouchi, J. (JX-07) 179
Gouéré, D. (EB-02) 85
Gouéré, D. (ED-02) 89
Gouéré, D. (ED-03) 89
Gouéré, D. (ED-07) 89
Gouéré, D. (JA-12) 150
Goux, L. (CF-12) 59
Grachev, A. (EC-04) 87
Grachev, A. (EQ-04) 94
Grachev, A. (EQ-07) 95
Graczyk, P. (EC-08) 88
Gradhand, M. (IH-13) 139
Gräfe, J. (AA-01) 3
Graham, D. (FB-13) 100
Graham, S. (BF-04) 28
Gramage, C. (YA-01) 1
Granados Miralles, C. (JD-11) 155
Grassi, M. (EB-03) 85
Grau-Ruiz, D. (YA-01) 1
Graulich, D. (AC-11) 7
Greaves, S. (GP-03) 119
Greenblatt, M. (DF-07) 78
Greer, J.A. (FH-04) 108
Greer, J.A. (FH-07) 109
Greneche, J. (JX-04) 178
Greve, D.W. (JA-04) 149
Grezes, C. (CD-11) 55
Grezes, C. (CD-13) 56
Grezes, C. (DC-11) 73
Grezes, C. (FE-02) 104
Griggs, W. (IA-03) 128
Grigoras, M. (JW-08) 176
Grim, V. (IB-06) 130
Grim, V. (IC-06) 132
Grim, V. (IT-09) 148
Grimaldi, E. (HB-06) 122
Grimes, M. (IA-03) 128
Grishin, S.V. (EB-04) 85
Grishin, S.V. (ER-01) 95
Grochot, K. (CC-14) 54
Groen, I. (CC-01) 52
Grollier, J. (GA-01) 112
Gross, M. (IQ-03) 142
Gross, R. (CE-05) 56
Gross, R. (FG-10) 107
Groza, G. (JW-12) 177
Gruber, R. (FG-05) 106
Gruber, R. (HC-10) 125
Grundler, D. (EC-03) 87
Grundler, D. (ED-12) 90
Grundler, D. (ED-14) 90
Grundler, D. (EE-03) 91
Grundler, D. (HC-07) 124
Gruszecki, P. (EB-07) 86
Gruszecki, P. (EC-05) 87
Gruszecki, P. (EE-07) 92
Gruszecki, P. (EE-14) 93
Grutter, A. (DE-07) 76
Grutter, A. (FG-07) 106
Grzybowski, M. (FG-09) 107
Gu, C. (CS-05) 67

*Best student presentation award finalist

Gu, X. (AU-10) 21
Gu, X. (BQ-01) 37
Guan, W. (CS-11) 68
Guang, Y. (CC-05) 53
Guang, Y. (HB-05) 122
Gubanov, V. (EP-03) 93
Gubanov, V. (EP-09) 94
Gubbiotti, G. (EE-10) 92
Gückelhorn, J. (CE-05) 56
Gückelhorn, J. (FG-10) 107
Gudín Holgado, A. (DB-09) 71
Gudín Holgado, A. (IH-14) 139
Gudín Holgado, A. (IR-16) 145
Gueckstock, O. (CD-04) 55
Gueckstock, O. (DC-12) 73
Guedeja-Marron Gil, A. (IR-16) . . . 145
Guendouz, W. (BU-14) 46
Guenther, G. (DG-04) 79
Guerrero, R. (AE-08) 10
Guerrero, R. (DB-09) 71
Guerrero, R. (IH-14) 139
Guerrero, R. (IR-16) 145
Gui, Y. (EC-01) 87
Guillemard, C. (DD-10) 75
Guillemard, C. (DE-01) 75
Guillemard, C. (DE-03) 76
Guillet, B. (IB-05) 130
Guillet, T. (CB-05) 52
Guin, S. (DC-06) 72
Guizar-Sicarios, M. (AA-03) 3
Gulec, M. (BH-06) 31
Guller, A. (YA-06) 2
Gumerov, A. (CS-02) 67
Gunduz Akdogan, N. (JH-02) 161
Günther, C.M. (AB-05) 4
Günther, C.M. (HB-02) 122
Guo, B. (BP-17) 37
Guo, C. (CP-07) 62
Guo, C. (CP-11) 63
Guo, C. (ED-12) 90
Guo, C. (EP-06) 94
Guo, C. (GP-02) 119
Guo, J. (BC-03) 24
Guo, J. (DG-09) 80
Guo, J. (HP-03) 127
Guo, L. (AC-18) 8
Guo, L. (BI-05) 32
Guo, L. (CR-07) 66
Guo, M. (HA-05) 121
Guo, P. (JU-07) 175
Guo, P. (JU-08) 175
Guo, S. (JR-02) 168
Guo, W. (JU-07) 175
Guo, Y. (BD-10) 26
Guo, Z. (IH-01) 138
Gupta, A. (DP-01) 80
Gupta, A. (IG-12) 137
Gupta, A. (IH-07) 138
Gupta, A. (IR-09) 144
Gupta, M. (CG-13) 61
Gupta, R. (IG-12) 137
Gupta, R. (IR-09) 144
Gupta, S. (JE-06) 156
Gurleyen, H. (BF-09) 28
Gusakova, D. (CD-13) 56
Gusakova, D. (DD-05) 74
Gusakova, D. (DD-06) 74
Gusakova, D. (DD-07) 75
Gusakova, D. (DD-08) 75
Gusakova, D. (GD-02) 117
Gushi, T. (CB-02) 51
Gushi, T. (IP-10) 141
Guslienko, K. (EB-07) 86
Guslienko, K. (IG-04) 136
Gutfleisch, O. (CR-05) 66
Gutfleisch, O. (JC-02) 152
Gutfleisch, O. (JC-05) 153
Gutfleisch, O. (JE-02) 156
Gutfleisch, O. (JF-04) 158
Gutfleisch, O. (JT-06) 173
Gutfleisch, O. (TU-01) 1
Gutiérrez, J. (JF-12) 159
Gutierrez, J. (JW-13) 177
Gutiérrez, L. (JG-05) 160
Gutkelch, D. (AC-08) 6
Gutt, C. (FD-03) 103
Güttel, R. (JI-08) 164
Guzmán Mínguez, J. (JD-11) 155
Gwag, E. (JG-10) 160
Gypens, P. (GB-13)* 115
Gyselinck, J. (BH-04) 31
Gyselinck, J. (BI-01) 32

- H -

Hadimani, R.L. (AC-16) 7
Hadimani, R.L. (CQ-10) 65
Hadimani, R.L. (JE-06) 156
Hadimani, R.L. (JQ-06) 167
Hadjipanayis, G. (JC-06) 153
Hadjout, L. (AQ-08) 14
Haeberle, W. (IA-09) 129
Haettel, R. (JC-04) 152
Hageman, T. (AC-10) 7
Hai, N. (IP-09) 141
Hai, P.N. (CD-09) 55
Haidar, M. (FB-08) 99
Haldar, A. (ED-01) 88
Haldar, A. (FB-04) 98
Haldar, A. (FP-10) 111
Haldar, A. (HP-05) 127
Hall, A.J. (JU-11) 175
Hallal, A. (CB-02) 51
Hallal, A. (CB-05) 52
Hallal, A. (CF-04) 58
Hallal, A. (IP-10) 141
Haltz, E. (AE-10) 11
Haltz, E. (AE-11) 11
Haltz, E. (FH-06) 109
Haltz, E. (HD-08) 126
Hamada, S. (JP-07) 166
Hamidi, S. (JR-07) 169
Hamrle, J. (JF-02) 157
Hamzehbahmani, H. (BJ-09) 34
Hamzehbahmani, H. (CS-11) 68
Han, G. (BQ-14) 39
Han, H. (DC-02) 72
Han, H. (HA-05) 121
Han, J. (BG-10) 30
Han, J. (JW-09) 176
Han, J. (JY-13) 181
Han, W. (AS-02) 17
Han, W. (AU-03) 20
Han, W. (HA-05) 121
Han, X. (CB-01) 51
Han, X. (CC-05) 53
Han, X. (CG-10) 60
Han, X. (CP-07) 62
Han, X. (CP-11) 63
Han, X. (DB-05) 70
Han, X. (ED-12) 90
Han, X. (EP-05) 93
Han, X. (EP-06) 94
Han, X. (FP-09) 111
Han, X. (GP-02) 119
Han, X. (HB-05) 122
Han, X. (IQ-06) 142
Han, Y. (IR-07) 144
Hane, Y. (BI-02) 32
Hane, Y. (BI-03) 32
Hanke, J. (FH-10) 109
Hantila, I. (BP-15) 37
Haran, K. (BB-07) 23
Haraux, P. (DQ-04) 82

*Best student presentation award finalist

Harbig, J. (JC-02) 152
Harris, J. (JX-10) 179
Harris, V. (JP-02) 165
Hartmann, U. (ER-11) 97
Hartnett, T. (JE-03) 156
Harvey, T. (HB-02) 122
Hasan, M. (FE-06) 104
Hasegawa, S. (HC-03) 124
Hashi, S. (FB-09) 99
Hashi, S. (JY-05) 181
Haspot, V. (ED-02) 89
Hassan, S. (IG-09) 137
Hatano, M. (JG-02) 159
Hauet, T. (ID-01) 132
Hauet, T. (JF-03) 158
Haupt, J. (AD-02) 8
Hawacker, J. (FB-01) 98
Hayakawa, K. (FC-09) 102
Hayakawa, K. (GB-10) 115
Hayashi, M. (HC-03) 124
Haykal, A. (AB-11) 5
Hayward, T. (GA-02) 113
Hayward, T. (GB-03) 114
Hayward, T. (GB-04) 114
Hayward, T. (GB-09) 115
Hayward, T. (GB-11) 115
He, C. (CC-05) 53
He, K. (CP-12) 63
He, L. (FC-05) 101
He, L. (IQ-10) 143
He, P. (IF-01) 135
He, Y. (IA-11) 129
He, Z. (JB-10) 151
He, Z. (JQ-03) 167
He, Z. (JX-05) 178
Hecquet, M. (AP-06) 12
Hecquet, M. (BJ-11) 34
Hedrich, N. (DF-01) 77
Hehn, M. (CC-08) 53
Hehn, M. (EB-03) 85
Hehn, M. (FD-01) 102
Hehn, M. (GA-01) 112
Hehn, M. (HB-01) 121
Hehn, M. (ID-01) 132
Heinz, B. (ED-11) 90
Heinz, B. (EE-04) 91
Heistracher, P.T. (HA-03) 120
Hellwig, O. (JB-09) 151
Henderick, L. (DF-02) 77
Hendren, W. (FC-08) 101
Hendren, W. (IQ-09) 142
Hennel, M. (JT-04) 173
Hennequin, D. (ID-01) 132
Henneron, T. (BH-05) 31
Henry, Y. (EB-03) 85
Henschel, M. (JR-02) 168
Heo, C. (IS-13) 147
Heo, C. (IT-02) 147
Heo, C. (IT-05) 148
Herea, D. (JP-03) 165
Hermann, F. (EE-09) 92
Hermann, S. (AC-12) 7
Hermosa, J. (CQ-08) 64
Hernandez, S. (IA-10) 129
Hernando, A. (JH-10) 162
Herper, H.C. (JD-02) 154
Herr, U. (JI-08) 164
Herranz, F. (JG-05) 160
Herrera Diez, L. (GD-01) 117
Herrera Diez, L. (HC-06) 124
Herrera Huerta, G.A. (JI-11) 164
Hertel, R. (AE-04) 10
Heuraux, S. (ID-01) 132
Hewett, S. (FB-13) 100
Heya, A. (BD-02) 25
Heya, A. (BD-09) 26
Heyderman, L. (AA-03) 3
Heyderman, L. (ED-05) 89
Hibino, Y. (CD-10) 55
Hicken, R.J. (CB-03) 51
Hickey, B. (DP-09) 81
Hierro Rodriguez, A. (CQ-08) 64
Hierro Rodriguez, A. (EC-05) 87
Hierro Rodriguez, A. (JI-05) 164
Higashida, R. (JS-04) 171
Higgs, Z. (JQ-02) 167
Hight Walker, A.R. (AC-13) 7
Higo, T. (FH-05) 108
Higuchi, M. (CQ-01) 64
Hikishima, M. (ID-06) 133
Hillebrands, B. (CA-02) 50
Hillebrands, B. (EB-08) 86
Hillebrands, B. (ED-11) 90
Hiraoka, K. (JT-11) 174
Hirata, K. (BB-06) 23
Hirata, K. (BD-02) 25
Hirata, K. (BD-08) 26
Hirata, K. (BD-09) 26
Hirata, K. (BK-02) 35
Hirata, Y. (CP-04) 62
Hirayama, Y. (JW-03) 176
Hirayama, Y. (JW-11) 177
Hiremath, B. (CP-05) 62
Hirohata, A. (CE-03) 56
Hirohata, A. (CG-06) 60
Hirohata, A. (IE-02) 134
Hiroi, K. (JR-01) 168
Hiroi, M. (IR-05) 143
Hiroi, M. (JX-07) 179
Hiroi, M. (JX-08) 179
Hirosawa, T. (HC-08) 125
Hirose, T. (CB-02) 51
Hirose, T. (DG-07) 80
Hirose, T. (IP-10) 141
Hirota, R. (JP-13) 166
Hirschmann, E. (IA-03) 128
Hisayoshi, K. (CR-04) 65
Hisayoshi, K. (CR-06) 66
Hlenschi, C. (IS-03) 146
Hlenschi, C. (JY-04) 180
Hlioui, S. (BA-06) 22
Ho, P. (HC-04) 124
Ho, P. (HD-06) 126
Ho, S. (BU-03) 45
Ho, S. (BU-04) 45
Ho, S. (BU-05) 45
Ho, S. (IH-09) 139
Hoefer, M. (CE-07) 57
Hoffmann, A. (AE-12) 11
Hoffmann, M.A. (JB-09) 151
Hohenwarter, A. (JA-06) 149
Hohlfeld, J. (FD-01) 102
Hohlfeld, J. (HB-01) 121
Holanda, J. (FB-07) 99
Holler, M. (AA-03) 3
Holmes, S. (JI-05) 164
Honecker, D. (JI-09) 164
Hong, Y. (JD-04) 154
Hong, Y. (JD-07) 154
Honjo, H. (CF-03) 58
Honjo, H. (CF-05) 58
Honkura, S. (IB-11) 131
Honkura, S. (ID-06) 133
Honkura, Y. (IB-11) 131
Honkura, Y. (ID-06) 133
Honnali, S. (DF-03) 77
Hono, K. (DE-05) 76
Hono, K. (IE-04) 134
Hono, K. (JC-05) 153
Horino, T. (IS-15) 147
Horng, L. (IP-09) 141
Horng, L. (IP-12) 141
Hou, J. (BV-04) 47
Hou, M. (BC-05) 24

*Best student presentation award finalist

Hou, Z. (HD-07) 126
Houshmand Sharifi, S. (CF-12) 59
Houzet, M. (FH-02) 108
Howard, J. (JH-01) 161
Hrabec, A. (AA-03) 3
Hrabec, A. (ED-05) 89
Hrakova, D. (IB-06) 130
Hsiao, Y. (CC-02) 52
Hsieh, M. (AR-03) 15
Hsieh, M. (BC-06) 25
Hsieh, M. (BP-07) 36
Hsin, Y. (AC-09) 6
Hsu, C. (AU-14) 21
Hsu, C. (BR-10) 40
Hsu, C. (CG-04) 60
Hsu, C. (DC-03) 72
Hu, C. (CC-04) 52
Hu, C. (EC-01) 87
Hu, H. (BP-08) 36
Hu, J. (AP-05) 12
Hu, J. (BP-01) 35
Hu, J. (BQ-08) 38
Hu, M. (BD-01) 25
Hu, M. (BQ-08) 38
Hu, M. (BV-02) 47
Hu, M. (CE-07) 57
Hu, W. (AB-05) 4
Hu, X. (GP-05) 119
Hu, X. (IQ-04) 142
Hu, Y. (BQ-03) 37
Hu, Y. (BW-11) 49
Hua, W. (BH-09) 31
Hua, W. (BQ-08) 38
Hua, W. (BT-11) 44
Hua, Y. (BG-02) 29
Hua, Y. (BI-09) 33
Hua, Z. (AU-03) 20
Huang, C. (BP-14) 36
Huang, C. (DG-09) 80
Huang, D. (IB-08) 131
Huang, D. (IH-05) 138
Huang, G. (BV-08) 48
Huang, H. (BT-01) 43
Huang, H. (BU-01) 45
Huang, H. (BU-07) 45
Huang, H. (IS-14) 147
Huang, J. (BG-10) 30
Huang, J. (BU-16) 46
Huang, J. (BU-17) 46
Huang, J. (DB-11) 71
Huang, L. (BD-01) 25
Huang, L. (BV-02) 47
Huang, L. (CG-08) 60
Huang, M. (AB-05) 4
Huang, M. (FE-05) 104
Huang, M. (FE-06) 104
Huang, M. (IA-04) 129
Huang, P. (AR-03) 15
Huang, P. (BU-07) 45
Huang, R. (BG-03) 29
Huang, R. (BG-09) 30
Huang, R. (BU-02) 45
Huang, R. (DP-11) 82
Huang, S. (AP-07) 12
Huang, S. (AQ-01) 13
Huang, S. (BP-16) 37
Huang, S. (BQ-16) 39
Huang, S. (BR-01) 39
Huang, S. (BR-03) 39
Huang, S. (BR-11) 40
Huang, W. (BR-09) 40
Huang, W. (JU-01) 174
Huang, W. (JU-07) 175
Huang, W. (JU-08) 175
Huang, Y. (JU-12) 175
Huebl, H. (CE-05) 56
Huebl, H. (FG-10) 107
Hueso, L. (CC-01) 52
Hueso, L. (CE-04) 56
Hug, H.J. (AB-09) 5
Hug, H.J. (FH-03) 108
Hug, H.J. (HA-03) 120
Hug, H.J. (IH-02) 138
Hughes, B. (CF-01) 58
Hui, Y. (CP-02) 61
Hui, Y. (CP-08) 62
Hui, Y. (HP-06) 127
Hui, Y. (IQ-04) 142
Hui, Y. (IS-16) 147
Hui, Y. (JY-07) 181
Hurdequint, H. (EA-04) 84
Hurdequint, H. (EB-02) 85
Hurdequint, H. (FP-06) 111
Hurst, J. (DD-05) 74
Hurst, J. (DD-06) 74
Hurst, J. (DD-07) 75
Hurst, J. (DD-08) 75
Hurst, J. (GD-02) 117
Hutanu, V. (AC-17) 8
Hutanu, V. (DF-06) 78
Hutanu, V. (DF-08) 78
Hutanu, V. (DF-09) 78
Hutanu, V. (DG-04) 79
Hutanu, V. (JT-10) 173
Huxtable, A. (HA-01) 120
Huynh, T. (AR-03) 15
Huynh, T. (BC-06) 25
Hvizdos, L. (IC-03) 132
Hwang, K. (JG-12) 161
Hwang, S. (BS-11) 42
Hwang, S. (BS-12) 42
Hwang, Y. (CP-09) 62

- I -

Iacocca, E. (CE-07) 57
Ibarra Gomez, M. (ED-10) 90
Ibrahim, F. (CF-04) 58
Ibrahim, F. (DF-02) 77
Ichinose, T. (IE-02) 134
Ichinose, T. (IE-05) 134
Ichiyanagi, Y. (JP-07) 166
Ichkitidze, L.P. (JP-06) 165
Igarashi, J. (CG-01) 59
Igarashi, J. (CG-02) 60
Igarashi, J. (FD-01) 102
Igarashi, J. (GB-10) 115
Iglesias, O. (DD-03) 74
Iglesias, O. (JG-01) 159
Ignatyeva, D. (EB-14) 86
Ignatyeva, D. (FP-04) 111
Ignatyeva, D. (FP-07) 111
Iguchi, R. (CE-09) 57
Iihama, S. (CD-12) 56
Iihama, S. (ED-06) 89
Iihama, S. (ED-13) 90
Iihama, S. (FD-01) 102
Iimori, R. (CP-13) 63
Ikeda, S. (CC-09) 53
Ikeda, S. (CF-03) 58
Ikeda, S. (CF-05) 58
Ikegawa, S. (CF-01) 58
Ikram, M. (EE-12) 92
Im, M. (HA-05) 121
Im, S. (BQ-01) 37
Imaoka, N. (IA-09) 129
Imbaquingo, C. (BK-03) 35
Imhof, A.N. (JF-06) 158
Imhof, A.N. (JF-08) 158
Inaba, N. (JD-05) 154
Inan, O. (JA-07) 149
Incorvia, J.C. (GB-02) 114
Incorvia, J.C. (HD-01) 125
Incorvia, J.C. (IE-03) 134

*Best student presentation award finalist

Inoue, M. (CE-03) 56
Insinga, A.R. (BK-03) 35
Insinga, A.R. (GC-09) 117
Ionel, D.M. (AP-08) 12
Isella, G. (CB-05) 52
Iserna, N. (GC-10) 117
Ishak, D. (BI-10) 33
Ishibashi, K. (CD-12) 56
Ishihara, K. (JT-11) 174
Ishikawa, R. (GA-03) 113
Iskhakov, R. (JQ-07) 168
Iskhakov, R. (JR-06) 169
Isshiki, H. (FH-05) 108
Ito, K. (BF-02) 27
Ito, K. (DE-04) 76
Ito, K. (DG-07) 80
Ito, Y. (CE-03) 56
Itoh, Y. (BS-05) 42
Iuliano, M. (JR-12) 170
Iurchuk, V. (ID-07) 133
Ivry, A. (GC-08) 117
Iwahori, T. (CE-10) 57
Iwai, M. (CQ-05) 64
Iwai, M. (CR-01) 65
Iwasaki, C. (ER-12) 97
Iwata, S. (FC-06) 101
Iyer, K. (JH-11) 163
Izgi, T. (JA-07) 149
Izmozherov, I. (CS-01) 67
Izmozherov, I. (CS-12) 68
Izquierdo, M. (FD-05) 103

- J -

J, A. (JT-13) 174
Jaafar, M. (AA-05) 3
Jaafar, M. (IG-04) 136
Jaber, M. (GD-02) 117
Jacko, P. (IC-03) 132
Jacques, V. (AB-11) 5
Jacquet, E. (JA-12) 150
Jacquot, J. (CD-11) 55
Jadaun, P. (HD-01) 125
Jadaun, P. (IE-03) 134
Jaffari, G. (DE-08) 76
Jaffrès, H. (CB-05) 52
Jaffrès, H. (CC-11) 53
Jaffrès, H. (CD-13) 56
Jaffrès, H. (FB-01) 98
Jakob, G. (CG-09) 60
Jakubowskia, M.M. (IG-02) 136
Jalil, M.B. (IF-03) 135
Jamet, M. (CB-05) 52
Jamil, M. (DE-08) 76
Jančárik, V. (JX-01) 178
Janda, T. (AB-04) 4
Janesky, J. (CF-01) 58
Jang, G. (AU-08) 20
Jang, G. (BQ-06) 38
Jang, G. (BS-07) 42
Jang, G. (BS-13) 42
Jang, H. (GD-08) 118
Janus, W. (IG-07) 137
Janus, W. (IH-10) 139
Janus, W. (IH-11) 139
Javed, K. (JE-06) 156
Jayacody, A. (DC-10) 73
Je, S. (HA-05) 121
Jena, D. (IH-09) 139
Jena, J. (HD-03) 126
Jena, J. (HP-02) 127
Jena, S.K. (IG-02) 136
Jeng, J. (CQ-11) 65
Jeng, J. (CR-09) 66
Jeng, J. (IT-01) 147
Jenkins, A. (DD-09) 75
Jenkins, A. (ER-08) 96
Jenkins, A. (ID-08) 133
Jenkins, S. (FG-02) 105
Jensen, C.J. (DF-02) 77
Jensen, K.M. (IG-10) 137
Jeon, J. (DC-02) 72
Jeon, K. (DC-02) 72
Jeong, H. (IT-05) 148
Jeong, J. (CP-04) 62
Jeong, J. (IQ-07) 142
Jeong, M. (BR-15) 41
Jeong, M. (BR-17) 41
Jeong, S. (BS-01) 41
Jeong, S. (BS-07) 42
Jerro, L. (IQ-08) 142
Jeudy, V. (AE-02) 10
Jhuria, K. (HB-01) 121
Ji, J. (DB-04) 70
Ji, R. (FB-13) 100
Ji, Y. (IQ-02) 142
Jia, H. (EB-12) 86
Jia, L. (BB-03) 23
Jia, L. (BT-15) 44
Jia, S. (BU-10) 46
Jia, Y. (AS-12) 18
Jia, Y. (BC-03) 24
Jian, L. (BT-05) 43
Jiang, D. (AS-03) 17
Jiang, H. (CP-08) 62
Jiang, H. (IS-16) 147
Jiang, I. (BU-07) 45
Jiang, J. (BT-07) 44
Jiang, J. (BT-10) 44
Jiang, J. (BT-12) 44
Jiang, J. (DC-05) 72
Jiang, J. (JY-07) 181
Jiang, L. (IQ-06) 142
Jiang, M. (BT-16) 45
Jiang, Q. (IS-11) 146
Jiang, W. (AD-07) 9
Jiang, W. (AD-08) 9
Jiang, W. (AE-12) 11
Jiang, W. (BR-09) 40
Jiang, W. (HA-05) 121
Jiang, W. (HC-11) 125
Jiang, X. (BC-03) 24
Jiang, X. (BJ-05) 33
Jiang, X. (BR-09) 40
Jiang, X. (BT-11) 44
Jiang, X. (BW-10) 49
Jiang, X. (JX-05) 178
Jiang, Y. (AP-04) 12
Jiang, Y. (BJ-12) 34
Jiang, Y. (CF-08) 59
Jiang, Y. (GP-01) 119
Jiang, Y. (IS-11) 146
Jiang, Y. (JB-08) 151
Jiang, Z. (BS-11) 42
Jiang, Z. (BS-12) 42
Jiao, Y. (GP-05) 119
Jiao, Y. (IQ-04) 142
Jiles, D.C. (CQ-10) 65
Jiles, D.C. (JP-01) 165
Jiles, D.C. (JP-10) 166
Jiles, D.C. (JQ-02) 167
Jiles, D.C. (JU-09) 175
Jiles, D.C. (JU-10) 175
Jimenez, V. (JG-12) 161
Jin, C. (AR-16) 16
Jin, C. (BQ-15) 39
Jin, C. (BR-13) 40
Jin, F. (CP-02) 61
Jin, F. (CP-08) 62
Jin, F. (HP-06) 127
Jin, F. (IQ-04) 142
Jin, F. (IS-16) 147
Jin, F. (JY-07) 181
Jin, L. (EP-08) 94

*Best student presentation award finalist

Jin, L. (IR-07) 144
Jin, S. (JG-02) 159
Jin, T. (CE-06) 57
Jin, T. (CP-01) 61
Jinnai, B. (CG-01) 59
Jinnai, B. (CG-02) 60
Jinnai, B. (GB-10) 115
Jinnouchi, S. (CR-04) 65
Jo, D. (CE-12) 57
Jo, J. (BJ-07) 34
Jo, J. (IS-02) 145
Jo, J. (IS-13) 147
Jo, Y. (CP-04) 62
Johnsen, P. (EA-06) 85
Joisten, H. (AE-07) 10
Joldos, M. (IQ-05) 142
Jones, N. (JF-05) 158
Jones, N. (JF-13) 159
Jones, N. (JU-11) 175
Jørgensen, P.S. (BH-01) 31
Josefsson, M. (JI-01) 163
Joseph, A. (HP-05) 127
Joshi, R.S. (CP-05) 62
Jossart, N. (CF-12) 59
Jotta Garcia, M. (IB-04) 130
Jotta Garcia, M. (ID-08) 133
Joumard, I. (AC-06) 6
Joumard, I. (CF-06) 58
Joumard, I. (CF-07) 58
Joumard, I. (CF-11) 59
Joumard, I. (FH-02) 108
Joumard, I. (HB-07) 122
Joumard, I. (HC-05) 124
Jourdan, M. (FH-11) 109
Jourdan, M. (FH-13) 110
Jovičević-Klug, M. (AB-01) 4
Jovičević-Klug, P. (AB-01) 4
Jue, E. (GB-12) 115
Juge, R. (GD-01) 117
Juge, R. (HB-11) 123
Juge, R. (HD-04) 126
Juhin, A. (AC-14) 7
Jun, S. (AR-07) 15
Jung, E. (BS-13) 42
Jung, J. (BP-13) 36
Jung, S. (AR-07) 15
Jung, S. (AR-10) 16
Jung, S. (BU-08) 46
Jung, S. (DQ-06) 82
Jung, S. (DQ-07) 83
Jungwirth, T. (AB-04) 4
Jungwirth, T. (FG-08) 107
Juraszek, J. (JF-11) 159
Jurc, R. (IC-03) 132
Jürries, F. (JD-06) 154

- K -

K, A. (JE-04) 156
K, S. (CD-07) 55
K, S. (IR-09) 144
Kačmarčík, J. (DQ-01) 82
Kadlec, C. (DF-07) 78
Kadlec, F. (DF-07) 78
Kail, F. (IR-02) 143
Kakay, A. (DD-02) 74
Kakazei, G.N. (FC-07) 101
Kalish, A. (FP-04) 111
Kalish, A. (JS-03) 171
Kamba, S. (DF-07) 78
Kamimaki, A. (ED-13) 90
Kamimaki, A. (GB-07) 115
Kammerbauer, F. (FG-05) 106
Kammerbauer, F. (HC-10) 125
Kampfrath, T. (CD-04) 55
Kampfrath, T. (DC-12) 73
Kampfrath, T. (FA-01) 97
Kamra, A. (FG-10) 107
Kanai, S. (FC-09) 102
Kanai, S. (GB-10) 115
Kanai, Y. (IP-07) 140
Kanai, Y. (IP-08) 141
Kanazawa, N. (HB-10) 123
Kaneko, T. (IA-09) 129
Kang, D. (AR-09) 16
Kang, D. (AR-10) 16
Kang, D. (BJ-07) 34
Kang, J. (CP-04) 62
Kang, J. (IQ-07) 142
Kang, M. (JW-05) 176
Kang, M. (JW-15) 177
Kang, M. (JW-16) 177
Kang, S. (AR-10) 16
Kang, S. (JY-17) 182
Kang, T. (AB-07) 5
Kanhunthod, K. (IA-07) 129
Kanomata, T. (JX-07) 179
Kanomata, T. (JX-08) 179
Kao, Y. (IP-12) 141
Kapitan, D. (DG-06) 79
Kapitan, V.Y. (DG-06) 79
Kapteyn, H. (EA-06) 85
Kar, G.S. (CF-12) 59
Kar, G.S. (CG-13) 61
Karamanis, E.K. (AP-13) 13
Karampuri, Y. (EC-13) 88
Karashtin, E. (ID-10) 134
Kardasz, B. (CF-09) 59
Karki, D. (FP-07) 111
Karki, S. (IE-03) 134
Karki, U. (DP-01) 80
Karmenyan, A. (JG-09) 160
Karnaushenko, D. (AB-07) 5
Karpasyuk, V. (DP-06) 81
Karpavicius, A. (JG-03) 159
Kästner, B. (AB-04) 4
Kateel, V. (CG-13) 61
Katine, J. (CB-03) 51
Kato, M. (BD-06) 25
Kato, M. (BD-08) 26
Kato, M. (BK-02) 35
Kato, T. (FC-06) 101
Katsaras, J. (BE-04) 27
Kawaguchi, M. (HC-03) 124
Kawahara, T. (CG-11) 61
Kawai, T. (JD-05) 154
Kawamura, Y. (JR-01) 168
Kazakova, O. (DC-09) 73
Kazakova, O. (GA-05) 113
Kazakova, O. (HC-06) 124
KC, S. (DP-01) 80
Ke, M. (CG-11) 61
Ke, Z. (AQ-05) 13
Ke, Z. (CR-03) 65
Keatley, P.S. (CB-03) 51
Keebaugh, S. (CG-05) 60
Kehayias, P. (AB-03) 4
Keller, F.O. (JC-04) 152
Keller, F.O. (JW-12) 177
Kemer, S.B. (BH-11) 32
Kent, A. (FG-15) 108
Kent, A.D. (CA-01) 50
Kent, A.D. (CF-09) 59
Kent, A.D. (CF-10) 59
Kentsch, U. (IA-03) 128
Keogh, A.M. (GA-02) 113
Kerber, N. (FD-03) 103
Kerber, N. (FG-05) 106
Kerber, N. (HC-10) 125
Kern, L. (HB-02) 122
Kersulis, S. (IB-13) 131
Keshav, M. (JF-09) 158
Khajetoorians, A.A. (GA-06) 113
Khan, B. (BB-02) 23

*Best student presentation award finalist

Khan, B. (BG-06) 29
Khan, F. (BB-02) 23
Khan, F. (BD-07) 25
Khan, F. (BG-06) 29
Khan, S. (DC-09) 73
Khanjani, M.V. (CC-14) 54
Kharlamova, A. (ER-09) 96
Khittiwitchayakul, S. (IP-05) 140
Khodadadi, M. (DF-12) 79
Khoo, K. (HC-04) 124
Khurana, B. (CE-08) 57
Kiarie, W.M. (JU-09) 175
Kiarie, W.M. (JU-10) 175
Kichin, G. (ER-08) 96
Kiechle, M. (EE-06) 92
Kief, M.T. (IA-10) 129
Kierren, B. (JF-03) 158
Kikuchi, E. (ID-06) 133
Kim, C. (AR-07) 15
Kim, C. (BQ-06) 38
Kim, C. (BQ-15) 39
Kim, C. (BS-01) 41
Kim, C. (BS-07) 42
Kim, C. (BV-07) 48
Kim, C. (DQ-06) 82
Kim, C. (DQ-07) 83
Kim, D. (AS-05) 17
Kim, D. (BP-11) 36
Kim, D. (BQ-01) 37
Kim, D. (BR-04) 39
Kim, D. (EP-04) 93
Kim, D. (IS-02) 145
Kim, D. (IS-13) 147
Kim, H. (AR-10) 16
Kim, H. (AR-15) 16
Kim, H. (AR-16) 16
Kim, H. (BQ-15) 39
Kim, H. (BR-13) 40
Kim, H. (BR-14) 41
Kim, H. (BW-12) 49
Kim, H. (JQ-04) 167
Kim, J. (AC-05) 6
Kim, J. (AV-03) 21
Kim, J. (BG-05) 29
Kim, J. (DD-10) 75
Kim, J. (DP-03) 81
Kim, J. (DP-05) 81
Kim, J. (GC-01) 116
Kim, J. (GC-02) 116
Kim, J. (HA-06) 121
Kim, J. (HC-09) 125
Kim, J. (JW-05) 176
Kim, J. (JW-15) 177
Kim, J. (JW-16) 177
Kim, J. (JY-09) 181
Kim, K. (AC-05) 6
Kim, K. (BG-05) 29
Kim, K. (BR-16) 41
Kim, K. (CB-06) 52
Kim, K. (CP-04) 62
Kim, K. (IQ-07) 142
Kim, M. (BJ-07) 34
Kim, M. (IS-02) 145
Kim, M. (IS-13) 147
Kim, S. (BR-04) 39
Kim, S. (BR-14) 41
Kim, S. (CP-04) 62
Kim, S. (CP-14) 63
Kim, S. (EC-10) 88
Kim, S. (EP-04) 93
Kim, S. (FP-12) 112
Kim, S. (JD-07) 154
Kim, T. (CG-12) 61
Kim, T. (JY-18) 182
Kim, W. (AR-18) 16
Kim, W. (BR-04) 39
Kim, W. (BR-12) 40
Kim, W. (BR-13) 40
Kim, W. (BR-15) 41
Kim, W. (BR-16) 41
Kim, W. (BR-17) 41
Kim, W. (BS-01) 41
Kim, W. (CF-12) 59
Kim, W. (CG-13) 61
Kim, Y. (AR-10) 16
Kim, Y. (AS-08) 17
Kim, Y. (BU-08) 46
Kim, Y. (BW-15) 50
Kimel, A. (FA-06) 98
Kimel, A. (FB-11) 99
Kimura, S. (IR-05) 143
Kimura, T. (CE-10) 57
Kimura, T. (CP-13) 63
Kinane, C. (IA-03) 128
Kindiak, I. (ER-08) 96
Kipp, J. (FH-10) 109
Kirchhof, C. (IB-02) 130
Kirilyuk, A. (FB-14) 100
Kirino, F. (JD-05) 154
Kirste, G. (JW-14) 177
Kiryukhin, V. (DP-03) 81
Kishi, Y. (CG-11) 61
Kishine, J. (EQ-08) 95
Kisic, M.G. (IS-12) 146
Kitamura, T. (JP-13) 166
Kitayama, F. (BD-06) 25
Kitayama, F. (BS-14) 43
Kitazawa, H. (JT-08) 173
Kitcher, M.D. (HD-09) 127
Kitcher, M.D. (IG-03) 136
Kladas, A.G. (AP-13) 13
Klaui, M. (CG-09) 60
Kläui, M. (FD-03) 103
Kläui, M. (FG-04) 106
Klaui, M. (FG-05) 106
Kläui, M. (FG-06) 106
Klaui, M. (FH-11) 109
Kläui, M. (FH-12) 110
Klaui, M. (FH-13) 110
Klaui, M. (HC-10) 125
Kleibert, A. (HA-01) 120
Klein, O. (EA-04) 84
Klein, O. (EB-02) 85
Klein, O. (ED-04) 89
Klein, O. (EE-08) 92
Kliava, J. (JY-19) 182
Klingbeil, F. (IT-06) 148
Klingbeil, F. (JG-08) 160
Klos, J.W. (EC-08) 88
Klos, J.W. (EE-07) 92
Klose, C. (AB-05) 4
Klyukin, K. (FE-05) 104
Kmita, A. (AC-14) 7
Knauer, S. (ED-11) 90
Knight, E. (JQ-06) 167
Kobashi, M. (JW-03) 176
Kobayashi, K. (CQ-05) 64
Kobayashi, K. (CR-01) 65
Kobayashi, K. (FC-09) 102
Kobayashi, S. (JR-01) 168
Kobe, S. (JC-11) 153
Koda, T. (EE-05) 91
Koda, T. (FB-09) 99
Kodama, K. (JP-07) 166
Koh, C. (AD-07) 9
Koh, C. (AD-08) 9
Köhler, L. (HB-10) 123
Kohno, R. (EA-04) 84
Kohno, R. (ED-04) 89
Koike, T. (IA-09) 129
Koike, Y. (ED-06) 89
Koike, Y. (ED-13) 90
Kojima, F. (IS-06) 146
Koki, K. (EP-01) 93

*Best student presentation award finalist

Kokkonen, E. (IG-10) 137
Kolak, S. (JA-07) 149
Kolat, V. (JA-07) 149
Koledov, V. (JE-05) 156
Kolesnikov, A. (CB-01) 51
Koliada, M. (IB-13) 131
Komine, T. (IA-02) 128
Komineas, S. (FH-14) 110
Komlev, A.E. (EQ-02) 94
Komogortsev, S.V. (JQ-07) 168
Komogortsev, S.V. (JR-06) 169
Komori, T. (CB-02) 51
Komori, T. (DG-07) 80
Komori, T. (IF-02) 135
Komori, T. (IP-10) 141
Kondo, R. (BS-14) 43
Kondou, K. (CP-09) 62
Kong, J. (HB-12) 123
Kong, J. (HC-04) 124
Kong, W. (AT-07) 19
Kong, W. (BQ-14) 39
Kong, W. (CG-10) 60
Kong, X. (BG-02) 29
Kong, X. (BI-09) 33
Koo, B. (AP-09) 12
Koo, H. (CP-14) 63
Koo, H. (FP-12) 112
Koopmans, B. (FG-09) 107
Korecki, J. (IG-07) 137
Korecki, J. (IR-04) 143
Korenistov, P. (DE-09) 76
Kori, B. (CP-05) 62
Korol, A.O. (DG-06) 79
Kosaka, D. (IS-06) 146
Kosel, J. (AC-02) 6
Koshelev, A. (GC-07) 116
Koshkin, A. (JU-02) 174
Kostanyan, A. (IG-10) 137
Kosub, T. (DF-01) 77
Kotur, K. (DG-03) 79
Kou, B. (AT-02) 19
Kou, B. (BS-08) 42
Kounta, I. (FG-08) 107
Kounta, I. (FH-08) 109
Kourkoumelis, N. (JR-09) 169
Kovacs, A. (AA-04) 3
Kovacs, A. (AD-04) 9
Kowalik, M. (AC-03) 6
Kowol, C. (JB-09) 151
Koytepe, S. (JA-07) 149
Kozhaev, M. (JS-03) 171
Koziej, D. (AC-14) 7
Kozin, M.G. (IR-14) 145
Koziol Rachwal, A. (IG-07) 137
Koziol Rachwal, A. (IH-10) 139
Koziol Rachwal, A. (IH-11) 139
Kozlov, A. (IH-06) 138
Kozlov, A. (IR-03) 143
Kramer, M.J. (JC-01) 152
Krarcha, H.K. (DQ-02) 82
Kravchuk, V. (GD-04) 118
Krawczyk, M. (AE-09) 11
Krawczyk, M. (EB-07) 86
Krawczyk, M. (EC-05) 87
Krawczyk, M. (EE-02) 91
Krawczyk, M. (EE-07) 92
Krawczyk, M. (EE-14) 93
Krawczyk, M. (EP-07) 94
Krenn, H. (IR-13) 144
Krenn, H. (JA-06) 149
Krichevsky, D. (FP-07) 111
Kriegner, D. (FG-08) 107
Kriegner, D. (FH-08) 109
Krimer, Y. (JA-01) 148
Krishnia, S. (CC-11) 53
Krishnia, S. (FH-06) 109
Krist, T. (AC-17) 8
Krizakova, V. (HB-06) 122
Kroha, J. (DG-08) 80
Kronast, F. (GD-04) 118
Kronast, F. (IG-01) 136
Krooß, P. (JF-04) 158
Krop, D. (AD-05) 9
Ksenzov, D. (FD-03) 103
Kubota, H. (CD-10) 55
Kubota, H. (GB-07) 115
Kubota, H. (IA-01) 128
Kubota, H. (IB-04) 130
Kubota, H. (IH-04) 138
Kubota, T. (DE-04) 76
Kubota, T. (FG-13) 107
Kubota, T. (IR-05) 143
Kuchin, A. (JT-09) 173
Kuchko, A. (EE-07) 92
Kuciakowski, J. (AC-14) 7
Kudo, K. (ID-06) 133
Kudryavtsev, R. (CS-02) 67
Kudyukov, E. (IR-10) 144
Kuepferling, M. (CC-14) 54
Kühne, I.A. (DG-10) 80
Kukharev, A.V. (JI-07) 164
Kulesh, N. (GC-07) 116
Kulikova, D. (ID-05) 133
Kumakura, Y. (IS-06) 146
Kumar, A. (DC-01) 72
Kumar, A. (DC-12) 73
Kumar, D. (CE-06) 57
Kumar, D. (CP-01) 61
Kumar, D. (DC-03) 72
Kumar, R. (HB-07) 122
Kumar, S. (CP-05) 62
Kumar, V. (HP-02) 127
Kumar, Y. (HP-08) 128
Kumbhare, D. (AC-16) 7
Kunca, B. (JR-03) 169
Kundu, S. (CF-12) 59
Kunimatsu, K. (IE-02) 134
Kurant, Z. (IH-03) 138
Kurebayashi, H. (DC-09) 73
Kurebayashi, H. (ED-06) 89
Kurebayashi, H. (ED-13) 90
Kurebayashi, H. (HC-06) 124
Kurihara, K. (EP-01) 93
Kurimune, Y. (EC-06) 87
Kurlyandskaya, G.V. (ER-09) 96
Kurlyandskaya, G.V. (IR-11) 144
Kurlyandskaya, G.V. (JT-12) 174
Kurniawan, I. (DE-05) 76
Kuroe, H. (DP-04) 81
Kurokawa, Y. (EP-01) 93
Kurokawa, Y. (FP-13) 112
Kurta, R. (FD-05) 103
Kuschel, T. (AC-11) 7
Kuschel, T. (CE-01) 56
Kushibiki, R. (IP-02) 140
Kushibiki, R. (IP-03) 140
Kushwaha, V.K. (DE-05) 76
Kutuzau, M. (DF-03) 77
Kuwahara, H. (DP-04) 81
Kuwahata, A. (JG-02) 159
Kwiatkowski, G. (JR-04) 169
Kwon, D. (BQ-06) 38
Kwon, D. (BS-07) 42
Kwon, D. (BV-07) 48
Kyianytsia, A. (JF-03) 158
Kyle, S. (GA-02) 113
Kyle, S. (GB-03) 114
Kyle, S. (GB-11) 115

- L -

L'vov, V.S. (EB-08) 86
Labarta, A. (IG-01) 136
Labarta, A. (JH-07) 162

*Best student presentation award finalist

Labarta, A. (JH-08) 162
Labusca, L. (JP-03) 165
Lachowicz, D. (AC-14) 7
Lacour, D. (EB-03) 85
Lacour, D. (FD-03) 103
Lacour, D. (GA-01) 112
Lacour, D. (ID-01) 132
Lafuente-Gómez, N. (JG-05) 160
Lafuerza-Bielsa, S. (AC-14) 7
Lagarrigue, A. (CP-09) 62
Lägel, B. (ED-11) 90
Lägel, B. (EE-04) 91
Lai, B. (CQ-09) 65
Lai, B. (JP-09) 166
Lai, B. (JP-14) 166
Lai, B. (JQ-09) 168
Lai, C. (BG-12) 30
Lai, K. (IP-12) 141
Laloy, D. (JB-12) 152
Lam Chok Sing, M. (IB-05) 130
Lam, K. (IQ-01) 141
Lamard, N. (ID-07) 133
Lambert, C. (CC-06) 53
Lambert, C. (CC-13) 54
Lambert, C. (CD-11) 55
Lambert, C. (CE-04) 56
Lambert, C. (HB-06) 122
Lamblin, M. (JB-12) 152
Lamichhane, T. (BE-03) 27
Lamichhane, T. (BE-04) 27
Lammel, M. (FG-08) 107
Lan, Z. (JX-05) 178
Landeros, P. (DD-02) 74
Lang, J. (BF-06) 28
Lang, M. (DD-04) 74
Lang, M. (GC-05) 116
Langer, J. (CC-14) 54
Langer, J. (CG-09) 60
Langer, J. (FE-09) 105
Langer, J. (ID-07) 133
Lantz, M. (IA-09) 129
Lapa, P. (IG-11) 137
Laref, S. (CB-06) 52
Larrañaga, A. (ER-09) 96
Larrañaga, A. (IR-11) 144
Larrañaga, A. (JT-12) 174
Larsson, P. (JD-08) 155
Lattery, D. (FC-01) 100
Lattery, D. (IH-05) 138
Lau, Y. (DE-04) 76
Lau, Y. (FG-13) 107
Lau, Y. (GD-07) 118
Laughlin, D.E. (IA-04) 129
Lauhoff, C. (JF-04) 158
Laureti, S. (JD-01) 154
Lauria, D. (BJ-14) 34
Laurson, L. (AE-03) 10
Lauter, V. (BE-04) 27
Laviano, F. (JX-03) 178
Lavrijsen, R. (FB-14) 100
Law, J. (DP-01) 80
Law, J. (JE-01) 155
Law, J. (JE-07) 156
Law, J. (JE-08) 157
Law, J. (JE-09) 157
Lazari, P. (AU-02) 20
Lazarski, S. (CC-14) 54
le Guyader, L. (FD-05) 103
Le Menach, Y. (JB-13) 152
Le Roy, D. (JD-03) 154
Le Roy, D. (JH-01) 161
Le Roy, D. (JI-11) 164
Le-Guennec, Y. (ID-08) 133
Le, M. (JG-04) 160
Le, W. (BB-03) 23
Le, W. (BT-15) 44
Lebargy, S. (IB-05) 130
Lebrun, L. (AC-06) 6
Lebrun, R. (ED-02) 89
Lebrun, R. (ED-03) 89
Lebrun, R. (FB-01) 98
Lebrun, R. (FG-04) 106
Lebrun, R. (FH-12) 110
Lebrun, R. (IB-04) 130
Lebrun, R. (ID-08) 133
Lebrun, R. (JA-12) 150
LeClair, P. (DP-01) 80
Lee, B. (AU-04) 20
Lee, B. (BP-13) 36
Lee, C. (AU-04) 20
Lee, C. (BP-04) 35
Lee, C. (BP-11) 36
Lee, C. (BU-12) 46
Lee, C. (BW-14) 50
Lee, C. (BW-16) 50
Lee, C. (IS-01) 145
Lee, D. (AR-09) 16
Lee, D. (BB-07) 23
Lee, D. (EP-04) 93
Lee, D. (FP-12) 112
Lee, G. (JW-05) 176
Lee, G. (JW-15) 177
Lee, H. (AP-12) 13
Lee, H. (BJ-07) 34
Lee, H. (BQ-05) 38
Lee, H. (BR-06) 40
Lee, H. (CE-12) 57
Lee, H. (IH-09) 139
Lee, H. (JD-07) 154
Lee, H. (JP-04) 165
Lee, H. (JW-15) 177
Lee, H. (JW-16) 177
Lee, H.K. (CF-01) 58
Lee, J. (AP-03) 12
Lee, J. (AR-15) 16
Lee, J. (AR-16) 16
Lee, J. (BQ-09) 38
Lee, J. (BQ-15) 39
Lee, J. (BR-06) 40
Lee, J. (BR-13) 40
Lee, J. (BR-14) 41
Lee, J. (BW-12) 49
Lee, J. (IQ-07) 142
Lee, J. (JD-04) 154
Lee, K. (AR-14) 16
Lee, K. (BR-12) 40
Lee, K. (BR-15) 41
Lee, K. (BR-17) 41
Lee, K. (BS-04) 42
Lee, K. (CP-14) 63
Lee, K. (EC-10) 88
Lee, K. (EP-04) 93
Lee, K. (FE-05) 104
Lee, K. (FP-12) 112
Lee, K. (HA-05) 121
Lee, K. (JW-05) 176
Lee, K. (JY-09) 181
Lee, M. (AP-09) 12
Lee, N. (DP-03) 81
Lee, N. (DP-05) 81
Lee, S. (AP-03) 12
Lee, S. (BD-08) 26
Lee, S. (BG-05) 29
Lee, S. (BK-02) 35
Lee, S. (BQ-01) 37
Lee, S. (BR-12) 40
Lee, S. (BR-16) 41
Lee, S. (BS-04) 42
Lee, S. (CP-04) 62
Lee, S. (HA-05) 121
Lee, S. (IQ-07) 142
Lee, T. (IQ-07) 142
Lee, T. (JD-04) 154
Lee, W. (BS-13) 42

*Best student presentation award finalist

Lee, W. (CP-14) 63
Lee, W. (JD-07) 154
Lefevre, C. (JX-04) 178
Lefèvre, P. (FB-01) 98
Lefler, B. (IB-03) 130
Legrand, W. (HC-02) 124
Lei, F. (JB-10) 151
Lei, G. (BD-10) 26
Leistner, K. (AB-07) 5
Leistner, K. (DF-03) 77
Leistner, K. (FE-04) 104
Leistner, K. (FE-06) 104
Leistner, K. (JR-02) 168
Leiviska, M. (FG-08) 107
Leiviska, M. (FH-02) 108
Lekshmi, P. (DE-06) 76
Leliaert, J. (AC-08) 6
Leliaert, J. (EC-07) 88
Leliaert, J. (GB-13) 115
Leliaert, J. (JG-03) 159
Leliaert, J. (JH-09) 162
Lemaître, A. (HB-01) 121
Lemesh, I. (AB-05) 4
Lemke, J. (JE-02) 156
Lengaigne, G. (ID-01) 132
Lentfert, A. (EE-04) 91
Lenz, K. (FB-02) 98
Leonard Deepak, F. (DB-01) 70
Leonard Deepak, F. (DE-06) 76
Leonard, T. (GB-02) 114
Leong, J. (BI-10) 33
Leong, Z. (JB-02) 150
Leong, Z. (JB-05) 151
Leong, Z. (JX-10) 179
Leong, Z. (JX-11) 179
Lepalovskij, V. (IR-10) 144
Lepalovskij, V. (IR-11) 144
Lepetit, M. (EC-12) 88
Lequeux, S. (CG-03) 60
Létang, J. (DD-10) 75
Leung, C. (IQ-01) 141
Leung, C. (IR-06) 144
Leung, C. (IT-04) 148
Leupold, O. (AC-11) 7
Lévêque, J. (BA-03) 22
Levy, A. (GB-04) 114
Levy, M. (FP-07) 111
Lew, W. (CD-03) 54
Lew, W. (HB-04) 122
Lew, W. (JA-05) 149
Lezaic, M. (FH-10) 109
Li, B. (BF-11) 28
Li, C. (BP-16) 37
Li, D. (AD-08) 9
Li, D. (AS-03) 17
Li, D. (AT-07) 19
Li, D. (BT-01) 43
Li, D. (BT-04) 43
Li, D. (BT-09) 44
Li, D. (BU-01) 45
Li, D. (JA-03) 149
Li, D. (JH-04) 161
Li, G. (EB-12) 86
Li, G. (FA-06) 98
Li, G. (FB-11) 99
Li, H. (CC-07) 53
Li, H. (DA-04) 69
Li, H. (HB-09) 123
Li, H. (IF-04) 135
Li, H. (IQ-10) 143
Li, J. (AQ-05) 13
Li, J. (AU-09) 20
Li, J. (BR-09) 40
Li, J. (IB-10) 131
Li, K. (BP-01) 35
Li, K. (IS-05) 146
Li, K. (IS-08) 146
Li, K. (JF-10) 158
Li, K. (JU-04) 175
Li, K. (JU-05) 175
Li, K. (JY-13) 181
Li, L. (AR-05) 15
Li, L. (AS-01) 17
Li, L. (AS-12) 18
Li, L. (BJ-05) 33
Li, L. (BW-11) 49
Li, M. (AD-07) 9
Li, M. (BC-02) 24
Li, M. (BQ-02) 37
Li, M.P. (AB-08) 5
Li, M.P. (GD-06) 118
Li, Q. (AR-05) 15
Li, Q. (BV-04) 47
Li, Q. (BW-10) 49
Li, R. (DC-08) 73
Li, S. (AQ-06) 14
Li, V.Z. (HB-11) 123
Li, W. (BJ-06) 33
Li, W. (CC-03) 52
Li, W. (CF-08) 59
Li, W. (FE-07) 105
Li, W. (FG-07) 106
Li, W. (YB-05) 3
Li, X. (AS-09) 17
Li, X. (BW-11) 49
Li, X. (DB-08) 71
Li, X. (FE-07) 105
Li, X. (IH-09) 139
Li, Y. (AP-05) 12
Li, Y. (AP-07) 12
Li, Y. (AQ-01) 13
Li, Y. (AQ-04) 13
Li, Y. (AR-02) 15
Li, Y. (AS-04) 17
Li, Y. (AS-07) 17
Li, Y. (AS-09) 17
Li, Y. (AU-11) 21
Li, Y. (BD-01) 25
Li, Y. (BF-11) 28
Li, Y. (BJ-05) 33
Li, Y. (BP-10) 36
Li, Y. (BT-06) 43
Li, Y. (BT-08) 44
Li, Y. (BV-02) 47
Li, Y. (CQ-06) 64
Li, Y. (CQ-07) 64
Li, Y. (CS-06) 67
Li, Y. (EB-13) 86
Li, Y. (ED-12) 90
Li, Y. (FC-03) 101
Li, Y. (IP-12) 141
Li, Y. (JU-01) 174
Li, Y. (JW-01) 176
Li, Y. (JW-04) 176
Li, Y. (JX-14) 180
Li, Y. (JX-15) 180
Li, Y. (JY-10) 181
Li, Y. (JY-11) 181
Li, Y. (JY-12) 181
Li, Z. (AU-07) 20
Li, Z. (BQ-12) 38
Li, Z. (BS-03) 41
Li, Z. (BT-11) 44
Li, Z. (CC-03) 52
Li, Z. (DB-08) 71
Li, Z. (HB-09) 123
Li, Z. (JH-04) 161
Liang, D. (BU-10) 46
Liang, G. (DC-03) 72
Liang, H. (BS-10) 42
Liang, J. (IQ-01) 141
Liang, J. (IR-06) 144
Liang, P. (AP-02) 12
Liang, T. (AU-06) 20

*Best student presentation award finalist

Liang, Z. (BT-09) 44
Liao, C. (EA-06) 85
Liao, H. (DB-08) 71
Liao, J. (JI-05) 164
Liao, S. (IS-14) 147
Liao, W. (CC-02) 52
Liao, W. (CC-10) 53
Liao, Y. (EP-08) 94
Liao, Y. (IR-07) 144
Lichtenstein, A. (FD-05) 103
Liebl, M. (AC-08) 6
Liedke, M. (DF-02) 77
Liedke, M. (IA-03) 128
Lien, H. (IC-04) 132
Liensberger, L. (CD-04) 55
Lim, D. (AR-08) 15
Lim, D. (AR-12) 16
Lim, D. (AR-14) 16
Lim, G.J. (JA-05) 149
Lim, M. (AU-10) 21
Lim, M. (AV-03) 21
Lim, M. (BG-05) 29
Lim, M. (BQ-01) 37
Lim, N.C. (HD-06) 126
Lim, S. (CE-06) 57
Lim, S. (CG-08) 60
Lim, S. (HB-11) 123
Lima, S. (JG-06) 160
Lin, C. (CC-01) 52
Lin, C. (DA-04) 69
Lin, C. (FB-13) 100
Lin, H. (AR-02) 15
Lin, H. (BB-09) 24
Lin, H. (BH-02) 31
Lin, H. (BH-10) 31
Lin, H. (BJ-13) 34
Lin, H. (BP-10) 36
Lin, H. (BV-10) 48
Lin, M. (BB-03) 23
Lin, M. (BT-15) 44
Lin, Q. (BU-11) 46
Lin, Q. (BU-18) 46
Lin, S. (HA-05) 121
Lin, X. (FH-09) 109
Lin, Y. (AC-09) 6
Lin, Y. (BC-01) 24
Lin, Y. (EE-12) 92
Lin, Z. (CS-06) 67
Lin, Z. (JW-09) 176
Lin, Z. (JX-14) 180
Lin, Z. (JY-11) 181
Lin, Z. (JY-12) 181
Lin, Z. (JY-13) 181
Lindner, J. (FB-02) 98
Linfield, E. (HA-01) 120
Ling, Z. (BW-03) 48
Liou, S. (AT-05) 19
Liou, S. (IS-14) 147
List, F. (BE-03) 27
Litsardakis, G. (CP-06) 62
Litvinenko, A. (EA-04) 84
Litvinenko, A. (ED-10) 90
Litvinenko, A. (ER-06) 96
Litvinenko, A. (ID-07) 133
Litvinenko, A. (ID-08) 133
Litvinov, D. (DF-12) 79
Litzius, K. (FD-03) 103
Liu, C. (AC-04) 6
Liu, C. (BD-10) 26
Liu, C. (BF-11) 28
Liu, C. (BG-03) 29
Liu, C. (BG-09) 30
Liu, C. (BJ-04) 33
Liu, C. (BR-08) 40
Liu, C. (BU-02) 45
Liu, C. (ED-12) 90
Liu, C. (FP-05) 111
Liu, C. (JQ-03) 167
Liu, E. (DC-06) 72
Liu, F. (AP-05) 12
Liu, F. (AV-02) 21
Liu, F. (BB-10) 24
Liu, F. (BP-03) 35
Liu, F. (BP-05) 36
Liu, F. (BP-06) 36
Liu, F. (BP-12) 36
Liu, G. (BF-12) 28
Liu, G. (BT-02) 43
Liu, H. (IB-09) 131
Liu, H. (IS-01) 145
Liu, H. (JU-12) 175
Liu, H. (JY-10) 181
Liu, J. (AT-07) 19
Liu, J. (BB-04) 23
Liu, J. (BF-06) 28
Liu, J. (BF-12) 28
Liu, J. (BT-02) 43
Liu, J. (IH-05) 138
Liu, J. (IS-01) 145
Liu, J. (IS-05) 146
Liu, J. (IS-08) 146
Liu, J. (JC-02) 152
Liu, J. (JU-04) 175
Liu, J. (JU-05) 175
Liu, K. (BH-09) 31
Liu, K. (BQ-08) 38
Liu, K. (DF-02) 77
Liu, L. (HP-06) 127
Liu, L. (IS-16) 147
Liu, L. (JU-12) 175
Liu, M. (JB-01) 150
Liu, P. (BS-15) 43
Liu, P. (JI-10) 164
Liu, Q. (CP-10) 62
Liu, Q. (CP-12) 63
Liu, Q. (HC-10) 125
Liu, Q. (IQ-10) 143
Liu, S. (DB-07) 71
Liu, S. (ED-12) 90
Liu, S. (JW-09) 176
Liu, S. (JY-13) 181
Liu, T. (ED-12) 90
Liu, W. (AS-02) 17
Liu, W. (BV-10) 48
Liu, W. (DB-07) 71
Liu, W. (JC-10) 153
Liu, W. (JE-02) 156
Liu, W. (JQ-03) 167
Liu, W. (JW-01) 176
Liu, W. (JW-07) 176
Liu, X. (BQ-04) 37
Liu, X. (BU-15) 46
Liu, X. (CS-13) 68
Liu, X. (HD-07) 126
Liu, X. (JC-08) 153
Liu, Y. (AT-02) 19
Liu, Y. (BD-01) 25
Liu, Y. (BF-07) 28
Liu, Y. (BG-02) 29
Liu, Y. (BJ-04) 33
Liu, Y. (BP-03) 35
Liu, Y. (BP-05) 36
Liu, Y. (BP-06) 36
Liu, Y. (BS-08) 42
Liu, Y. (BV-02) 47
Liu, Y. (CC-05) 53
Liu, Y. (CC-12) 54
Liu, Y. (HB-05) 122
Liu, Y. (HP-06) 127
Liu, Y. (IG-03) 136
Liu, Y. (IQ-01) 141
Liu, Y. (IR-06) 144
Liu, Y. (IS-14) 147
Liu, Y. (JA-04) 149

*Best student presentation award finalist

Liu, Y. (JG-04) 160
Liu, Z. (IB-09) 131
Liu, Z. (IB-12) 131
Liu, Z. (JY-13) 181
Lloyd, D. (CE-03) 56
Lo Conte, R. (HB-01) 121
Lo, T. (CC-12) 54
Lo, Y. (EA-06) 85
Locardi, F. (JD-10) 155
Locatelli, A. (HB-08) 122
Locatelli, A. (IH-11) 139
Locatelli, L. (DC-01) 72
Locatelli, L. (DC-12) 73
Lofink, F. (IB-02) 130
Lofland, S. (IB-03) 130
Lombard, L. (IB-07) 130
Lomonova, E. (AD-05) 9
Lomonova, E. (AS-10) 18
Lomonova, E. (BI-04) 32
Lone, A.H. (GB-06) 114
Longhino, J.M. (JG-11) 161
Longo, E. (DC-01) 72
Longo, E. (DC-12) 73
Longo, M. (DC-01) 72
Longo, M. (DC-12) 73
Lopeandía, A. (DF-02) 77
Lopes Seeger, R. (EA-04) 84
Lopes Seeger, R. (FG-08) 107
Lopes Seeger, R. (FH-02) 108
Lopes Seeger, R. (FH-08) 109
Lopes, A.L. (DE-06) 76
López-Ortega, A. (JR-11) 170
Lopez-Quintas, I. (FD-03) 103
Loss, D. (HC-08) 125
Lostun, M. (IT-07) 148
Lostun, M. (JW-08) 176
Lottini, E. (JR-11) 170
Loughran, T. (CB-03) 51
Louis, S. (ED-08) 89
Louis, S. (ER-06) 96
Lourembam, J. (CG-08) 60
Lovell, E. (JT-06) 173
Loving, M. (CG-05) 60
Lu, J. (CC-03) 52
Lu, J. (CF-08) 59
Lu, J. (FE-07) 105
Lu, J. (FG-07) 106
Lu, Q. (AT-03) 19
Lu, Q. (BD-03) 25
Lu, Q. (DE-07) 76
Lu, Q. (JC-10) 153
Lu, Q. (JQ-05) 167
Lu, W. (FP-05) 111
Lu, X. (EA-06) 85
Lu, X. (FC-05) 101
Lu, X. (IQ-10) 143
Lu, X. (IR-18) 145
Lu, X. (JX-02) 178
Lu, Y. (AQ-11) 14
Lu, Z. (IP-11) 141
Lu, Z. (JA-03) 149
Luberstetter, W. (AC-17) 8
Lubin, T. (BA-03) 22
Lubk, A. (AA-04) 3
Luis Zabotto, F. (JS-10) 172
Lukovic, M. (IS-12) 146
Lukoyanov, A. (DE-09) 76
Lukoyanov, A. (JT-09) 173
Luo, J. (IS-10) 146
Luo, Y. (JQ-03) 167
Lupu, N. (IS-03) 146
Lupu, N. (IT-07) 148
Lupu, N. (JP-03) 165
Lupu, N. (JW-08) 176
Lupu, N. (JY-04) 180
Lux, F. (FH-10) 109
Luzanov, V. (FB-03) 98
Lv, B. (JY-15) 182
Lysne, E. (HB-10) 123
Lyu, S. (BJ-13) 34
Lyubchanskii, I. (EB-07) 86

- M -

M, M. (EE-13) 92
Ma, B. (AP-07) 12
Ma, B. (AQ-01) 13
Ma, J. (BU-15) 46
Ma, T. (CP-07) 62
Ma, T. (GP-02) 119
Ma, Y. (BH-03) 31
Ma, Y. (BW-03) 48
Ma, Z. (CR-08) 66
Ma, Z. (CS-14) 68
Maccari, F. (JC-02) 152
Maccariello, D. (CC-08) 53
Maccherozzi, F. (FG-06) 106
Maccherozzi, F. (GA-02) 113
Maccherozzi, F. (GB-03) 114
Machado da Silva, B. (DE-06) 76
Machado da Silva, B. (JP-05) 165
Machida, K. (JS-04) 171
Madhavan, A. (GA-04) 113
Madhavan, A. (GB-12) 115
Madiligama, A.S. (JE-05) 156
Madrid Aguilar, C. (ER-09) 96
Maekawa, S. (EC-03) 87
Magalhães, R. (JG-06) 160
Magalhães, R. (JP-05) 165
Magén, C. (JI-04) 163
Magni, A. (CC-14) 54
Magnitskaya, M. (DG-09) 80
Magrez, A. (HC-07) 124
Magsood, H.A. (JQ-06) 167
Mah, W. (CP-01) 61
Mahat, R. (DP-01) 80
Mahendiran, R. (HB-11) 123
Mailly, D. (GD-01) 117
Mailly, D. (HD-04) 126
Maior, D. (FB-07) 99
Majetich, S. (HP-09) 128
Mak, C. (IQ-01) 141
Mak, C. (IR-06) 144
Makarochkin, I. (IR-11) 144
Makarov, A. (DG-06) 79
Makarov, D. (DD-02) 74
Makarov, D. (DF-01) 77
Makarov, D. (GD-04) 118
Makhnev, A. (DB-11) 71
Makhnev, A. (DE-09) 76
Makunin, A.V. (IR-14) 145
Makushko, P. (GD-04) 118
Maletinsky, P. (AB-11) 5
Maletinsky, P. (DF-01) 77
Malik, S.V. (JX-09) 179
Malinowski, G. (FD-01) 102
Malinowski, G. (HB-01) 121
Mallick, D. (IF-06) 135
Mallick, D. (JQ-08) 168
Mallick, S. (AE-10) 11
Mallick, S. (HB-13) 123
Maloberti, O. (JB-12) 152
Maltoni, P. (JD-10) 155
Mamiya, H. (JT-08) 173
Manago, T. (CB-03) 51
Mañas-Valero, S. (DB-03) 70
Manchon, A. (CB-06) 52
Mancilla, D. (ED-10) 90
Mancoff, F.B. (CF-01) 58
Mandru, A. (AB-09) 5
Mandru, A. (FH-03) 108
Mandru, A. (HA-03) 120
Mandru, A. (IH-02) 138
Mandziak, A. (IH-12) 139

*Best student presentation award finalist

Manescu Paltanea, V. (BP-15) 37
Mangin, S. (CC-08) 53
Mangin, S. (FD-01) 102
Mangin, S. (HB-01) 121
Mangin, S. (ID-01) 132
Manipatruni, S. (CC-01) 52
Manjanna, J. (JR-01) 168
Manna, K. (DC-06) 72
Mansueto, M. (CF-07) 58
Mantovan, R. (DC-01) 72
Mantovan, R. (DC-12) 73
Manzin, A. (GA-05) 113
Marangolo, M. (FB-10) 99
Marault, J. (AP-06) 12
Marchenkov, V. (DB-11) 71
Marchenkov, V. (DE-09) 76
Marchenkov, V. (JT-03) 172
Marchenkova, E. (DB-11) 71
Marchenkova, E. (JT-03) 172
Marchionni, A. (CB-05) 52
Marco, J. (IR-04) 143
Mardegan, J.R. (AC-11) 7
Maria Ferreira Baptista, R. (DB-01) . . . 70
Maricaru, M. (BP-15) 37
Marinella, M.J. (GB-02) 114
Marques de Andrade Júnior, K. (BF-08) 28
Marques de Andrade Júnior, K. (BG-14) 30
Marques de Andrade Júnior, K. (BG-15) 30
Marqués, J.L. (YA-05) 2
Marrows, C. (AE-11) 11
Marrows, C. (FE-03) 104
Marrows, C. (HA-01) 120
Marshall, D.S. (IE-03) 134
Martin, E. (CC-08) 53
Martin, E. (HB-01) 121
Martin, É. (JR-10) 169
Martín, J. (CQ-08) 64
Martín, J. (EC-05) 87
Martin, M. (DB-03) 70
Martin, N. (DG-09) 80
Martin, V. (BJ-11) 34
Martínez-García, J.C. (YA-05) 2
Martini, M. (CC-13) 54
Martino, L. (JF-11) 159
Martins, L. (DD-09) 75
Marty, A. (CB-05) 52
Marty, A. (CC-01) 52
Marty, A. (CD-06) 55
Marty, A. (CD-13) 56
Marty, J. (CF-06) 58
Martyshkin, A.A. (EQ-06) 95
Maruyama, T. (AV-01) 21
Masaki, S. (CP-16) 63
Masell, J. (HB-10) 123
Masseboeuf, A. (CB-05) 52
Masseboeuf, A. (DD-07) 75
Masseboeuf, A. (GD-02) 117
Massey, J. (HA-01) 120
Massouras, M. (GA-01) 112
Masuda, T. (DF-06) 78
Mathews, S.A. (AD-06) 9
Mathews, S.A. (CS-03) 67
Mathews, S.A. (CS-04) 67
Mathieu, R. (JD-10) 155
Matsuda, R. (CE-10) 57
Matsumoto, K. (JT-11) 174
Matsumura, T. (CQ-03) 64
Matsuo, M. (CA-06) 51
Matsuo, M. (CE-03) 56
Matsuo, M. (EC-06) 87
Matsuo, S. (JR-01) 168
Matsuo, T. (BH-04) 31
Matsushima, N. (IP-01) 140
Matsuyama, K. (EP-01) 93
Mattana, R. (IQ-08) 142
Mattauch, S. (AC-17) 8
Mattevi, C. (DB-02) 70
Matthes, P. (JB-09) 151
Matveeva, A. (DF-09) 78
Matveyev, Y. (FH-13) 110
Matyunina, M. (JU-02) 174
Mauser, N.J. (GC-06) 116
Mawass, M. (GD-04) 118
Mayr, S. (AA-03) 3
Mayr, S. (ED-05) 89
Mayr, S. (HA-01) 120
Mazaleyrat, F. (BA-01) 22
Mazet, T. (DQ-04) 82
Maziewski, A. (IH-03) 138
Mazraati, H. (FB-08) 99
Mazurek, P. (CR-02) 65
Mazzoli, C. (AB-05) 4
McClelland, J.J. (GB-12) 115
McCord, J. (AB-01) 4
McCord, J. (IB-02) 130
McCord, J. (IT-06) 148
McCord, J. (JG-08) 160
McCord, J. (JY-01) 180
McHenry, M. (JA-01) 148
McHenry, M. (JA-04) 149
McMaster, M.R. (FC-08) 101
Méchin, L. (IB-05) 130
Meckenstock, R. (FB-02) 98
Medapalli, R. (HD-09) 127
Medjanik, K. (FH-13) 110
Medvedeva, T.M. (EB-04) 85
Mei, L. (BE-05) 27
Meier, D. (HB-10) 123
Meinert, M. (CD-04) 55
Mekkaoui, S. (JH-01) 161
Memon, A. (BW-04) 49
Mendisch, S. (EE-06) 92
Menéndez, E. (DF-02) 77
Meng, D. (BP-14) 36
Meng, F. (JI-05)* 164
Meng, N. (BC-03) 24
Meng, Y. (BT-03) 43
Mentes, T. (HB-08) 122
Mentes, T. (IH-11) 139
Mentink, J. (HB-02) 122
Merbouche, H. (EB-02) 85
Merbouche, H. (ED-02) 89
Merbouche, H. (ED-03) 89
Merbouche, H. (ED-07) 89
Merbouche, H. (JA-12) 150
Mercadier, L. (FD-05) 103
Mercurio, G. (FD-05) 103
Mercurio, G. (HB-02) 122
Merschroth, H. (JC-02) 152
Merte, M. (FH-10) 109
Mertig, I. (FG-01) 105
Mertig, I. (HD-03) 126
Mertig, I. (HP-02) 127
Mesaros, A. (IQ-05) 142
Messal, O. (JB-13) 152
Messal, O. (JW-18) 177
Messing, M.E. (IG-10) 137
Messing, M.E. (JI-01) 163
Metlov, K. (AA-03) 3
Meunier, T. (DC-11) 73
Mewes, C. (CA-03) 50
Mewes, T. (CA-03) 50
Meyners, D. (IB-02) 130
Mezani, S. (AQ-08) 14
Mezani, S. (BA-03) 22
Mi, M. (AS-04) 17
Mi, M. (JY-12) 181
Mi, W. (DC-05) 72
Mi, W. (DC-08) 73
Mi, W. (DE-02) 75
Miao, B. (CP-10) 62

*Best student presentation award finalist

Miao, B. (CP-12) 63
Miao, J. (EA-06) 85
Miao, W.C. (IS-04) 146
Mican, S. (IQ-05) 142
Michaelis De Vasconcellos, S. (FA-05) 98
Michel, J. (ID-03) 133
Michez, L. (FG-08) 107
Michez, L. (FH-08) 109
Mielcarek, S. (EC-08) 88
Mieszczak, S. (EC-08) 88
Mieszczak, S. (EE-07) 92
Migot, S. (CC-08) 53
Migot, S. (JF-03) 158
Mihajlović, G. (CB-03) 51
Mikami, T. (ER-03) 96
Mikhaylovskiy, R.V. (FB-11) 99
Miki, S. (GA-03) 113
Milán-Rois, P. (JG-05) 160
Milinska, E. (IG-02) 136
Millan Mirabal, L.A. (JB-13) 152
Mille, N. (DD-07) 75
Mille, N. (JH-10) 162
Miller, D. (CG-05) 60
Min, J. (AR-18) 16
Mina, M. (CR-11) 66
Mina, M. (JS-02) 170
Minamitani, M. (AT-06) 19
Minar, J. (FH-13) 110
Minciunescu, P. (BP-15) 37
Minuti, A. (JP-03) 165
Mion, T.R. (IB-03) 130
Mion, T.R. (JF-05) 158
Miranda, R. (DB-09) 71
Miranda, R. (IB-05) 130
Miranda, R. (IG-11) 137
Miranda, R. (IH-14) 139
Miranda, R. (IR-16) 145
Miron, I. (HC-05) 124
Mirzadeh Vaghehfi, P. (FH-03) 108
Mirzaei, M. (IB-06) 130
Mirzaei, M. (IC-06) 132
Mirzaei, M. (IT-09) 148
Misaka, Y. (IS-15) 147
Mishra, D. (JD-11) 155
Mishra, R. (CG-12) 61
Mishra, S.R. (JS-07) 171
Mishra, S.R. (JS-08) 171
Mitani, S. (IE-04) 134
Mitarai, H. (CB-02) 51
Mitarai, H. (DG-07) 80
Mitarai, H. (IF-02) 135
Mitarai, H. (IP-10) 141
Mitra, S. (JE-10) 157
Mitsuya, K. (BI-02) 32
Miura, A. (CE-09) 57
Miura, D. (CE-11) 57
Miura, K. (EC-03) 87
Miura, S. (CF-03) 58
Miura, S. (CF-05) 58
Miura, Y. (CE-09) 57
Miura, Y. (IF-05) 135
Mix, T. (JD-08) 155
Miyazaki, T. (FP-11) 112
Miyazaki, T. (JY-05) 181
Mizokami, K. (CE-10) 57
Mizrahi, A. (GA-04) 113
Mizukami, S. (CD-12) 56
Mizukami, S. (ED-06) 89
Mizukami, S. (ED-13) 90
Mizukami, S. (FB-11) 99
Mizukami, S. (IE-02) 134
Mizukami, S. (IE-05) 134
Mkhoyan, A.K. (IH-05) 138
Mo, L. (BW-13) 49
Mo, W. (CP-02) 61
Mo, W. (CP-08) 62
Mo, W. (HP-06) 127
Mo, W. (IS-16) 147
Mo, W. (JY-07) 181
Moalic, M. (EP-07) 94
Modak, R. (IF-05) 135
Modestino, M. (JR-12) 170
Moeller, M. (HB-02) 122
Mogilenec, Y. (JY-19) 182
Mohapatra, J. (JI-10) 164
Mohd Noor Sam, M.b. (IT-03) 147
Mohd Shafri, S.A. (BI-10) 33
Mohmed, F. (EE-12) 92
Mohseni, F. (IC-07) 132
Mokrousov, Y. (CE-12) 57
Mokrousov, Y. (FD-03) 103
Mokrousov, Y. (FD-04) 103
Mokrousov, Y. (FH-10) 109
Molho, P. (ID-01) 132
Molodtsov, S. (FD-05) 103
Molokeev, M. (DQ-08) 83
Mompeán, F. (JD-11) 155
Mondal, D. (DB-06) 71
Monga, S. (DP-10) 81
Monma, R. (IE-05) 134
Montaigne, F. (GA-01) 112
Montaigne, F. (ID-01) 132
Montanaro, A. (JF-07) 158
Moon, J. (AR-09) 16
Moon, J. (DP-03) 81
Moore, T. (HA-01) 120
Moore, T. (IQ-02) 142
Moore, T. (JY-06) 181
Moraes, S. (JG-06) 160
Morales Casero, I. (JH-10) 162
Morales, P. (JH-10) 162
Morales, R. (JG-06) 160
Morche, D. (ID-08) 133
Morel, L. (JY-08) 181
Morel, R. (AE-07) 10
Moreno-Ramírez, L.M. (JE-01) 155
Moreno-Ramírez, L.M. (JE-07) 156
Moreno-Ramírez, L.M. (JE-09) 157
Moreno, J.A. (AC-02) 6
Moreu, J. (BF-03) 27
Morgan, G.G. (DG-10) 80
Morikawa, H. (BH-07) 31
Morillas, J.R. (YB-01) 2
Moriyama, T. (FA-04) 97
Moriyama, T. (FB-11) 99
Morley, N. (IT-08) 148
Morley, N. (JB-02) 150
Morley, N. (JB-05) 151
Morley, N. (JX-10) 179
Morley, N. (JX-11) 179
Morozkin, A.V. (JS-06) 171
Morozova, M. (EA-05) 84
Morshed, M. (HD-05) 126
Moshkina, E. (DQ-08) 83
Moskalenko, O.I. (EB-04) 85
Moskalev, M. (IR-10) 144
Moskvin, A. (DQ-03) 82
Mosseri, I. (GC-08) 117
Motiejuitis, K. (IB-13) 131
Motyckova, L. (JW-12) 177
Mougin, A. (AE-10) 11
Mougin, A. (FH-06) 109
Mougin, A. (HD-08) 126
Moulin, J. (IB-04) 130
Mounkachi, O. (JS-09) 171
Mourkas, A. (JR-09) 169
Moutafis, C. (FC-03) 101
Moya, C. (JH-07) 162
Moya, C. (JH-08) 162
Moyano, A. (YA-05) 2
Mruczkiewicz, M. (AE-09) 11
Mucchietto, A. (EE-03) 91
Muchharla, B. (JG-12) 161

*Best student presentation award finalist

Mudryk, Y. (JT-06) 173
Muduli, P.K. (GB-01) 114
Muechler, L. (DC-06) 72
Mugerman, K. (TU-03) 1
Mukherjee, B. (BI-07) 32
Mulkers, j. (EC-07) 88
Mulkers, j. (GC-02) 116
Mullen, A. (GA-02) 113
Mullen, A. (GB-03) 114
Müller-Bunz, H. (DG-10) 80
Muñiz, B. (DF-02) 77
Muñoz Rodriguez, C. (JD-08) 155
Muñoz, M. (EB-02) 85
Munsch, M. (AB-11) 5
Munuera, C. (IH-12) 139
Muraca, D. (JA-13) 150
Murai, K. (IS-15) 147
Muramatsu, K. (CS-11) 68
Murapaka, C. (CD-07) 55
Murapaka, C. (HP-05) 127
Murat, B. (BH-11) 32
Murata, Y. (IA-09) 129
Murer, C. (CD-11) 55
Murnane, M. (EA-06) 85
Muroga, S. (EE-05) 91
Muroga, S. (ER-03) 96
Muroga, S. (FB-09) 99
Musi, C. (CS-04) 67
Musiienko-Shmarova, H. (CA-02) . . . 50
Muzzi, B. (JR-11) 170

- N -

N'Dri, K.D. (JF-11) 159
Naboko, A. (ER-13) 97
Naden, A. (FG-02) 105
Naden, A. (JW-10) 177
Nadzri, N. (IC-01) 131
Nafradi, B. (DF-06) 78
Nagai, Y. (IE-02) 134
Nagauma, H. (CF-03) 58
Nagauma, H. (CF-05) 58
Nagel, K. (CF-01) 58
Nahir, K. (GC-08) 117
Nain, S. (AT-05) 19
Nair, L.P. (EE-13) 92
Najjar, D. (BJ-11) 34
Nakagawa, H. (JP-08) 166
Nakajima, K. (GB-07) 115
Nakamura, K. (BF-02) 27
Nakamura, K. (BI-02) 32
Nakamura, K. (BI-03) 32
Nakamura, R. (BD-02) 25
Nakamura, S. (EE-15) 93
Nakamura, Y. (IP-07) 140
Nakamura, Y. (IP-08) 141
Nakano, K. (JD-05) 154
Nakatani, T. (DE-05) 76
Nakatani, T. (IA-01) 128
Nakatani, T. (IB-10) 131
Nakatani, Y. (HC-03) 124
Nakatsuji, S. (FH-05) 108
Naletov, V.v. (EA-04) 84
Naletov, V.v. (ED-04) 89
Nalevanko, S. (DQ-01) 82
Nam, D. (AR-18) 16
Nam, D. (BR-15) 41
Nam, D. (BR-17) 41
Nam, H. (IS-02) 145
Nam, H. (IS-13) 147
Nam, J. (BS-13) 42
Nam, K. (AP-09) 12
Nambu, K. (JA-11) 150
Nan, T. (CE-02) 56
Naoi, K. (IA-09) 129
Naoki, H. (FP-13) 112
Napolitano, A. (JX-03) 178
Narita, S. (CR-01) 65
Narusue, Y. (BH-07) 31
Nashimoto, K. (JP-07) 166
Nasr, F. (HP-04) 127
Nath, J. (HC-05) 124
Naumov, S. (DB-11) 71
Navarro-Garcia, J.D. (JT-01) 172
Navas, D. (FC-07) 101
Navas, D. (JG-06) 160
Navau, C. (GC-03) 116
Navío, C. (IH-08) 139
Navío, C. (JG-05) 160
Nayyef, H. (IG-07) 137
Nayyef, H. (IH-10) 139
Nayyef, H. (IH-11) 139
Nedelec, J. (JG-07) 160
Neeraj, K. (FD-08) 103
Nematov, M.G. (JY-02) 180
Nematov, M.G. (JY-03) 180
Nembach, H. (GD-06) 118
Nemtsev, I.V. (JR-06) 169
Nesser, M. (JB-12) 152
Nessi, L. (DB-06) 71
Nessi, L. (FG-14) 107
Nessi, L. (IR-15) 145
Neu, V. (GA-05) 113
Neu, V. (JR-02) 168
Neupane, D. (JS-07) 171
Neupane, D. (JS-08) 171
Newell, B. (JG-04) 160
Newhouse-Illige, T. (FH-04) 108
Newhouse-Illige, T. (FH-07) 109
Newton, P. (JI-05) 164
Neznakhin, D.S. (DP-08) 81
Neznakhin, D.S. (JQ-07) 168
Neznakhin, D.S. (JT-12) 174
Ng, N. (HC-04) 124
Ng, S. (IQ-01) 141
Ng, S. (IR-06) 144
Ngo, D. (BP-07) 36
Ngouagnia Yemeli, I. (EB-02) 85
Ngouagnia Yemeli, I. (HC-09) 125
Nguyen, G. (JA-11) 150
Nguyen, H. (CQ-11) 65
Nguyen, H. (CR-09) 66
Nguyen, H. (IT-01) 147
Nguyen, T. (CC-09) 53
Nguyen, T. (CF-03) 58
Nguyen, T. (CF-05) 58
Nguyen, T. (FP-11) 112
Nguyen, V. (GD-09) 118
Nian, D. (EQ-01) 94
Niarchos, D. (JC-07) 153
Nichterwitz, M. (DF-03) 77
Nicolenco, A. (DF-02) 77
Nie, T. (DB-10) 71
Nie, T. (FB-12) 100
Nie, Y. (IQ-10) 143
Niekiel, F. (IB-02) 130
Nielsch, K. (DF-03) 77
Nielsch, K. (FE-04) 104
Nielsch, K. (JD-06) 154
Niendorf, T. (JF-04) 158
Niewolski, J. (AC-03) 6
Nigam, A. (JT-13) 174
Nigam, A. (JX-09) 179
Niguchi, N. (BB-06) 23
Nikitin, A.A. (EQ-02) 94
Nikitov, S. (EA-05) 84
Nikitov, S. (EB-04) 85
Nikitov, S. (EC-04) 87
Nikitov, S. (EP-03) 93
Nikitov, S. (EP-09) 94
Nikitov, S. (EQ-05) 95
Nikitov, S. (ER-01) 95
Nikitov, S. (FB-03) 98
Nikolić, B. (DA-02) 69

*Best student presentation award finalist

Nikonov, D.E. (CC-01) 52
Nikonov, D.E. (DA-04) 69
Nimonkar, C. (JQ-06) 167
Ning, S. (CQ-09) 65
Ning, S. (CR-08) 66
Ning, S. (CS-14) 68
Ning, S. (JP-09) 166
Ning, S. (JP-14) 166
Ning, S. (JQ-09) 168
Niraula, G. (JA-13) 150
Nishihara, H. (JX-08) 179
Nishikawa, M. (IP-07) 140
Nishikawa, M. (IP-08) 141
Nishio-Hamane, D. (JW-06) 176
Nishioka, K. (CF-03) 58
Nishioka, K. (CF-05) 58
Niu, S. (BJ-13) 34
Niu, S. (BS-03) 41
Niu, S. (BT-07) 44
Niu, S. (BT-10) 44
Niu, S. (BT-12) 44
Niu, S. (BT-13) 44
Niu, S. (BT-14) 44
Niu, S. (BU-03) 45
Niu, S. (BU-04) 45
Niu, S. (BU-05) 45
Niu, S. (BU-06) 45
Niu, S. (BU-11) 46
Niu, S. (BU-16) 46
Niu, S. (BU-17) 46
Niu, S. (BU-18) 46
Niu, S. (BU-19) 47
Niu, S. (BV-06) 47
Niu, S. (BW-09) 49
Nlebedim, C.I. (JC-01) 152
Nlebedim, C.I. (JC-08) 153
Nlebedim, I.C. (JU-10) 175
Noack, T.B. (EB-08) 86
Noda, M. (DP-04) 81
Noël, P. (CD-11) 55
Noël, P. (DC-11) 73
Noël, P. (FE-02) 104
Nogarede, B. (BJ-08) 34
Noguchi, Y. (CF-03) 58
Nogues, J. (DF-02) 77
Noky, J. (DC-06) 72
Nomdedeu, M. (BJ-08) 34
Nomura, A. (JX-08) 179
Nomura, E. (JR-01) 168
Nomura, H. (GA-03) 113
Normile, P.S. (IH-08) 139
Noro, S. (JD-05) 154
Novák, P. (JC-12) 153
Novak, V. (AB-04) 4
Novati, A. (DB-06) 71
Novotny, J. (IB-08) 131
Nozaki, T. (GA-03) 113
Nozaki, T. (IH-04) 138
Nozaki, Y. (EC-06) 87
Nozawa, K. (ER-12) 97
Nsibi, M. (HC-05) 124
Nunes, C. (JG-06) 160
Nuss, J. (DP-03) 81
Nutter, P. (FB-13) 100

- O -

O' Sullivan, B. (CF-12) 59
O'Carroll, I. (JP-15) 167
O'Grady, K. (IG-09) 137
Obinata, S. (CP-13) 63
Och, M. (DB-02) 70
Ocker, B. (CG-09) 60
Odintsov, S. (EP-02) 93
Odintsov, S. (EQ-05) 95
Oezelt, H. (AD-04) 9
Ogami, H. (EP-01) 93
Ogasawara, S. (BP-02) 35
Ogawa, T. (IP-02) 140
Ogawa, T. (IP-03) 140
Ogawa, Y. (JW-06) 176
Ognev, A. (CB-01) 51
Ognev, A. (GP-02) 119
Ogrin, F. (EP-02) 93
Oguz, K. (DA-04) 69
Oh, D. (DP-03) 81
Oh, D. (DP-05) 81
Oh, S. (AR-15) 16
Oh, S. (AR-16) 16
Oh, S. (BQ-15) 39
Oh, S. (BR-14) 41
Oh, S. (BW-12) 49
Oh, S. (EP-04) 93
Oh, S. (FP-12) 112
Ohashi, S. (AT-06) 19
Ohashi, S. (AV-01) 21
Ohashi, S. (BD-05) 25
Ohashi, S. (BS-09) 42
Ohishi, K. (JR-01) 168
Ohkubo, T. (IE-04) 134
Ohldag, H. (FG-15) 108
Ohnishi, K. (CE-10) 57
Ohno, H. (CG-01) 59
Ohno, H. (CG-02) 60
Ohno, H. (FC-09) 102
Ohno, H. (FD-01) 102
Ohno, H. (FG-05) 106
Ohno, H. (GB-10) 115
Ohno, H. (IH-03) 138
Ohodnicki, P. (JA-04) 149
Ohresser, P. (JI-11) 164
Ohtake, M. (JD-05) 154
Okamoto, Y. (IP-07) 140
Okamoto, Y. (IP-08) 141
Okamura, N. (CQ-04) 64
Okita, K. (ER-12) 97
Okita, K. (JP-13) 166
Okuno, H. (CB-02) 51
Okuno, H. (CB-05) 52
Okuno, H. (IP-10) 141
Olafasakin, O.O. (JP-01) 165
Oliveira, J. (DE-06) 76
Oliveros Mata, E. (GD-04) 118
Olivetti, E.S. (JF-11) 159
Olkhovskiy, I. (JQ-07) 168
Ollefs, K. (CR-05) 66
Olleros-Rodríguez, P. (AE-08) 10
Olleros-Rodríguez, P. (DB-09) 71
Olleros-Rodríguez, P. (HB-03) 122
Olleros-Rodríguez, P. (IH-08) 139
Olleros-Rodríguez, P. (IH-14) 139
One, R. (IQ-05) 142
Ong, H. (BI-10) 33
Onita, S. (IS-15) 147
Ono, S. (FE-09) 105
Ono, T. (CP-04) 62
Ono, T. (FB-11) 99
Ono, Y. (CQ-05) 64
Onsal, M. (BG-04) 29
Oogane, M. (CP-03) 61
Oogane, M. (CP-15) 63
Oogane, M. (IT-03) 147
Opel, M. (FG-10) 107
Orikawa, K. (BP-02) 35
Orue, I. (ER-09) 96
Osawa, H. (IP-07) 140
Oshima, D. (FC-06) 101
Osipov, A. (ER-13) 97
Osman, R. (JX-10) 179
Ostatnicky, T. (AB-04) 4
Otani, Y. (CP-09) 62
Otani, Y. (EC-03) 87
Otani, Y. (FH-05) 108
Otero, E. (JI-11) 164

*Best student presentation award finalist

Otxoa, R.M. (FG-02) 105
Ou, J. (CR-10) 66
Ouazir, Y. (AQ-08) 14
Oue, D. (CE-03) 56
Ourdani, D. (FE-09) 105
Ourdani, D. (IR-01) 143
Ovari, T.A. (IS-03) 146
Ovari, T.A. (JY-04) 180
Ovchinnikov, A.S. (EQ-08) 95
Ovsianikov, A. (JT-10) 173
Oyama, D. (CQ-01) 64
Ozaydin, F. (IF-03) 135
Ozden, M.G. (JX-11) 179
Ozdincer, B. (BE-02) 26

- P -

P K, J. (JT-13) 174
P.S., A.K. (GP-04) 119
Pablo-Navarro, J. (JI-04) 163
Pace, S. (JR-12) 170
Pachat, R. (FE-09) 105
Pachlhofer, J. (AD-04) 9
Padalko, M. (DG-06) 79
Padhy, S.P. (JA-05) 149
Padhy, S.P. (JB-03) 150
Padhy, S.P. (JB-06) 151
Padhy, S.P. (JB-07) 151
Page, M. (EC-11) 88
Pai, C. (CC-02) 52
Pai, C. (CC-04) 52
Pai, C. (CC-10) 53
Pai, C. (CC-12) 54
Paikaray, B. (CD-07) 55
Paikaray, B. (HP-05) 127
Pakdelian, S. (BU-09) 46
Pala, J. (CD-07) 55
Paleo, C. (JD-03) 154
Palin, V. (DE-03) 76
Pallás, E. (YA-01) 1
Palmero, E.M. (JD-08) 155
Palmero, E.M. (JD-09) 155
Palomino, A. (CF-06) 58
Palomino, A. (CF-07) 58
Palomino, A. (CG-03) 60
Paltanea, G. (BP-15) 37
Pan, Z. (BT-03) 43
Panagiotopoulos, I.V. (JR-09) 169
Panagopoulos, C. (CC-08) 53
Panagopoulos, C. (HA-02) 120
Pandey, N. (GD-06) 118
Pandey, S. (DQ-10) 83
Pandeya, A. (DB-04) 70
Pandit, P. (IH-07) 138
Pang, H. (AS-02) 17
Pang, H. (AU-03) 20
Panigrahi, B. (FB-04) 98
Panina, L. (JY-02) 180
Panina, L. (JY-03) 180
Pannetier-Lecoeur, M. (IB-04) 130
Panov, Y. (DQ-03) 82
Panwar, R. (JA-08) 149
Panwar, R. (JA-10) 149
Papin, J. (DC-11) 73
Papp, A. (EE-06) 92
Paranthaman, P.M. (BE-03) 27
Paranthaman, P.M. (BE-04) 27
Paranthaman, P.M. (JC-01) 152
Paranthaman, P.M. (JC-08) 153
Park, B. (IQ-07) 142
Park, D. (AC-05) 6
Park, E. (BU-08) 46
Park, G. (AS-08) 17
Park, G. (AU-08) 20
Park, G. (BJ-07) 34
Park, G. (IS-02) 145
Park, G. (IS-13) 147
Park, G. (IT-02) 147
Park, G. (IT-05) 148
Park, H. (AQ-07) 14
Park, H. (BQ-10) 38
Park, J. (AV-03) 21
Park, J. (BG-05) 29
Park, J. (BP-02) 35
Park, J. (BP-13) 36
Park, J. (CG-12) 61
Park, J. (CP-04) 62
Park, J. (YB-06) 3
Park, K. (BS-11) 42
Park, K. (BS-12) 42
Park, K. (JW-03) 176
Park, S. (AR-12) 16
Park, S. (AV-03) 21
Park, S. (BG-05) 29
Park, S. (CP-04) 62
Park, S. (IQ-07) 142
Park, Y. (AR-15) 16
Park, Y. (AR-16) 16
Park, Y. (BQ-15) 39
Park, Y. (BR-13) 40
Park, Y. (BR-14) 41
Park, Y. (BW-12) 49
Parkin, S. (DA-01) 69
Parkin, S. (DB-04) 70
Parkin, S. (DC-02) 72
Parkin, S. (HD-03) 126
Parkin, S. (HP-02) 127
Pasquale, M. (JF-11) 159
Pastor, G.M. (JW-13) 177
Pathak, A. (JS-07) 171
Pathak, P. (IF-06) 135
Patriarche, G. (JI-12) 164
Pattabi, A. (GD-08) 118
Pattabi, A. (HB-01) 121
Pattanaik, M.S. (JH-05) 162
Paul, K. (BK-05) 35
Paulides, J.J. (BA-02) 22
Paulischin, A. (IR-13) 144
Pauly, C. (DG-10) 80
Pavlonis, D. (IB-13) 131
Pavlov, A.N. (EB-04) 85
Pawlak, E. (JG-11) 161
Pazzocco, R. (FG-14) 107
Pecharsky, V. (JE-06) 156
Pecharsky, V. (JT-06) 173
Peda, M. (GP-04) 119
Peddis, D. (JD-10) 155
Peddis, D. (JR-11) 170
Pedersoli, E. (FD-03) 103
Pedraz, P. (IH-08) 139
Pedro Esteves de Araújo, J. (DB-01) . . . 70
Pedro Esteves de Araújo, J. (DE-06) . . . 76
Pedro Esteves de Araújo, J. (JE-12) . . . 157
Pedro Esteves de Araújo, J. (JG-06) . . . 160
Pedro Esteves de Araújo, J. (JI-03) . . . 163
Pedro Esteves de Araújo, J. (JP-05) . . . 165
Pedro Esteves de Araújo, J. (JR-05) . . . 169
Pedro Esteves de Araújo, J. (JT-06) . . . 173
Pedro Esteves de Araújo, J. (JT-07) . . . 173
Pei, R. (BV-03) 47
Pei, R. (JX-13) 179
Pei, T. (AT-07) 19
Pei, Y. (AQ-03) 13
Peiro, J. (DB-02) 70
Peixoto, L. (JG-06) 160
Peña Garcia, J.A. (CB-02) 51
Peña Garcia, J.A. (FE-08) 105
Peña Garcia, J.A. (HB-08) 122
Peña Garcia, J.A. (IP-10) 141
Penedo, M. (HA-03) 120
Peng, C. (BE-05) 27
Peng, C. (CC-10) 53
Peng, H. (AQ-10) 14
Peng, H. (BV-08) 48

*Best student presentation award finalist

Peng, J. (AR-03) 15
Peng, K. (IC-05). 132
Peng, S. (CC-03) 52
Peng, S. (CF-08) 59
Peng, S. (FE-07). 105
Peng, S. (FG-07) 106
Peng, S. (IH-01). 138
Pepper, R. (GC-05) 116
Pereira, A. (JE-12) 157
Pereira, A. (JT-06) 173
Pereira, E. (JP-05) 165
Pereiro, E. (CQ-08) 64
Perevedentseva, E. (JG-09) 160
Perevozchikova, Y. (DE-09) 76
Pérez García, L. (DD-07). 75
Pérez García, L. (JD-11) 155
Permyakov, N. (GC-07). 116
Perna, P. (AE-08) 10
Perna, P. (DB-09). 71
Perna, P. (HB-03). 122
Perna, P. (IB-05). 130
Perna, P. (IG-11). 137
Perna, P. (IH-08) 139
Perna, P. (IH-14) 139
Perna, P. (IR-16). 145
Perna, S. (BJ-14) 34
Perna, S. (EB-11) 86
Perna, S. (FD-08) 103
Perna, S. (GC-04). 116
Perna, S. (GC-10). 117
Perov, N.S. (ID-04) 133
Perrin, Y. (DQ-09) 83
Perumkunnil, M. (CF-12) 59
Perumkunnil, M. (CG-13) 61
Pesteri, M. (BP-15) 37
Peters, J. (AC-17). 8
Peters, L. (AC-17) 8
Peters, L. (JT-10) 173
Peters, T. (ER-11). 97
Petit-Watelot, S. (CC-08). 53
Petit-Watelot, S. (DD-10). 75
Petit-Watelot, S. (DE-01). 75
Petit-Watelot, S. (DE-03). 76
Petit-Watelot, S. (HB-01). 121
Petit-Watelot, S. (ID-01) 132
Petit, S. (EC-12). 88
Petricek, V. (DG-04) 79
Petricek, V. (FG-08). 107
Petrisor Jr, T. (IQ-05). 142
Petroff, F. (DB-02). 70
Petroff, F. (IQ-08) 142
Petrov, D. (ER-13) 97
Pfau, B. (AB-05) 4
Pfau, B. (HB-02) 122
Pfeuffer, L. (JE-02) 156
Pfeuffer, L. (JT-06). 173
Pfister, P. (BI-06) 32
Pfister, P. (BU-13) 46
Phakphisut, W. (IP-05). 140
Pham, T. (CQ-11). 65
Pham, T. (CR-09). 66
Pham, T. (IT-01). 147
Pham, V. (CC-01). 52
Pham, V. (CD-06). 55
Pham, V. (CD-13). 56
Pham, V. (HD-04) 126
Phan, M. (JG-12) 161
Phatak, C. (AB-08) 5
Philippe, S. (AE-07). 10
Phuoc, C. (CP-04) 62
Piamonteze, C. (IG-10) 137
Piamonteze, C. (JH-07) 162
Picozzi, S. (DB-06) 71
Pierre, D. (ID-01). 132
Pierron, V. (IB-05) 130
Pietro, A.D. (FE-09). 105
Pietruczik, A. (IG-02) 136
Pilabutr, S. (IP-06). 140
Pilidi, A. (CP-06) 62
Pinarbasi, M. (CF-09) 59
Pinna, D. (GB-13) 115
Pippan, R. (IR-13) 144
Pippan, R. (JA-06). 149
Piquemal-Banci, M. (DB-03). 70
Piramanayagam, S. (CE-06) 57
Piramanayagam, S. (CP-01). 61
Piramanayagam, S. (GP-04) 119
Piramanayagam, S. (HB-11) 123
Pirota, K. (DG-01) 79
Pirro, P. (EB-03). 85
Pirro, P. (ED-11). 90
Pirro, P. (EE-04). 91
Pistono, E. (ID-08). 133
Pitala, K.T. (AC-14). 7
Pizzini, S. (CB-02). 51
Pizzini, S. (FE-08) 105
Pizzini, S. (HB-07). 122
Pizzini, S. (HB-08). 122
Pizzini, S. (HC-02). 124
Pizzini, S. (IP-10). 141
Platonov, S. (JT-09) 173
Plausinaitiene, V. (IB-13). 131
Plombon, J. (DA-04) 69
Plotnikov, V.S. (JR-06). 169
Ployard, M. (JB-12) 152
Plumer, M.L. (AD-03) 8
Podevin, F. (ID-08) 133
Podgornik, B. (AB-01). 4
Podgornykh, S. (DB-11) 71
Podmiljšak, B. (JC-11). 153
Poh, C. (CE-06) 57
Pohl, D. (JR-02). 168
Pokrovsky, V. (EB-12) 86
Polichetti, M. (JR-12) 170
Polinder, H. (BG-01) 29
Pollard, S. (HC-01) 123
Polley, D. (GD-08). 118
Pollok, S. (BH-01) 31
Polzikova, N. (FB-03) 98
Pomyalov, A. (EB-08) 86
Poncot, M. (JF-03). 158
Pong, P. (HP-03) 127
Pong, P. (IS-01) 145
Pong, P. (JH-06). 162
Pong, P.W. (IS-04) 146
Ponomareva, S. (AE-07) 10
Pöppl, A. (JS-06) 171
Porod, W. (EE-06) 92
Porod, W. (EE-11) 92
Potzger, K. (FB-02) 98
Poulain, A. (JE-12). 157
Pourkeivannour, S. (AS-10). 18
Povzner, A. (HP-11). 128
Powell, D. (BF-04). 28
Powell, D. (BF-13). 28
Pownall, R. (CG-05) 60
Prabhakar, A. (EE-13) 92
Prabhu Gaunkar, N. (CR-11) 66
Prabhu Gaunkar, N. (JS-02). 170
Pradhan, G. (HB-13) 123
Pradhan, G. (JU-06). 175
Pramana, S. (JE-07) 156
Prat, J. (GA-02) 113
Pratt, J. (GB-03). 114
Préault, V. (AC-12) 7
Preger, C. (IG-10) 137
Preger, C. (JI-01) 163
Prejbeanu, I. (CF-06) 58
Prejbeanu, I. (CF-07) 58
Prejbeanu, I. (CF-11) 59
Prejbeanu, I. (GB-05). 114
Prejbeanu, I. (IB-07) 130
Prejbeanu, I.L. (CG-03). 60
Prejbeanu, I.L. (ID-07). 133

*Best student presentation award finalist

Prenat, G. (GB-05) 114
Prida, V. (JT-05) 173
Prieto, J. (IH-12) 139
Prieto, J. (IR-04) 143
Priolkar, K. (JX-09) 179
Prischepa, S.L. (JI-07) 164
Proenca, M.P. (GD-03) 117
Proenca, M.P. (JI-03) 163
Proenca, M.P. (JR-05) 169
Psaroudaki, C. (HC-08) 125
Psycharis, V. (JC-07) 153
Pu, W. (AR-13) 16
Pu, Y. (BT-16) 45
Puebla, J. (CP-09) 62
Puebla, J. (EC-03) 87
Pufall, M.R. (GB-12) 115
Puliafito, V. (AE-05) 10
Puttock, R. (GA-05) 113
Pylypovskyi, O. (DD-02) 74
Pylypovskyi, O. (DF-01) 77
Pylypovskyi, O. (EB-01) 85
Pylypovskyi, O. (GD-04) 118
Pyo, H. (BR-15) 41
Pyo, H. (BR-17) 41

- Q -

Qaid, M. (ER-11) 97
Qaiumzadeh, A. (HB-10) 123
Qi, J. (FP-05) 111
Qian, C. (BH-10) 31
Qiao, G. (AV-02) 21
Qiao, G. (BB-10) 24
Qiao, G. (BP-03) 35
Qiao, G. (BP-05) 36
Qiao, G. (BP-06) 36
Qiao, G. (BP-12) 36
Qiao, G. (JY-13) 181
Qiao, L. (JY-13) 181
Qiao, M. (AC-18) 8
Qin, H. (EE-09) 92
Qin, L. (BT-03) 43
Qin, W. (AT-01) 19
Qin, W. (BI-08) 32
Qin, X. (BC-01) 24
Qin, Y. (IA-06) 129
Qiu, H. (CR-08) 66
Qiu, H. (CS-14) 68
Qiu, H. (JP-14) 166
Qiu, H. (JQ-09) 168
Qiu, J. (CG-08) 60
Qiu, J. (CR-10) 66
Qiu, J. (IS-07) 146
Qiu, J. (IS-09) 146
Qiu, J. (JU-12) 175
Qiu, L. (BU-15) 46
Qiu, X. (BP-17) 37
Qiu, Y. (EQ-01) 94
Qiu, Y. (HP-01) 127
Qiu, Y. (IS-10) 146
Qu, G. (BG-13) 30
Qu, R. (AS-03) 17
Qu, R. (AT-07) 19
Qu, R. (BT-01) 43
Qu, R. (BT-04) 43
Qu, R. (BT-09) 44
Qu, R. (BU-01) 45
Qu, T. (FC-01) 100
Quaegebeur, P. (BJ-11) 34
Quan, L. (AQ-11) 14
Quan, L. (AR-13) 16
Querlioz, D. (GA-01) 112
Quesada, A. (IH-12) 139
Quesada, A. (IR-04) 143
Quesada, A. (JD-11) 155
Quinard, B. (IQ-08) 142
Quinata-Nedelcos, A. (JB-05) 151
Quinata-Nedelcos, A. (JX-10) 179
Quintana, A. (DF-02) 77
Quiros, C. (CQ-08) 64
Quiros, C. (EC-05) 87

- R -

R, M. (CP-05) 62
R, N. (JE-04) 156
R, N. (JS-06) 171
R, N. (JT-13) 174
Raab, K. (FG-05) 106
Raab, K. (HC-10) 125
Raabe, J. (AA-03) 3
Raabe, J. (DD-05) 74
Raabe, J. (ED-05) 89
Raabe, J. (HA-01) 120
Radu, F. (DB-04) 70
Radu, I. (GD-09) 118
Radulov, I. (CR-05) 66
Radulov, I. (JC-02) 152
Raevskiy, A. (FB-03) 98
Rafin, S.H. (BB-08) 23
Ragusa, C. (JB-11) 151
Ragusa, C. (JX-03) 178
Raimondo, E. (HC-11) 125
Raja, M.M. (FB-04) 98
Rajauria, S. (IA-08) 129
Rallabandi, V. (AP-08) 12
Rama-Eiroa, R. (FG-02) 105
Ramalinga Viswanathan, M. (JS-10) 172
Ramanujan, R. (JA-05) 149
Ramanujan, R. (JB-03) 150
Ramanujan, R. (JB-04) 150
Ramanujan, R. (JB-06) 151
Ramanujan, R. (JB-07) 151
Ramanujan, R. (JH-05) 162
Ramanujan, R. (JI-06) 164
Ramesh, A. (AC-09) 6
Ramírez, J. (IG-01) 136
Ramos, R. (FG-04) 106
Ramos, R. (FG-06) 106
Rana, A. (EA-06) 85
Rana, B. (EC-03) 87
Rana, K. (HD-04) 126
Ranjbar, M. (FB-08) 99
Ranjbar, S. (CP-15) 63
Ranno, L. (FE-08) 105
Ranno, L. (HB-07) 122
Ranno, L. (JW-12) 177
Rao, J. (EC-01) 87
Rao, S. (CF-12) 59
Rao, S. (CG-13) 61
Rasly, M. (IB-10) 131
Rath, C. (DF-05) 77
Raulet, M. (JY-08) 181
Rautskii, M.V. (DP-08) 81
Rautskii, M.V. (JR-06) 169
Ravelosona, D. (CG-09) 60
Ravelosona, D. (FE-09) 105
Ravelosona, D. (GD-01) 117
Ravelosona, D. (HB-11) 123
Ravelosona, D. (HC-06) 124
Ravelosona, D. (HD-04) 126
Rawat, R. (DP-10) 81
Rawat, R. (DQ-10) 83
Rayaprol, S. (JS-06) 171
Raymenants, E. (GD-09) 118
Rebelo, T. (DE-06) 76
Reddy, V. (IG-12) 137
Reddy, V. (IR-09) 144
Redies, M. (FH-10) 109
Redondo, C. (JG-06) 160
Reeve, R. (FH-11) 109
Rehm, L. (CF-09) 59
Reichlova, H. (AB-04) 4

*Best student presentation award finalist

Reichlova, H. (FG-08) 107
Reichlova, H. (FH-08) 109
Reiffers, M. (DQ-01) 82
Reiffers, M. (JE-04) 156
Reis, M.S. (JE-12) 157
Reis, S. (JG-06) 160
Reiss, G. (ER-11) 97
Reitz, D. (ED-04) 89
Rékioua, T. (BU-14) 46
Remy, Q. (FD-01) 102
Ren, l. (AU-07) 20
Ren, L. (BG-11) 30
Ren, X. (BT-01) 43
Ren, X. (BT-09) 44
Ren, Y. (AC-04) 6
Ren, Y. (CQ-02) 64
Ren, Y. (HC-04) 124
Ren, Y. (JE-05) 156
Renshaw, W. (GP-04) 119
Repaka, D.M. (CG-08) 60
Resende, ÚRSULA.D. (ER-10) 97
Resende, ÚRSULA.D. (JY-16) 182
Restrepo, J. (DD-03) 74
Retuerto, M. (DF-07) 78
Reyren, N. (CB-05) 52
Reyren, N. (CC-11) 53
Reyren, N. (FB-01) 98
Reyren, N. (GA-01) 112
Reyren, N. (HC-02) 124
Reyren, N. (HC-09) 125
Rezende, S.M. (FB-07) 99
Rezvantseva, Y. (JP-06) 165
Rezzoug, A. (BA-03) 22
Rial, J. (GD-03) 117
Rial, J. (JD-08) 155
Rial, J. (JI-03) 163
Ribeiro, L. (ER-10) 97
Richter, K. (JR-08) 169
Richter, K. (JY-01) 180
Rieger, R. (IB-02) 130
Riegg, S. (JC-02) 152
Riegg, S. (JF-04) 158
Rigla, J. (YA-01) 1
Rimal, B.P. (GB-02) 114
Rimoldi, M. (DC-01) 72
Rinaldi, C. (CD-11) 55
Rinaldi, C. (DB-06) 71
Rinaldi, C. (FG-14) 107
Rinaldi, C. (IR-15) 145
Ríos, A. (YA-01) 1
Rioult, M. (GD-02) 117
Ripka, P. (IB-06) 130
Ripka, P. (IC-06) 132
Ripka, P. (IT-09) 148
Rippard, W.H. (GB-12) 115
Ritzinger, P. (FG-08) 107
Ritzmann, U. (HA-06) 121
Rivas, M. (YA-05) 2
Rizzo, N. (CG-05) 60
Rizzolo, M. (CF-02) 58
Ro, J. (BW-04) 49
Roberjot, P. (EE-02) 91
Robert, A. (JI-11) 164
Rocha-Rodrigues, P. (DE-06) 76
Roche, S. (CB-06) 52
Roche, S. (DA-03) 69
Rodionova, V. (JY-03) 180
Rodriguez Alvarez, J. (IG-01) 136
Rodriguez, L. (AA-04) 3
Rodríguez, L. (JI-04) 163
Rogalev, A. (CR-05) 66
Rogalev, A. (JW-13) 177
Roger, J. (JB-13) 152
Rogers, V.C. (IE-03) 134
Rohart, S. (AE-02) 10
Rohart, S. (AE-10) 11
Rohart, S. (HB-08) 122
Rohart, S. (HB-13) 123
Rojas-Sanchez, J. (CC-08) 53
Rojas-Sanchez, J. (DE-03) 76
Rojas-Sanchez, J. (HB-01) 121
Rojas-Sanchez, J. (ID-01) 132
Rojo-romero, P. (JI-11) 164
Romanenko, D.V. (EB-04) 85
Romanenko, D.V. (ER-01) 95
Romashkina, I.L. (IR-14) 145
Rongione, E. (FB-01) 98
Ronnow, H.M. (HC-07) 124
Ropers, C. (HB-02) 122
Rosamond, M. (GA-05) 113
Rosamond, M. (HA-01) 120
Rosch, A. (HB-10) 123
Roschewsky, N. (CG-04) 60
Ross, A. (FG-06) 106
Ross, C. (CE-08) 57
Ross, C. (IQ-03) 142
Ross, K. (DG-04) 79
Rossi, A. (JE-12) 157
Rotarescu, C. (JY-04) 180
Roth, G. (AC-17) 8
Rothörl, J. (FG-05) 106
Rothörl, J. (HC-10) 125
Rothuizen, H. (IA-09) 129
Rott, K. (ER-11) 97
Rougemaille, N. (DG-11) 80
Rougemaille, N. (DQ-09) 83
Rougemaille, N. (DQ-11) 83
Rougemaille, N. (GA-01) 112
Roussigné, Y. (FE-09) 105
Roussigné, Y. (GD-01) 117
Roussigné, Y. (HD-04) 126
Roussigné, Y. (IR-01) 143
Roussigné, Y. (IR-02) 143
Rovillain, P. (FB-10) 99
Rowan-Robinson, R. (JB-02) 150
Rowan-Robinson, R. (JB-05) 151
Rowan-Robinson, R. (JX-10) 179
Roy, P. (EC-12) 88
Roy, S. (BK-05) 35
Roy, S. (DP-02) 81
Roy, S. (EE-10) 92
Roy, S. (IG-05) 136
Roy, T. (IE-02) 134
Rozanov, K. (ER-13) 97
Ruan, X. (FC-05) 101
Rubanskyi, V. (AC-17) 8
Rubi, K. (FG-09) 107
Rubio-Roy, M. (FH-02) 108
Rudokas, V. (IB-13) 131
Rudolf, P. (DE-08) 76
Ruiz Gómez, S. (DD-07) 75
Ruiz Gómez, S. (IH-12) 139
Ruiz Gómez, S. (JD-11) 155
Runge, J. (JP-10) 166
Russina, M. (DG-04) 79
Ruta, S. (FD-06) 103
Ruta, S. (HB-03) 122
Ryan, S. (EA-06) 85
Ryba, T. (JT-04) 173
Rybin, A. (DG-06) 79
Rychly, J.N. (EE-14) 93
Ryu, J. (AU-10) 21

- S -

S, M. (JT-02) 172
S, S. (JE-04) 156
S. K. Hasanain, S. (DE-08) 76
Sá, S. (FC-07) 101
Saari, M. (AC-07) 6
Saari, M. (IC-01) 131
Sabariego, R. (BI-01) 32
Sabie, V. (JP-11) 166
Sadeghi, S. (JR-07) 169

*Best student presentation award finalist

Sadovnikov, A.V. (EB-04) 85
Sadovnikov, A.V. (EC-04) 87
Sadovnikov, A.V. (EP-02) 93
Sadovnikov, A.V. (EP-03) 93
Sadovnikov, A.V. (EP-09) 94
Sadovnikov, A.V. (EQ-04) 94
Sadovnikov, A.V. (EQ-05) 95
Sadovnikov, A.V. (EQ-06) 95
Sadovnikov, A.V. (EQ-07) 95
Sadovnikov, A.V. (HA-01) 120
Saeedi Ilkhchy, K. (FB-14) 100
Safarpour, R. (BU-09) 46
Safeer, C. (HC-05) 124
Safi Samghabadi, F. (DF-12) 79
Safin, A. (FB-14) 100
Safranski, C. (CA-01) 50
Sagasta, E. (CC-01) 52
Sagasti, A. (JF-12) 159
Sagkovits, D. (DC-09) 73
Sagkovits, D. (HC-06) 124
Saha, R. (ER-02) 96
Saha, S. (AE-09) 11
Sahin, L. (EE-06) 92
Sahoo, S.K. (FB-04) 98
Sahu, U. (GB-01) 114
Saika-Voivod, I. (AD-03) 8
Saito, H. (CQ-03) 64
Saito, H. (IP-04) 140
Saito, S. (IP-02) 140
Saito, S. (IP-03) 140
Saito, S. (JW-17) 177
Saito, T. (IP-02) 140
Saito, T. (IP-03) 140
Saito, T. (JW-02) 176
Saito, T. (JW-06) 176
Saito, Y. (CC-09) 53
Saitoh, E. (FG-04) 106
Saitoh, E. (FG-06) 106
Sajjad, U. (JG-08) 160
Sakakibara, M. (BJ-03) 33
Sakamoto, Y. (IP-01) 140
Sakoguchi, A. (FC-06) 101
Saksl, K. (JR-03) 169
Sakuma, A. (CE-11) 57
Sakuraba, Y. (CE-09) 57
Sakuraba, Y. (DE-04) 76
Sakuraba, Y. (DE-05) 76
Sakuraba, Y. (IA-01) 128
Sakuraba, Y. (IB-10) 131
Sakuraba, Y. (IF-05) 135
Sala, G. (HB-06) 122
Salahuddin, S. (BK-04) 35
Salahuddin, S. (CG-04) 60
Salahuddin, S. (GD-08) 118
Salamatin, D. (DG-09) 80
Salas, G. (JG-05) 160
Salguero, J. (DF-02) 77
Salimy, S. (AC-06) 6
Salinas, H. (DD-03) 74
Sall, M. (CG-09) 60
Sall, M. (GD-01) 117
Sall, M. (HB-11) 123
Sall, M. (HC-06) 124
Sall, M. (HD-04) 126
Salvador, M. (YA-05) 2
Salvan, G. (JB-09) 151
Samanta, A. (EE-10) 92
Samanta, A. (IG-05) 136
Samanta, K. (FH-10) 109
Samardak, A.S. (CB-01) 51
Samardak, A.S. (GP-02) 119
Sami, I. (BB-05) 23
Sami, I. (BG-08) 29
Samiepour, M. (CG-06) 60
Samoshkina, Y.E. (DP-08) 81
Samoshkina, Y.E. (IR-17) 145
Sampaio, J. (AE-10) 11
Sampaio, J. (FH-06) 109
Sampaio, J. (HD-08) 126
Samsonov, K. (CS-02) 67
San Emeterio Alvarez, L. (DD-09) . . . 75
Sanchez Hazen, D. (CF-11) 59
Sánchez Llamazares, J.L. (JT-01) . . . 172
Sánchez-Tejerina, L. (AE-05) 10
Sánchez-Tejerina, L. (FD-02) 102
Sanchez-Tejerina, L. (FG-06) 106
Sanchez, C. (JX-04) 178
Sanchez, E. (IH-08) 139
Sander, A. (IQ-08) 142
Sangiao, S. (EB-02) 85
Sangregorio, C. (JR-11) 170
Santos, O. (FB-07) 99
Sanz Hernandez, D. (GA-01) 112
Sanz Hernandez, D. (JI-04) 163
Sanz Hernandez, D. (JI-05) 164
Saoudi, R. (JY-08) 181
Saren, H. (HP-08) 128
Sarkar, A. (JC-01) 152
Sarkar, T. (JD-10) 155
Sarker, M. (EE-15) 93
Sarnavskiy, N. (IH-06) 138
Sarno, M. (JR-12) 170
Sasaki, T. (DE-05) 76
Sasaki, Y. (FB-11) 99
Sasayama, T. (CQ-04) 64
Sassi, Y. (CC-11) 53
Sassi, Y. (HC-02) 124
Sassi, Y. (HC-09) 125
Sasso, C.P. (JF-11) 159
Sato, M. (ER-12) 97
Saugar, E. (JI-02) 163
Savary, M. (AC-12) 7
Savelev, D.V. (AU-01) 20
Savero Torres, W. (DA-03) 69
Sawa, T. (HC-03) 124
Sawayashiki, Y. (IA-09) 129
Sayed, S. (BK-04) 35
Sayed, S. (CG-04) 60
Sazonov, A. (DF-09) 78
Sbiaa, R. (CE-06) 57
Scagnoli, V. (AA-03) 3
Scalera, V. (EB-11) 86
Scalera, V. (FD-08) 103
Scalera, V. (GC-04) 116
Scalera, V. (GC-10) 117
Schäfer, L. (JC-02) 152
Schäfer, R. (AB-07) 5
Schäfer, R. (FE-04) 104
Schaffer, S. (GC-06) 116
Schanilec, V. (DG-11) 80
Schánilec, V. (GA-01) 112
Scheibel, F. (JE-02) 156
Scheibel, F. (JF-04) 158
Scheibler, S. (IH-02) 138
Scheike, T. (IE-04) 134
Scherz, A. (FD-05) 103
Scherz, A. (HB-02) 122
Scheuerlein, M. (GD-02) 117
Schippers, C.F. (FB-14) 100
Schippers, C.F. (FG-09) 107
Schlappa, J. (FD-05) 103
Schlauder, C. (ID-01) 132
Schlitz, R. (FG-08) 107
Schlitz, R. (FH-08) 109
Schlueter, C. (FH-13) 110
Schmalhorst, J. (ER-11) 97
Schmalz, J. (IB-02) 130
Schmid, A.K. (FE-03) 104
Schmidt, G. (ER-11) 97
Schmidt, G. (IB-02) 130
Schmitt, C. (FG-04) 106
Schmitt, C. (FG-06) 106
Schmitt, P. (ID-01) 132
Schmoranzerová, E. (FG-08) 107

*Best student presentation award finalist

Schmoranzerová, E. (FH-08) 109
Schneider, M. (AB-05) 4
Schneider, M. (ED-11) 90
Schneider, M. (EE-04) 91
Schneider, M. (HB-02) 122
Schneider, R. (FA-05) 98
Schneider, S. (AA-04) 3
Schneider, S. (DF-03) 77
Schöbitz, M. (DD-05) 74
Schöbitz, M. (DD-06) 74
Schöbitz, M. (DD-07) 75
Schöbitz, M. (GD-02) 117
Schoenhense, G. (FH-13) 110
Schoenherr, P. (HB-10) 123
Schoenke, D. (FH-11) 109
Schönenberger, T. (HC-07) 124
Schreck, E. (IA-08) 129
Schrefl, T. (AD-04) 9
Schrefl, T. (GC-06) 116
Schreiber, F. (FG-06) 106
Schuller, I.K. (IG-01) 136
Schuller, I.K. (IG-11) 137
Schuller, I.K. (ZA-01) 83
Schultheiss, H. (AA-06) 4
Schultheiss, K. (AA-06) 4
Schulz, N. (IG-06) 136
Schulz, S.E. (JB-09) 151
Schumacher, H.W. (GA-05) 113
Schütz, G. (AA-01) 3
Schütz, G. (HB-05) 122
Schwarz, A. (JS-05) 171
Schwarz, M. (AD-04) 9
Schwingenschlogl, U. (CB-06) 52
Scipioni, L. (FH-04) 108
Scipioni, L. (FH-07) 109
Scott, J. (FC-08) 101
Scott, J.N. (IQ-09) 142
Sebald, G. (AD-10) 9
Sedrpooshan, M. (JI-01) 163
Seidler, D. (JG-08) 160
Seifert, T. (CD-04) 55
Seki, M. (EE-15) 93
Seki, T. (DE-04) 76
Seki, T. (GD-07) 118
Sekino, M. (JG-02) 159
Seleznev, E.P. (EB-04) 85
Seleznyova, K. (JY-19) 182
Selhuber-Unkel, C. (JG-08) 160
Selishchev, S. (JP-06) 165
Selvam, R. (JG-09) 160
Semiannikova, A. (DE-09) 76
Semisalova, A. (FB-02) 98
Semisalova, A. (FD-07) 103
Sen, S. (IG-12) 137
Seneor, P. (DB-02) 70
Seneor, P. (DB-03) 70
Seneor, P. (IQ-08) 142
Seng, B. (FD-03) 103
Seng, B. (FG-05) 106
Seng, B. (HC-10) 125
Seo, H. (AC-05) 6
Sepehri-Amin, H. (IA-01) 128
Sepehri-Amin, H. (IB-10) 131
Sepehri-Amin, H. (JC-05) 153
Serga, A.A. (CA-02) 50
Serga, A.A. (EB-08) 86
Serga, A.A. (ED-11) 90
Serha, R. (ED-11) 90
Serokurova, A. (EQ-07) 95
Serpico, C. (EB-11) 86
Serpico, C. (FD-08) 103
Serpico, C. (GC-04) 116
Serpico, C. (GC-10) 117
Serrano-Pertierra, E. (YA-05) 2
Servet, B. (DB-02) 70
Sessi, P. (DB-04) 70
Seuss, D. (JI-05) 164
Sha, Y. (JB-10) 151
Shafer, P. (FG-07) 106
Shah, P. (EC-11) 88
Shah, S. (DE-08) 76
Shahbazi, K. (HA-01) 120
Shalygina, E. (ER-09) 96
Shan, S. (EE-03) 91
Shang, J. (BP-01) 35
Shao, D. (AP-01) 11
Shao, R. (JI-08) 164
Sharaevskii, Y.P. (EB-04) 85
Sharda, J. (GB-01) 114
Sharma, A. (JB-09) 151
Sharma, R. (DC-03) 72
Sharma, S.K. (JA-13) 150
Sharma, V. (JB-06) 151
Sharma, V. (JB-07) 151
Sharma, V. (JE-03) 156
Sharma, V. (JE-06) 156
Shatilov, V. (IR-03) 143
Shavrov, V. (JE-05) 156
Shaw, J. (GD-06) 118
She, X. (DP-11) 82
Sheka, D.D. (DD-01) 74
Sheka, D.D. (DD-02) 74
Sheka, D.D. (DF-01) 77
Sheka, D.D. (GD-04) 118
Shekhar, C. (CA-05) 51
Shen, J. (BC-01) 24
Shen, J. (BC-04) 24
Shen, K. (EA-03) 84
Shen, S. (AS-06) 17
Shen, Y. (BT-06) 43
Shen, Y. (BT-08) 44
Shendrikova, L.A. (ID-04) 133
Shepard, A. (FH-04) 108
Shepard, A. (FH-07) 109
Shepley, P. (IQ-02) 142
Sheshukova, S. (EQ-05) 95
Sheshukova, S.E. (EC-04) 87
Sheshukova, S.E. (EP-03) 93
Sheshukova, S.E. (EQ-07) 95
Shevchenko, Y. (DG-06) 79
Shi, D. (AB-02) 4
Shi, D. (AQ-10) 14
Shi, D. (BQ-11) 38
Shi, D. (BV-08) 48
Shi, J. (BW-11) 49
Shi, J. (JP-09) 166
Shi, K. (IH-01) 138
Shi, T. (BI-05) 32
Shi, X. (HB-01) 121
Shi, Y. (BT-05) 43
Shields, B.J. (DF-01) 77
Shigeta, I. (IR-05) 143
Shigeta, I. (JX-07) 179
Shigeta, I. (JX-08) 179
Shima, M. (CP-16) 63
Shimon, G. (CF-01) 58
Shin, D. (BR-12) 40
Shin, D. (BR-16) 41
Shin, H. (AU-04) 20
Shin, H. (AU-08) 20
Shin, H. (BP-04) 35
Shin, H. (BP-11) 36
Shin, H. (BQ-06) 38
Shin, H. (BS-01) 41
Shin, H. (BS-07) 42
Shin, H. (DP-03) 81
Shin, H. (DP-05) 81
Shin, J. (AC-05) 6
Shin, K. (AP-12) 13
Shin, K. (AQ-07) 14
Shin, K. (BQ-09) 38
Shin, K. (BQ-10) 38
Shin, K. (BR-06) 40
Shin, K. (BS-02) 41

*Best student presentation award finalist

Shin, K. (BS-04) 42
Shin, K. (BV-07) 48
Shin, K. (BV-09) 48
Shin, S. (BQ-01) 37
Shirai, M. (IE-02) 134
Shirasaki, T. (DP-04) 81
Shirata, M. (IA-09) 129
Shirokura, T. (CD-09) 55
Shiryaev, A. (ER-13) 97
Shiu, D. (IP-12) 141
Shoup, J.E. (IG-06) 136
Shreder, E. (DB-11) 71
Shreder, E. (DE-09) 76
Shu, H. (FP-13) 112
Shuai, K. (BW-03) 48
Shum, A. (JH-06) 162
Sidi El Valli, A. (ER-06) 96
Sidi El Valli, A. (ID-07) 133
Sidi El Valli, A. (ID-08) 133
Sidorov, A. (CG-05) 60
Sidorov, V. (DG-09) 80
Sierra, J.F. (DA-03) 69
Sikora, M. (AC-14) 7
Silva, A.S. (FC-07) 101
Silva, D. (JT-07) 173
Sim, M. (HD-06) 126
Simensen, H.T. (FH-12) 110
Simon, G. (ID-03) 133
Simsek, M. (JA-07) 149
Sindt, S. (JG-08) 160
Singh, B. (IF-07) 135
Singh, F. (IR-09) 144
Singh, P. (AC-09) 6
Singh, P. (IF-07) 135
Singh, S. (CP-05) 62
Singhal, J. (IH-09) 139
Sinitsyn, V.E. (EQ-08) 95
Sinova, J. (FG-04) 106
Sinova, J. (FG-08) 107
Sinova, J. (FH-13) 110
Sinova, J. (HB-02) 122
Sireus, V. (DF-02) 77
Siruguri, V. (DQ-10) 83
Sisniega Soriano, B. (JF-12) 159
Sisodia, N. (GB-01) 114
Sisodia, N. (HD-04) 126
Sitarski, D. (JU-09) 175
Siu, Z. (IF-03) 135
Sivakumar, I. (DP-02) 81
Sivanesarajah, I. (ER-11) 97
Siwak, N. (CG-05) 60
Skarlatos, A. (AD-09) 9
Skårman, B. (JD-08) 155
Skiadopoulou, S. (DF-07) 78
Skirdkov, P. (ER-08) 96
Skirdkov, P. (FP-14) 112
Skokov, K. (CR-05) 66
Skokov, K. (JC-02) 152
Skokov, K. (JC-05) 153
Skokov, K. (JE-02) 156
Skokov, K. (JT-06) 173
Skoric, L. (JI-05) 164
Skourski, Y. (FH-13) 110
Skourski, Y. (JC-05) 153
Skowronski, W. (CC-14) 54
Slavin, A.N. (CA-02) 50
Slavin, A.N. (EA-01) 84
Slavin, A.N. (EA-04) 84
Slavin, A.N. (EB-10) 86
Slavin, A.N. (ED-11) 90
Slavin, A.N. (ER-06) 96
Slezak, M. (IG-07) 137
Slezak, M. (IH-10) 139
Slezak, M. (IH-11) 139
Slezak, T. (IG-07) 137
Slezak, T. (IH-10) 139
Slezak, T. (IH-11) 139
Smaili, I. (CB-06) 52
Smejkal, L. (FG-08) 107
Smejkal, L. (FH-08) 109
Smejkal, L. (FH-13) 110
Smigaj, W. (EE-14) 93
Smith, R. (IA-08) 129
Snoeck, E. (GA-05) 113
Snoeck, E. (JI-04) 163
Soares, G. (CC-14) 54
Soares, I.V. (ER-04) 96
Soban, Z. (AB-04) 4
Sobucki, K. (EE-14) 93
Sochnikov, I. (AB-10) 5
Sochnikov, I. (DC-10) 73
Sofronova, S.N. (DQ-08) 83
Sohier, T. (ID-03) 133
Šoka, M. (JX-01) 178
Sokalski, V.M. (AB-08) 5
Sokalski, V.M. (AE-01) 10
Sokalski, V.M. (GD-05) 118
Sokalski, V.M. (GD-06) 118
Sokalski, V.M. (HD-09) 127
Sokalski, V.M. (IG-03) 136
Sokolov, A. (IS-14) 147
Sokolovskiy, V. (JU-02) 174
Sola, A. (CC-14) 54
Sola, Í.J. (FC-07) 101
Soldatov, I. (AB-07) 5
Soldatov, I. (FE-04) 104
Soldatov, K. (DG-06) 79
Solignac, A. (IB-04) 130
Solis, L.M. (FC-04) 101
Somashekara, M. (JC-01) 152
Somoza, Á. (JG-05) 160
Son, J. (AR-14) 16
Son, K. (DP-03) 81
Song, C. (BP-04) 35
Song, C. (HA-05) 121
Song, G. (IA-05) 129
Song, I. (AU-04) 20
Song, I. (BP-04) 35
Song, I. (BP-11) 36
Song, J. (CP-02) 61
Song, J. (CP-08) 62
Song, J. (HP-06) 127
Song, J. (IS-16) 147
Song, J. (JY-07) 181
Song, P. (CS-14) 68
Song, P. (JP-09) 166
Song, S. (BR-04) 39
Song, S. (BR-16) 41
Song, Z. (BG-03) 29
Song, Z. (BG-09) 30
Song, Z. (BI-05) 32
Song, Z. (BU-02) 45
Sopon, T. (IP-06) 140
Soree, B. (EC-07) 88
Sorrentino, A. (CQ-08) 64
Sort, J. (DF-02) 77
Soumyanarayanan, A. (HB-11) 123
Soumyanarayanan, A. (HB-12) 123
Soumyanarayanan, A. (HC-04) 124
Soumyanarayanan, A. (HD-06) 126
Souriau, J. (ID-03) 133
Souriau, L. (CF-12) 59
Sousa, C. (JG-06) 160
Sousa, C. (JI-03) 163
Sousa, C. (JP-05) 165
Sousa, C. (JR-05) 169
Sousa, R. (AC-06) 6
Sousa, R. (CF-06) 58
Sousa, R. (CF-07) 58
Sousa, R. (CF-11) 59
Sousa, R. (CG-03) 60
Sousa, R. (ID-07) 133
Souza, F.L. (JY-16) 182
Sowman, P. (YA-06) 2

*Best student presentation award finalist

Speliotis, T. (CP-06) 62
Spetzler, B. (IB-02) 130
Spiridis, N. (IR-04) 143
Springell, R. (IH-13) 139
Srikanth, H. (IG-06) 136
Srinivasan, G. (JF-10) 158
Srivastava, S.K. (JE-10) 157
Srivastava, T. (EB-02) 85
Srivastava, T. (HC-09) 125
St. Pierre, T. (JH-11) 163
St. Pierre, T. (JP-12) 166
Stackhouse, G. (BJ-02) 33
Stadler, B. (AD-01) 8
Stadler, B. (CS-09) 68
Stadler, B. (JI-13) 164
Stamenov, P.S. (AD-02) 8
Stamps, R. (GC-01) 116
Stankevic, V. (IB-13) 131
Stano, M. (DD-08) 75
Stark, A. (AB-11) 5
Staruch, M. (DF-04) 77
Staruch, M. (IB-03) 130
Staruch, M. (JF-05) 158
Staruch, M. (JF-13) 159
Statuto, N.N. (FG-15) 108
Stavila, C. (JP-03) 165
Stebliy, E. (CB-01) 51
Stebliy, M. (CB-01) 51
Stebliy, M. (GP-02) 119
Stebliy, M. (IH-06) 138
Steele, T.W. (JI-06) 164
Stefanov, A. (IS-12) 146
Steinke, N. (GA-02) 113
Stejskal, O. (JF-02) 157
Stepanov, S. (CS-02) 67
Stepanova, E. (DP-08) 81
Stepanova, E. (IR-11) 144
Stepanova, M. (HB-10) 123
Steren, L. (FC-04) 101
Stiles, M. (GA-04) 113
Stiles, M. (GB-12) 115
Stoeffler, D. (EB-03) 85
Stognijj, A. (EC-04) 87
Stognijj, A. (EQ-07) 95
Stoian, G. (JW-08) 176
Stoll, H. (ED-05) 89
Stölting, S. (IT-06) 148
Stolyar, S. (JQ-07) 168
Storf, C. (AD-04) 9
Strelkov, N. (CG-03) 60
Strelkov, N. (IR-12) 144
Stremoukhov, P. (FB-14) 100
Strocov, V. (FH-13) 110
Strugatsky, M. (JY-19) 182
Strungaru, M.S. (FD-06) 103
Strungaru, M.S. (HB-03) 122
Strusch, T. (FB-02) 98
Stuart, A. (AE-12) 11
Stückler, M. (IR-13) 144
Stückler, M. (JA-06) 149
Šturm, S. (JC-11) 153
Sturza, M.I. (JX-06) 179
Su, D. (ER-02) 96
Su, J. (FC-05) 101
Su, J. (IB-02) 130
Su, P. (BT-06) 43
Su, P. (BT-08) 44
Su, P. (BT-11) 44
Subramanian, A. (DP-02) 81
Sud, A. (ED-06) 89
Sud, A. (ED-13) 90
Sud, A. (HC-06) 124
Suemasu, T. (CB-02) 51
Suemasu, T. (DG-07) 80
Suemasu, T. (IF-02) 135
Suemasu, T. (IP-10) 141
Suess, D. (GC-01) 116
Suess, D. (GC-06) 116
Suess, D. (HA-03) 120
Sugimoto, S. (ER-12) 97
Sugiura, S. (CR-06) 66
Sui, Y. (BF-12) 28
Sui, Y. (BR-02) 39
Sui, Y. (BR-07) 40
Sukegawa, H. (IB-10) 131
Sukegawa, H. (IE-04) 134
Sulaiman, E. (BB-02) 23
Sulaiman, E. (BG-06) 29
Sulaiman, M. (AC-07) 6
Sulaiman, M. (IC-01) 131
Sun, C. (GP-05) 119
Sun, C. (IQ-04) 142
Sun, H. (JY-10) 181
Sun, J. (CF-01) 58
Sun, J. (DB-07) 71
Sun, J.Z. (CA-01) 50
Sun, K. (JX-05) 178
Sun, L. (BC-05) 24
Sun, L. (BF-12) 28
Sun, L. (BW-10) 49
Sun, L. (CP-10) 62
Sun, L. (CP-12) 63
Sun, L. (DG-09) 80
Sun, Q. (JC-09) 153
Sun, R. (AQ-10) 14
Sun, R. (BQ-11) 38
Sun, R. (BV-08) 48
Sun, W. (BW-10) 49
Sun, W. (CQ-05) 64
Sun, W. (CR-01) 65
Sun, X. (BW-05) 49
Sun, X. (BW-06) 49
Sun, X. (BW-07) 49
Sun, X. (BW-08) 49
Sun, Y. (AR-17) 16
Sun, Y. (BC-01) 24
Sun, Y. (BJ-06) 33
Sun, Y. (CA-05) 51
Sun, Y. (DC-06) 72
Sun, Z. (AR-01) 15
Sung, B. (JG-10) 160
Supnithi, P. (IP-05) 140
Supnithi, P. (IP-06) 140
Suslin, G.S. (IR-03) 143
Suto, H. (IA-01) 128
Suzuki, H. (BB-06) 23
Suzuki, H. (IA-09) 129
Suzuki, J. (JR-01) 168
Suzuki, K. (IE-05) 134
Suzuki, Y. (GA-03) 113
Svalov, A. (ER-09) 96
Svalov, A. (IR-11) 144
Svalov, A. (JT-12) 174
Sveklo, I. (IH-03) 138
Swagten, H. (FG-09) 107
Syskaki, M.A. (FE-09) 105
Sysoev, I.V. (EB-04) 85
Syvorotka, I. (CA-02) 50
Szabo, P. (JT-05) 173
Szpytma, M. (IG-07) 137
Szpytma, M. (IH-10) 139
Szpytma, M. (IH-11) 139
Szulc, K. (EC-05) 87
Szulc, K. (EE-02) 91

- T -

Tabata, H. (EE-15) 93
Tacchi, S. (CC-13) 54
Tacchi, S. (EC-05) 87
Tacchi, S. (HC-06) 124
Tadokoro, T. (JP-08) 166
Tae, C. (IQ-07) 142
Tafti, F. (DC-10) 73

*Best student presentation award finalist

Taib, N. (JH-11) 163
Taib, N. (JP-12) 166
Takagi, K. (JW-03) 176
Takagi, K. (JW-11) 177
Takahara, K. (BB-06) 23
Takahashi, H. (EC-03) 87
Takahashi, S. (ER-12) 97
Takahashi, Y. (GD-07) 118
Takanashi, K. (DE-04) 76
Takanashi, K. (FG-13) 107
Takanashi, K. (GD-07) 118
Takanashi, K. (IR-05) 143
Takemoto, M. (BP-02) 35
Takimura, S. (AT-06) 19
Talaat, A. (JA-04) 149
Talatchian, P. (GA-04) 113
Talatchian, P. (GB-12) 115
Talluri, M. (CD-07) 55
Tam, M. (ED-13) 90
Tamaru, S. (IA-01) 128
Tamaru, S. (IH-04) 138
Tamion, A. (JI-11) 164
Tamion, A. (JW-13) 177
Tamura, E. (GA-03) 113
Tan, ,. (BI-10) 33
Tan, A.K. (HD-06) 126
Tan, H. (HB-11) 123
Tan, H. (HB-12) 123
Tan, H. (HD-06) 126
Tan, L. (JB-03) 150
Tan, L. (JB-06) 151
Tan, L. (JB-07) 151
Tan, P. (BD-01) 25
Tan, P. (BV-02) 47
Tan, X. (AU-07) 20
Tan, X. (BS-10) 42
Tanabe, J. (ID-06) 133
Tanabe, K. (CD-05) 55
Tanabe, K. (CP-15) 63
Tanabe, K. (HC-03) 124
Tanaka, H. (JY-05) 181
Tanaka, M. (ER-03) 96
Tanaka, T. (EP-01) 93
Tanaka, Y. (GA-03) 113
Tanase, J. (JA-11) 150
Tang, C. (BI-06) 32
Tang, J. (CD-03) 54
Tang, P. (CC-08) 53
Tang, S. (YB-05) 3
Tang, X. (BW-08) 49
Tang, X. (EP-08) 94
Tang, X. (IR-07) 144
Tang, Y. (AU-07) 20
Tang, Y. (BP-09) 36
Tang, Y. (DP-12) 82
Tang, Y. (JW-01) 176
Taniguchi, T. (CD-10) 55
Taniguchi, T. (EB-09) 86
Tao, R. (YB-02) 2
Tao, W. (AQ-02) 13
Tao, W. (EC-13) 88
Tao, Y. (GP-05) 119
Tao, Y. (IQ-04) 142
Tatay, S. (DB-03) 70
Tateno, S. (EC-06) 87
Taubel, A. (JE-02) 156
te Velthuis, S.G. (AE-12) 11
Tedesco, J. (JE-12) 157
Teichert, N. (AD-02) 8
Teichmann, M. (FD-05) 103
Teixeira de Paula, G. (BF-08) 28
Teixeira de Paula, G. (BG-14) 30
Teixeira de Paula, G. (BG-15) 30
Tejo, F. (HP-07) 128
Telyshev, D. (JP-06) 165
Terada, K. (CR-04) 65
Terada, K. (CR-06) 66
Terada, N. (JT-08) 173
Teresi, S. (IB-07) 130
Terkel, M.B. (YB-01) 2
Ternero, P. (JI-01) 163
Tetik Girgin, M. (BG-07) 29
Tew, W. (AC-13) 7
Tey, N. (HC-04) 124
Tham, K. (IP-02) 140
Tham, K. (IP-03) 140
Thandapani, P. (JS-10) 172
Thangavel, K. (JS-06) 171
Theh, W. (CR-11) 66
Theh, W. (JS-02) 170
Thian, D. (HD-06) 126
Thiaville, A. (AE-02) 10
Thiaville, A. (FH-06) 109
Thiaville, A. (HB-08) 122
Thiaville, A. (JX-04) 178
Thielsch, J. (JC-03) 152
Thiery, N. (ED-04) 89
Thiery, N. (EE-08) 92
Thirion, C. (DD-05) 74
Thirion, C. (DD-06) 74
Thirion, C. (DD-07) 75
Thoma, H. (AC-17) 8
Thoma, H. (DF-06) 78
Thoma, H. (DF-08) 78
Thoma, H. (JT-10) 173
Thomson, T. (FB-13) 100
Thomson, T. (FC-03) 101
Thomson, T. (IA-03) 128
Thormählen, L. (AB-01) 4
Tian, X. (BW-14) 50
Tian, X. (BW-16) 50
Tian, Y. (CS-06) 67
Tiang, T. (BI-10) 33
Tiberto, P. (JF-11) 159
Tiberto, P. (JU-06) 175
Tiberto, P. (YA-04) 2
Tibu, M. (IT-07) 148
Timopheev, A. (IR-12) 144
Tiusan, C. (IQ-05) 142
Tiwari, D. (FP-08) 111
Tiwari, D. (GD-02) 117
Tiwari, P. (DF-05) 77
Tkachev, V.V. (JR-06) 169
Tobise, M. (JW-17) 177
Toh, Y. (CG-08) 60
Tohara, M. (IC-02) 132
Tokarz, W. (AC-03) 6
Toko, K. (DG-07) 80
Toko, K. (IF-02) 135
Tokura, Y. (HB-10) 123
Töllner, M. (JE-02) 156
Tomas, A. (FG-08) 107
Tomasello, R. (FD-02) 102
Tomasello, R. (FH-14) 110
Tomasello, R. (HA-03) 120
Tomasello, R. (HA-05) 121
Tomasello, R. (HC-11) 125
Tomilo, A.V. (DF-01) 77
Tomše, T. (JC-11) 153
Ton That, L. (JP-13) 166
Tong, C. (BB-10) 24
Tong, C. (BF-06) 28
Tong, W. (AQ-06) 14
Tong, W. (BC-05) 24
Tounzi, A. (AP-06) 12
Tounzi, A. (BU-14) 46
Tournus, F. (JI-11) 164
Tournus, F. (JW-13) 177
Toussaint, J. (DD-05) 74
Toussaint, J. (DD-06) 74
Toussaint, J. (DD-07) 75
Toussaint, J. (DD-08) 75
Tran, T. (JI-12) 164
Trapanese, M. (BD-04) 25

*Best student presentation award finalist

Tretiakov, O. (HD-03) 126
Tretiakov, O. (HD-07) 126
Trevillian, C. (EA-01) 84
Trevillian, C. (EC-09) 88
Tria, A. (ID-03) 133
Trier, F. (FE-02) 104
Triscone, J. (CD-08) 55
Troncoso, R. (EB-06) 86
Trzaskowska, A. (EC-08) 88
Tsai, M. (BU-07) 45
Tsai, T. (CC-12) 54
Tsakadze, Z. (JA-05) 149
Tsakadze, Z. (JB-03) 150
Tsakadze, Z. (JB-04) 150
Tseng, Y. (AC-09) 6
Tserkovnyak, Y. (ED-04) 89
Tsipas, P. (DC-01) 72
Tsuchida, E. (JA-11) 150
Tsuchiura, H. (JC-12) 153
Tsuchiya, T. (IE-02) 134
Tsujikawa, M. (IE-02) 134
Tsujikawa, S. (JX-07) 179
Tsujimoto, S. (IA-09) 129
Tsukada, K. (AC-07) 6
Tsukada, K. (IC-01) 131
Tsukamoto, A. (CP-04) 62
Tsunata, R. (BP-02) 35
Tsunegi, S. (GB-07) 115
Tsunegi, S. (IB-04) 130
Tsunoda, M. (CP-03) 61
Tsvyashchenko, A. (DG-09) 80
Tu, R. (BB-09) 24
Tu, R. (BJ-13) 34
Tu, S. (ED-12) 90
Tung, M. (GP-02) 119
Turenne, D. (FD-05) 103
Tyberkevych, V. (CA-02) 50
Tyberkevych, V. (EA-01) 84
Tyberkevych, V. (EA-04) 84
Tyberkevych, V. (EB-10) 86
Tyberkevych, V. (EC-09) 88
Tyberkevych, V. (ED-08) 89
Tyberkevych, V. (ED-11) 90
Tyberkevych, V. (ER-06) 96
Tyutyunnik, A. (JT-03) 172

- U -

U D, R. (JE-04) 156
U, D. (JT-02) 172
Uchida, H. (CE-03) 56
Uchida, K. (CA-04) 51
Uchida, K. (CE-09) 57
Uchida, K. (IF-05) 135
Ueda, S. (IF-05) 135
Uehara, G. (BJ-03) 33
Uehara, G. (CQ-01) 64
Ueyama, T. (IA-09) 129
Uhlir, V. (FD-05) 103
Ulitko, V. (DQ-03) 82
Ullah, B. (BB-02) 23
Ullah, N. (BD-07) 25
Ullah, W. (BB-02) 23
Ullah, W. (BG-06) 29
Um, D. (AS-08) 17
Um, D. (BJ-07) 34
Um, D. (IS-02) 145
Um, D. (IS-13) 147
Um, J. (JI-13) 164
Umair, M. (BG-06) 29
Urazhdin, S. (EA-02) 84
Urazhdin, S. (FB-05) 98
Urazhdin, S. (FG-03) 106
Urbánek, M. (ED-05) 89
Ušák, E. (JX-01) 178
Ušáková, M. (JX-01) 178
Usmanov, O. (JT-10) 173
Ustinov, A.B. (EQ-02) 94
Uwatoko, Y. (JT-11) 174
Uwatoko, Y. (JX-07) 179
Uyeda, C. (CR-04) 65
Uyeda, C. (CR-06) 66

- V -

V R K, M. (JS-06) 171
Vadim, D. (DF-06) 78
Vagner, M. (IB-13) 131
Vahovsky, O. (JY-01) 180
Vakili, H. (HD-05) 126
Valdes Bango, F. (EC-05) 87
Valenzuela, S.O. (DA-03) 69
Vallobra, P. (CC-08) 53
Valmianski, I. (IG-01) 136
Valmispild, V. (FD-05) 103
Valvidares, M. (DB-04) 70
Van Beek, S. (CF-12) 59
Van Beek, S. (CG-13) 61
van der Jagt, J.W. (FE-09) 105
van der Jagt, J.W. (GD-01) 117
van Dijken, S. (EE-09) 92
Van Kuiken, B.E. (FD-05) 103
van Landeghem, M. (FB-06) 99
Van Waeyenberge, B. (AC-08) 6
Van Waeyenberge, B. (EC-07) 88
Van Waeyenberge, B. (GB-13) 115
Vanderveken, F. (EC-07) 88
Vannier, J. (BI-07) 32
Varaprasad, B. (IA-04) 129
Varaticeanu, B. (BP-15) 37
Varela, M. (IR-16) 145
Varga, M. (DQ-01) 82
Varga, M. (JR-03) 169
Varga, M. (JT-05) 173
Varga, R. (DQ-01) 82
Varga, R. (IC-03) 132
Varga, R. (JR-03) 169
Varga, R. (JR-08) 169
Varga, R. (JT-04) 173
Varga, R. (JT-05) 173
Varga, R. (JY-01) 180
Varma, V.B. (JH-05) 162
Varotto, S. (CD-11) 55
Varvaro, G. (JD-10) 155
Vas'kovskiy, V. (GC-07) 116
Vas'kovskiy, V. (IR-10) 144
Vas'kovskiy, V. (IR-11) 144
Vasilaki, E. (GA-02) 113
Vasilaki, E. (GB-04) 114
Vasilaki, E. (GB-09) 115
Vasilaki, E. (GB-11) 115
Vasiliev, E. (DG-06) 79
Vasilyev, D. (FH-13) 110
Vasin, K. (DF-11) 78
Vaskivskyi, I. (FD-05) 103
Vasyuchka, V.I. (EB-08) 86
Vaunat, A. (EC-12) 88
Vázquez, M. (JI-02) 163
Vecchiola, A. (DB-02) 70
Vecchiola, A. (DB-03) 70
Vecchiola, A. (DD-10) 75
Vecchiola, A. (ED-02) 89
Vecchiola, A. (HC-02) 124
Vecchiola, A. (HC-09) 125
Vecchiola, A. (IQ-08) 142
Vega, V. (JT-05) 173
Veis, M. (JF-02) 157
Velázquez Rodriguez, D. (FB-06) . . . 99
Velez, M. (CQ-08) 64
Velez, M. (EC-05) 87
Velez, S. (CE-04) 56
Velo, M.F. (DG-01) 79
Venkat, G. (EE-13) 92
Venkat, G. (GB-03) 114

*Best student presentation award finalist

Ventura, J. (JT-07) 173
Venugopal, A. (EB-05). 85
Vera-Marun, I. (FC-03) 101
Vergnaud, C. (CB-05) 52
Vergnaud, F. (JG-07) 160
Vernier, N. (GD-01). 117
Vetrova, I. (AE-09) 11
Vicente Arche, L. (JD-11) 155
Vicente Arche, L.M. (FE-02). 104
Vichery, C. (JG-07) 160
Victora, R. (AE-13) 11
Victora, R. (EB-05) 85
Victora, R. (FC-01) 100
Vidal, F. (JI-12) 164
Vidamour, I.T. (GA-02) 113
Vidamour, I.T. (GB-09) 115
Vidarsson, H. (JD-08) 155
Vignale, G. (IF-01). 135
Vila, L. (CB-02). 51
Vila, L. (CD-06). 55
Vila, L. (CD-11). 55
Vila, L. (CD-13). 56
Vila, L. (CF-07) 58
Vila, L. (CF-11) 59
Vila, L. (DC-11). 73
Vila, L. (DG-07). 80
Vila, L. (EA-04). 84
Vila, L. (ED-02). 89
Vila, L. (ED-04). 89
Vila, L. (EE-08) 92
Vila, L. (ER-06). 96
Vila, L. (FE-02) 104
Vila, L. (GD-02). 117
Vila, L. (ID-07) 133
Vila, L. (IP-10). 141
Vilkov, E. (FP-02) 110
Villanueva, M. (IH-08) 139
Villone, F. (GC-10) 117
Vilquin, B. (JI-11) 164
Vinai, G. (DB-06) 71
Vincent, T. (DC-09). 73
Viret, M. (CD-08) 55
Virnau, P. (FG-05) 106
Virnau, P. (HC-10) 125
Vishina, A. (JD-02) 154
Visone, C. (BJ-14) 34
Visone, C. (JF-07) 158
Visone, C. (JU-03) 174
Vobornik, I. (DB-06) 71
Vogel, J. (CB-02) 51
Vogel, J. (FE-08) 105
Vogel, J. (HB-08). 122
Vogel, J. (IP-10). 141
Vogler, C. (GC-01). 116
Vojáček, L. (CF-04)* 58
Volegov, A. (JT-09) 173
Volkov, A. (HP-11). 128
Volkov, O.M. (GD-04). 118
von Korff Schmising, C. (HB-02). . . 122
Voronov, A.A. (EB-14) 86
Vudya Sethu, K.K. (CG-13). 61
Vukadinovic, N. (EA-04). 84
Vukadinovic, N. (FP-06) 111
Vuong, Q. (JR-10) 169

- W -

Wada, S. (CQ-03). 64
Wagner, A. (DF-02) 77
Wagner, A. (IA-03) 128
Wagner, K. (DF-01) 77
Waheed, A. (BB-05). 23
Waheed, A. (BG-08). 29
Waintal, X. (CD-13). 56
Walker, E.S. (DA-04). 69
Wan, B. (BW-06) 49
Wan, C. (CB-01) 51
Wan, C. (CC-05) 53
Wan, C. (CG-10) 60
Wan, C. (CP-07). 62
Wan, C. (CP-11). 63
Wan, C. (EP-05). 93
Wan, C. (EP-06). 94
Wan, C. (FP-09). 111
Wan, C. (GP-02). 119
Wan, C. (IQ-06). 142
Wan, D. (GD-09) 118
Wan, L. (CB-03). 51
Wan, W. (BC-01) 24
Wan, Y. (BC-03). 24
Wan, Y. (BW-10) 49
Wan, Z. (AU-05) 20
Wan, Z. (JY-10) 181
Wang, B. (JU-01) 174
Wang, C. (AT-05). 19
Wang, C. (BG-02) 29
Wang, C. (BG-10) 30
Wang, C. (BI-09) 33
Wang, C. (JW-09). 176
Wang, C. (JY-13) 181
Wang, D. (AP-04) 12
Wang, D. (BJ-12). 34
Wang, D. (JB-08). 151
Wang, F. (BI-08) 32
Wang, F. (IS-04). 146
Wang, H. (AP-04) 12
Wang, H. (BI-05) 32
Wang, H. (BJ-12). 34
Wang, H. (BP-17). 37
Wang, H. (BS-10). 42
Wang, H. (BV-05) 47
Wang, H. (BW-14). 50
Wang, H. (BW-16). 50
Wang, H. (ED-12) 90
Wang, H. (FB-12). 100
Wang, H. (HP-06) 127
Wang, H. (JB-08). 151
Wang, H. (JW-01) 176
Wang, J. (AR-05). 15
Wang, J. (AU-11). 21
Wang, J. (BH-03). 31
Wang, J. (BW-03). 48
Wang, J. (CC-07). 53
Wang, J. (DC-03). 72
Wang, J. (DE-04). 76
Wang, J. (ER-02). 96
Wang, J. (FC-01) 100
Wang, J. (FG-13) 107
Wang, J. (FP-03) 111
Wang, J. (GD-07). 118
Wang, J. (HC-10) 125
Wang, J. (IH-05). 138
Wang, K. (BF-01). 27
Wang, K. (CC-03) 52
Wang, K. (CP-08). 62
Wang, K. (FE-07). 105
Wang, K. (FG-07) 106
Wang, K. (IS-16) 147
Wang, L. (IA-10) 129
Wang, M. (AS-07) 17
Wang, M. (AV-02) 21
Wang, M. (BB-10) 24
Wang, M. (BP-03) 35
Wang, M. (BP-05) 36
Wang, M. (BP-06) 36
Wang, M. (BP-12) 36
Wang, M. (GP-01) 119
Wang, P. (AQ-06). 14
Wang, P. (BH-09). 31
Wang, P. (JA-02) 148
Wang, Q. (ED-11) 90
Wang, Q. (EE-01). 91
Wang, Q. (EE-04). 91
Wang, S. (AS-01). 17

*Best student presentation award finalist

Wang, S. (BB-03) 23
Wang, S. (BD-10) 26
Wang, S. (BT-13) 44
Wang, S. (BT-14) 44
Wang, S. (CQ-09) 65
Wang, S. (CR-08) 66
Wang, S. (CS-10) 68
Wang, S. (CS-14) 68
Wang, S. (JP-09) 166
Wang, S. (JP-14) 166
Wang, S. (JQ-09) 168
Wang, W. (BU-06) 45
Wang, W. (BW-09) 49
Wang, W. (CP-02) 61
Wang, W. (DB-08) 71
Wang, W. (HB-09) 123
Wang, W. (HD-07) 126
Wang, W. (IF-04) 135
Wang, X. (AE-12) 11
Wang, X. (CB-01) 51
Wang, X. (CC-05) 53
Wang, X. (CG-10) 60
Wang, X. (CP-07) 62
Wang, X. (CP-10) 62
Wang, X. (CP-11) 63
Wang, X. (EB-06) 86
Wang, X. (FC-01) 100
Wang, X. (GP-02) 119
Wang, X. (IB-09) 131
Wang, X. (IH-01) 138
Wang, X. (IH-05) 138
Wang, Y. (AC-04) 6
Wang, Y. (AP-11) 12
Wang, Y. (AS-14) 18
Wang, Y. (BC-04) 24
Wang, Y. (BD-10) 26
Wang, Y. (BE-01) 26
Wang, Y. (BF-07) 28
Wang, Y. (BF-12) 28
Wang, Y. (BT-02) 43
Wang, Y. (BT-06) 43
Wang, Y. (BT-08) 44
Wang, Y. (CC-03) 52
Wang, Y. (EB-13) 86
Wang, Y. (EC-01) 87
Wang, Y. (HP-10) 128
Wang, Y. (JX-05) 178
Wang, Y. (JY-13) 181
Wang, Y. (JY-14) 182
Wang, Z. (AQ-09) 14
Wang, Z. (AS-01) 17
Wang, Z. (AT-03) 19
Wang, Z. (AT-04) 19
Wang, Z. (BI-05) 32
Wang, Z. (BW-13) 49
Wang, Z. (HA-05) 121
Wang, Z. (IH-01) 138
Wang, Z. (IS-05) 146
Wang, Z. (IS-08) 146
Wang, Z. (JP-14) 166
Wang, Z. (JQ-09) 168
Wang, Z. (JU-04) 175
Wang, Z. (JU-05) 175
Wang, Z. (JY-15) 182
Wani, F. (BG-01) 29
Warin, P. (CD-11) 55
Waring, H.J. (FC-03) 101
Warisarn, C. (IA-07) 129
Wartelle, A. (EB-09) 86
Watanabe, K. (AR-01) 15
Watanabe, K. (CG-02) 60
Watanabe, S. (ED-14) 90
Watanabe, S. (EE-03) 91
Watanabe, T. (CF-03) 58
Watts, J.D. (IB-08) 131
Wawro, A. (IG-02) 136
Weber, A. (AC-17) 8
Wei, C. (IP-12) 141
Wei, G. (FH-09) 109
Wei, J. (AC-09) 6
Wei, J. (CC-05) 53
Wei, J. (CC-12) 54
Wei, J. (CP-11) 63
Wei, J. (DB-05) 70
Wei, J. (FP-09) 111
Wei, Q. (BK-01) 34
Wei, Y. (HP-06) 127
Wei, Z. (FP-05) 111
Weigand, M. (AA-01) 3
Weigand, M. (ED-05) 89
Weigold, M. (JC-02) 152
Weil, R. (FH-06) 109
Weil, R. (HD-08) 126
Weiler, M. (CD-04) 55
Weiß, E. (EE-04) 91
Weissitsch, L. (IR-13) 144
Weissitsch, L. (JA-06) 149
Welbourne, A. (GA-02) 113
Welbourne, A. (GB-04) 114
Welbourne, A. (GB-11) 115
Welleweerd, M. (AC-10) 7
Wen, H. (AU-12) 21
Wen, T. (EP-08) 94
Wen, T. (IR-07) 144
Wen, Z. (IE-04) 134
Wende, H. (CR-05) 66
Wende, H. (IA-03) 128
Weng, L. (JU-07) 175
Wereley, N. (YB-03) 2
Wereley, N. (YB-06) 3
Wernsdorfer, W. (AD-02) 8
Weßels, T. (HA-01) 120
Westerström, R. (IG-10) 137
Westerström, R. (JI-01) 163
Wi, C. (AR-08) 15
Wiegand, P. (IB-02) 130
Wiekhorst, F. (AC-08) 6
Wiesendanger, R. (ZA-02) 84
Wiezorek, J. (JA-04) 149
Wijaya, T. (CE-03) 56
Wilhelm, F. (CR-05) 66
Wilhelm, F. (JD-03) 154
Wilhelm, F. (JW-13) 177
Wilkins, S.B. (AB-05) 4
Willard, M. (JA-02) 148
Wilson, B.W. (IQ-09) 142
Wilson, R.B. (HB-01) 121
Wimmer, S. (CD-04) 55
Wimmer, T. (CE-05) 56
Wimmer, T. (FG-10) 107
Wintz, S. (AA-01) 3
Wintz, S. (ED-05) 89
Wintz, S. (HA-01) 120
Wittmann, A. (FH-04) 108
Wittmann, A. (FH-07) 109
Wittmann, A. (HB-02) 122
Wittrock, S. (IB-04) 130
Witz, J. (BJ-11) 34
Wójcik, K.P. (DG-08) 80
Wolf, D. (AA-04) 3
Wolf, D. (DF-03) 77
Wolf, G. (CF-09) 59
Wolowiec, C. (IG-01) 136
Won, C. (EQ-09) 95
Won, H. (JD-04) 154
Won, H. (JD-07) 154
Wong, G.D. (CD-03) 54
Wong, G.D. (HB-04) 122
Wong, H. (BF-10) 28
Wong, H. (IQ-01) 141
Wong, H. (IR-06) 144
Wong, K. (BT-10) 44

*Best student presentation award finalist

Wong, K. (BT-12) 44
Wong, K. (BT-13) 44
Wong, K. (BT-14) 44
Wong, T. (GD-05) 118
Woo, J. (AP-12) 13
Woo, J. (BQ-05) 38
Woo, S. (AV-03) 21
Woodcock, T. (JD-06) 154
Woodcock, T. (JD-08) 155
Woods, S. (AC-13) 7
Woodward, R. (JH-11) 163
Woodward, R. (JP-12) 166
Wrona, J. (ID-07) 133
Wu, C. (JX-05) 178
Wu, D. (BJ-05) 33
Wu, D. (FG-12) 107
Wu, G. (AP-07) 12
Wu, G. (AQ-01) 13
Wu, H. (AP-01) 11
Wu, H. (CC-03) 52
Wu, H. (FE-07) 105
Wu, H. (FG-07) 106
Wu, H. (HA-05) 121
Wu, J. (AP-08) 12
Wu, J. (AQ-11) 14
Wu, J. (AQ-12) 14
Wu, J. (AS-07) 17
Wu, J. (BQ-14) 39
Wu, J. (FC-05) 101
Wu, J. (IP-09) 141
Wu, J. (IQ-10) 143
Wu, K. (ER-02) 96
Wu, K. (IT-04) 148
Wu, L. (AU-12) 21
Wu, L. (BR-05) 39
Wu, L. (BU-15) 46
Wu, M. (CP-12) 63
Wu, M. (ED-12) 90
Wu, M. (FH-05) 108
Wu, M. (IH-13) 139
Wu, Q. (BJ-06) 33
Wu, Q. (BU-15) 46
Wu, Q. (ER-07) 96
Wu, R. (IH-05) 138
Wu, S. (AQ-06) 14
Wu, S. (AT-04) 19
Wu, S. (BC-05) 24
Wu, S. (BD-03) 25
Wu, S. (BI-05) 32
Wu, S. (JY-14) 182
Wu, T. (IP-09) 141
Wu, W. (AR-17) 16
Wu, X. (DP-12) 82
Wu, X. (FB-12) 100
Wu, Y. (AB-02) 4
Wu, Y. (AS-06) 17
Wu, Y. (BQ-12) 38
Wu, Y. (CG-13) 61
Wu, Y. (EQ-09) 95
Wu, Y. (FA-03) 97
Wu, Y. (FP-01) 110
Wu, Y. (FP-05) 111
Wunderlich, J. (AB-04) 4
Wurmehl, S. (JW-14) 177
Wurmehl, S. (JX-06) 179
Wurster, S. (IR-13) 144
Wurster, S. (JA-06) 149
Wytrwal-Sarna, M. (AC-14) 7

- X -

Xi, X. (DB-08) 71
Xi, X. (IF-04) 135
Xia, H. (EQ-09) 95
Xia, H. (FP-01) 110
Xia, H. (FP-05) 111
Xia, J. (AB-02) 4
Xia, J. (HD-07) 126
Xia, J. (HP-03) 127
Xia, Y. (BW-17) 50
Xia, Z. (JU-08) 175
Xiang, Q. (IE-04) 134
Xiang, Z. (BB-01) 23
Xiang, Z. (BP-08) 36
Xiang, Z. (BR-03) 39
Xiang, Z. (BT-16) 45
Xiang, Z. (JG-04) 160
Xiao, J.Q. (HP-10) 128
Xiao, L. (BC-02) 24
Xiao, L. (BQ-02) 37
Xiao, T.P. (GB-02) 114
Xiao, Y. (BA-05) 22
Xiao, Y. (BH-03) 31
Xiao, Y. (BJ-04) 33
Xiao, Y. (BW-11) 49
Xiao, Z. (JI-05) 164
Xie, D. (AD-07) 9
Xie, D. (AD-08) 9
Xie, D. (IS-07) 146
Xie, Y. (AU-06) 20
Xin, Z. (AS-11) 18
Xing, H.G. (IH-09) 139
Xing, M. (JI-10) 164
Xing, Y. (CP-11) 63
Xing, Y. (FP-09) 111
Xing, Y. (GP-02) 119
Xiong, D. (CC-03) 52
Xiong, D. (CF-08) 59
Xiong, D. (FE-07) 105
Xiong, D. (FG-07) 106
Xiong, D. (IH-01) 138
Xiu, F. (DB-07) 71
Xu, B. (AB-10) 5
Xu, B. (BU-15) 46
Xu, B. (DC-10) 73
Xu, C. (IA-04) 129
Xu, D. (BW-02) 48
Xu, D. (DB-08) 71
Xu, G. (AC-18) 8
Xu, G. (BF-01) 27
Xu, G. (BF-05) 28
Xu, G. (CR-07) 66
Xu, H. (CC-05) 53
Xu, H. (DB-05) 70
Xu, H. (JC-10) 153
Xu, J. (AB-02) 4
Xu, J. (CA-01) 50
Xu, L. (JY-07) 181
Xu, M. (CP-09) 62
Xu, M. (EC-03) 87
Xu, Q. (DC-06) 72
Xu, Q. (IS-04) 146
Xu, T. (HA-05) 121
Xu, W. (AU-09) 20
Xu, W. (CS-10) 68
Xu, X. (AR-01) 15
Xu, X. (CR-08) 66
Xu, X. (CS-14) 68
Xu, X. (IR-07) 144
Xu, Y. (AR-13) 16
Xu, Y. (BK-01) 34
Xu, Y. (BQ-11) 38
Xu, Y. (BR-08) 40
Xu, Y. (BW-02) 48
Xu, Y. (CC-08) 53
Xu, Y. (FC-05) 101
Xu, Y. (IH-01) 138
Xu, Y. (IQ-10) 143
Xu, Y. (IR-18) 145
Xu, Y. (JX-02) 178

*Best student presentation award finalist

Xu, Z. (IQ-02) 142
Xue, K. (AE-13) 11
Xue, L. (GB-02) 114

- Y -

Y. Umetsu, R. (JX-07) 179
Y. Umetsu, R. (JX-08) 179
Ya, X. (EP-01) 93
Yablonovitch, E. (BK-04) 35
Yabukami, S. (ER-12) 97
Yabukami, S. (JP-13) 166
Yacoby, A. (AA-02) 3
Yadav, R. (JA-10) 149
Yadav, V.K. (JQ-08) 168
Yagmur, A. (CD-05) 55
Yagmur, A. (CP-15) 63
Yaguchi, H. (BS-05) 42
Yagupov, S. (JY-19) 182
Yahagi, Y. (CE-11) 57
Yakovleva, M. (JT-09) 173
Yakushiji, K. (CD-10) 55
Yakushiji, K. (GB-07) 115
Yakushiji, K. (IB-04) 130
Yakushiji, K. (IH-04) 138
Yamada, A. (CG-11) 61
Yamada, K. (CP-16) 63
Yamada, K. (HC-03) 124
Yamaguchi, W. (JW-03) 176
Yamahara, H. (EE-15) 93
Yamamoto, K. (CE-09) 57
Yamamoto, K. (EC-03) 87
Yamamoto, R. (BS-09) 42
Yamamoto, T. (IH-04) 138
Yamasaki, H. (IS-06) 146
Yamashita, S. (JC-12) 153
Yamauchi, T. (JX-08) 179
Yamonoi, K. (EC-06) 87
Yan, J. (AP-10) 12
Yan, J. (AQ-05) 13
Yan, R. (AV-04) 22
Yan, X. (AC-01) 5
Yan, Y. (FC-05) 101
Yan, Y. (IQ-10) 143
Yan, Y. (IR-18) 145
Yan, Z. (CP-11) 63
Yan, Z. (EP-05) 93
Yan, Z. (FP-09) 111
Yan, Z. (GP-02) 119
Yan, Z. (HB-05) 122
Yan, Z. (IQ-06) 142
Yang, D. (AQ-10) 14
Yang, D. (BQ-11) 38
Yang, F. (CS-05) 67
Yang, F. (FG-15) 108
Yang, H. (AR-02) 15
Yang, H. (BB-09) 24
Yang, H. (BH-02) 31
Yang, H. (BH-10) 31
Yang, H. (BJ-13) 34
Yang, H. (BP-10) 36
Yang, H. (BU-19) 47
Yang, H. (BV-06) 47
Yang, H. (BV-10) 48
Yang, H. (CG-12) 61
Yang, H. (DA-05) 69
Yang, H. (DC-03) 72
Yang, H. (DC-10) 73
Yang, H. (EQ-01) 94
Yang, H. (HC-05) 124
Yang, H. (HP-01) 127
Yang, H. (IF-01) 135
Yang, H. (IS-10) 146
Yang, I. (BR-04) 39
Yang, J. (AS-03) 17
Yang, J. (BQ-16) 39
Yang, J. (BR-01) 39
Yang, J. (IH-08) 139
Yang, J. (IQ-07) 142
Yang, J. (JW-09) 176
Yang, J. (JY-13) 181
Yang, K. (AP-11) 12
Yang, L. (FC-05) 101
Yang, L. (HP-06) 127
Yang, L. (JX-14) 180
Yang, L. (JX-15) 180
Yang, M. (CP-12) 63
Yang, M. (JX-14) 180
Yang, M. (JY-11) 181
Yang, M. (JY-12) 181
Yang, Q. (AQ-04) 13
Yang, Q. (AS-04) 17
Yang, Q. (AS-09) 17
Yang, Q. (AU-11) 21
Yang, Q. (JX-15) 180
Yang, Q. (JY-11) 181
Yang, Q. (JY-12) 181
Yang, S. (BR-02) 39
Yang, S. (BR-07) 40
Yang, S. (CC-12) 54
Yang, S. (CG-04) 60
Yang, T. (BU-12) 46
Yang, T. (BV-05) 47
Yang, T. (BW-14) 50
Yang, T. (BW-16) 50
Yang, W. (AV-05) 22
Yang, W. (CP-07) 62
Yang, W. (CP-11) 63
Yang, W. (GP-02) 119
Yang, W. (JY-13) 181
Yang, X. (AP-01) 11
Yang, X. (AV-05) 22
Yang, Y. (BS-15) 43
Yang, Y. (EC-01) 87
Yang, Y. (IS-14) 147
Yang, Y. (JW-09) 176
Yao, H. (AS-11) 18
Yao, H. (AS-13) 18
Yao, H. (JW-07) 176
Yao, Y. (HA-05) 121
Yao, Y. (HB-09) 123
Yap, S. (CG-08) 60
Yap, S. (HD-06) 126
Yaroslavtsev, A. (FD-05) 103
Yaroslavtsev, R. (JQ-07) 168
Yasin, F. (CF-12) 59
Yasin, F. (CG-13) 61
Yasinskaya, D. (DQ-03) 82
Yasuhira, M. (CF-03) 58
Ye, C. (BQ-13) 38
Ye, C. (BQ-16) 39
Ye, C. (BR-01) 39
Ye, L. (IP-09) 141
Ye, X. (AT-03) 19
Ye, X. (BW-13) 49
Yee, S. (JP-15) 167
Yeo, C. (JD-07) 154
Yerin, C.V. (JS-01) 170
Yesilyurt, C. (IF-03) 135
Yi, Q. (BE-01) 26
Yi, X. (JC-10) 153
Yildirim, O. (FH-03) 108
Yildirim, O. (HA-03) 120
Yildirim, O. (IH-02) 138
Yildiriz, E. (BH-11) 32
Yildiz, B. (FE-05) 104
Yin, J. (AP-08) 12
Yin, J. (AS-07) 17
Yin, J. (BQ-14) 39
Yin, Q. (BS-15) 43
Yin, X. (IS-14) 147
Yin, Z. (BR-02) 39

*Best student presentation award finalist

Yin, Z. (BR-07) 40
Ying, Z. (BF-01) 27
Yokoyama, T. (JX-08) 179
Yoo, H. (IS-02) 145
Yoo, H. (IS-13) 147
Yoo, J. (JF-05) 158
Yoo, J. (JF-13) 159
Yoo, J. (JU-11) 175
Yoo, M. (DD-10) 75
Yoon, J. (DC-02) 72
Yoon, A. (BB-07) 23
Yoshida, K. (IE-02) 134
Yoshida, T. (CQ-04) 64
Yoshinaga, T. (IS-15) 147
Yoshioka, T. (JC-12) 153
You, J. (BS-10) 42
Young, I.A. (CC-01) 52
Young, I.A. (DA-04) 69
Yu, C. (BE-05) 27
Yu, D. (BQ-13) 38
Yu, D. (ED-12) 90
Yu, G. (BR-08) 40
Yu, G. (CC-05) 53
Yu, G. (CP-11) 63
Yu, G. (DB-05) 70
Yu, G. (EQ-01) 94
Yu, G. (FP-09) 111
Yu, G. (GP-02) 119
Yu, G. (HB-05) 122
Yu, G. (HP-01) 127
Yu, G. (IS-10) 146
Yu, H. (AC-18) 8
Yu, H. (BF-07) 28
Yu, H. (CR-07) 66
Yu, H. (ED-12) 90
Yu, H. (FC-02) 100
Yu, L. (CP-03) 61
Yu, P. (DC-03) 72
Yu, R. (CP-12) 63
Yu, W. (BQ-08) 38
Yu, Y. (BP-09) 36
Yu, Y. (DB-08) 71
Yu, Z. (BQ-07) 38
Yu, Z. (JX-05) 178
Yuan, B. (BQ-04) 37
Yuan, S. (JH-06) 162
Yuan, X. (BF-05) 28
Yuan, Z. (FP-05) 111
Yuan, Z. (IE-01) 134
Yuasa, H. (CD-01) 54
Yuasa, H. (EP-01) 93
Yuasa, H. (FP-13) 112
Yuasa, S. (CD-10) 55
Yuasa, S. (GB-07) 115
Yuasa, S. (IB-04) 130
Yuasa, S. (IH-04) 138
Yubuta, K. (JX-08) 179
Yudanov, N.A. (JY-02) 180
Yue, M. (JC-10) 153
Yue, M. (JW-01) 176
Yue, M. (JW-07) 176
Yun, G. (YB-05) 3
Yuxi, W. (EC-13) 88

- Z -

Zabel, H. (FD-03) 103
Zagorsky, D. (FP-02) 110
Zagrebin, M. (JU-02) 174
Zahn, D.R. (JB-09) 151
Zahnd, G. (AC-06) 6
Zahnd, G. (CD-13) 56
Zaid, M.M. (BB-05) 23
Zaid, M.M. (BG-08) 29
Zaini, M. (IC-01) 131
Zainulin, Y. (JT-03) 172
Zajac, M. (IG-07) 137
Zajac, M. (IH-10) 139
Zajac, M. (IH-11) 139
Zákutná, D. (JI-09) 164
Zalecki, R. (AC-03) 6
Zamani Kouhpanji, M. (AD-01) 8
Zamani Kouhpanji, M. (JI-13) 164
Zambrzycki, C. (JI-08) 164
Zarlaha, A. (JR-09) 169
Zatko, V. (DB-02) 70
Zatko, V. (DB-03) 70
Zayets, V. (CB-04) 51
Zázvorka, J. (HC-10) 125
Zdunek, M. (EC-08) 88
Zehner, J. (AB-07) 5
Zehner, J. (FE-04)* 104
Zehner, J. (FE-06) 104
Zeinali, R. (AD-05) 9
Zeinali, R. (BI-04) 32
Zeissler, K. (HA-01) 120
Zeitler, U. (FG-09) 107
Zelent, M.K. (AE-09) 11
Zelent, M.K. (EP-07) 94
Zeng, D. (BK-01) 34
Zeng, Y. (DP-11) 82
Zerioul, A. (AQ-08) 14
Zezyulina, P. (ER-13) 97
Zha, L. (IH-08) 139
Zhai, X. (DE-07) 76
Zhan, H. (BR-05) 39
Zhan, X. (CD-03) 54
Zhan, Y. (BF-01) 27
Zhan, Y. (BF-05) 28
Zhang, A. (DP-12) 82
Zhang, B. (IH-01) 138
Zhang, C. (AP-01) 11
Zhang, C. (AQ-04) 13
Zhang, C. (AS-09) 17
Zhang, C. (AU-11) 21
Zhang, C. (CQ-06) 64
Zhang, C. (CQ-07) 64
Zhang, C. (JP-14) 166
Zhang, C. (JW-04) 176
Zhang, C. (JX-15) 180
Zhang, D. (CC-07) 53
Zhang, D. (EP-08) 94
Zhang, D. (FC-01) 100
Zhang, D. (IH-05) 138
Zhang, D. (JW-01) 176
Zhang, F. (JB-10) 151
Zhang, H. (AQ-04) 13
Zhang, H. (AS-07) 17
Zhang, H. (AT-02) 19
Zhang, H. (BH-09) 31
Zhang, H. (BS-08) 42
Zhang, H. (BV-03) 47
Zhang, H. (IF-04) 135
Zhang, H. (IR-07) 144
Zhang, H. (JW-07) 176
Zhang, H. (JX-13) 179
Zhang, J. (AS-07) 17
Zhang, J. (BQ-14) 39
Zhang, J. (BU-15) 46
Zhang, J. (BW-17) 50
Zhang, J. (EB-13) 86
Zhang, J. (ED-12) 90
Zhang, J. (FC-02) 100
Zhang, J. (IS-05) 146
Zhang, J. (IS-08) 146
Zhang, J. (JF-10) 158
Zhang, J. (JU-04) 175
Zhang, J. (JU-05) 175
Zhang, K. (CQ-06) 64
Zhang, K. (CQ-07) 64
Zhang, K. (ER-07) 96
Zhang, M. (BW-17) 50
Zhang, N. (CQ-09) 65
Zhang, N. (CR-08) 66

*Best student presentation award finalist

Zhang, N. (CS-14) 68
Zhang, N. (JP-09) 166
Zhang, N. (JP-14) 166
Zhang, N. (JQ-09) 168
Zhang, P. (AS-04) 17
Zhang, P. (AS-12) 18
Zhang, P. (JY-13) 181
Zhang, Q. (BB-04) 23
Zhang, Q. (BF-07) 28
Zhang, Q. (BG-11) 30
Zhang, Q. (BQ-14) 39
Zhang, Q. (CS-07) 67
Zhang, Q. (FA-03) 97
Zhang, Q. (HD-04) 126
Zhang, Q. (IS-05) 146
Zhang, Q. (IS-08) 146
Zhang, Q. (JF-10) 158
Zhang, Q. (JU-04) 175
Zhang, Q. (JU-05) 175
Zhang, R. (DP-11) 82
Zhang, R. (FC-05) 101
Zhang, R. (IQ-10) 143
Zhang, S. (AS-14) 18
Zhang, S. (AV-02) 21
Zhang, S. (BP-12) 36
Zhang, S. (HC-06) 124
Zhang, S. (IF-01) 135
Zhang, S.F. (CC-08) 53
Zhang, T. (AP-11) 12
Zhang, T. (AQ-09) 14
Zhang, T. (AT-03) 19
Zhang, T. (AT-04) 19
Zhang, T. (AT-08) 19
Zhang, W. (AS-04) 17
Zhang, W. (BP-16) 37
Zhang, W. (BR-11) 40
Zhang, W. (JY-11) 181
Zhang, W. (JY-12) 181
Zhang, X. (AB-02) 4
Zhang, X. (BS-03) 41
Zhang, X. (BT-07) 44
Zhang, X. (BU-19) 47
Zhang, X. (BV-06) 47
Zhang, x. (CS-13) 68
Zhang, X. (FA-03) 97
Zhang, X. (GP-02) 119
Zhang, X. (HC-06) 124
Zhang, X. (HD-07) 126
Zhang, X. (HP-03) 127
Zhang, X. (IP-11) 141
Zhang, X. (JW-09) 176
Zhang, Y. (AD-07) 9
Zhang, Y. (AD-08) 9
Zhang, Y. (AP-01) 11
Zhang, Y. (AS-03) 17
Zhang, Y. (AV-05) 22
Zhang, Y. (BC-04) 24
Zhang, Y. (CP-07) 62
Zhang, Y. (CP-10) 62
Zhang, Y. (CQ-09) 65
Zhang, Y. (CR-08) 66
Zhang, Y. (CS-14) 68
Zhang, Y. (FE-07) 105
Zhang, Y. (FP-03) 111
Zhang, Y. (JP-09) 166
Zhang, Y. (JW-09) 176
Zhang, Z. (AS-02) 17
Zhang, Z. (AS-06) 17
Zhang, Z. (BE-01) 26
Zhang, Z. (BF-05) 28
Zhang, Z. (BG-02) 29
Zhang, Z. (BG-10) 30
Zhang, Z. (BI-09) 33
Zhang, Z. (BQ-08) 38
Zhang, Z. (BV-04) 47
Zhang, Z. (BW-17) 50
Zhang, Z. (DE-02) 75
Zhang, Z. (IH-09) 139
Zhang, Z. (IR-18) 145
Zhang, Z. (JX-02) 178
Zhao, C. (AV-04) 22
Zhao, C. (IB-09) 131
Zhao, F. (AP-11) 12
Zhao, F. (BQ-07) 38
Zhao, G. (BT-11) 44
Zhao, G. (HD-07) 126
Zhao, H. (BF-01) 27
Zhao, H. (BF-05) 28
Zhao, H. (BG-03) 29
Zhao, H. (BG-09) 30
Zhao, H. (BU-02) 45
Zhao, H. (CS-11) 68
Zhao, H. (FB-12) 100
Zhao, H. (IS-05) 146
Zhao, H. (IS-08) 146
Zhao, H. (JU-04) 175
Zhao, H. (JU-05) 175
Zhao, H.B. (EQ-09) 95
Zhao, H.B. (FP-01) 110
Zhao, H.B. (FP-05) 111
Zhao, J. (BI-08) 32
Zhao, K. (DG-04) 79
Zhao, L. (HA-05) 121
Zhao, M. (CB-01) 51
Zhao, M. (CP-07) 62
Zhao, W. (CC-03) 52
Zhao, W. (CF-08) 59
Zhao, W. (CG-09) 60
Zhao, W. (FB-12) 100
Zhao, W. (FE-07) 105
Zhao, W. (FG-07) 106
Zhao, W. (FH-09) 109
Zhao, W. (IH-01) 138
Zhao, X. (BT-10) 44
Zhao, X. (BT-12) 44
Zhao, X. (BT-13) 44
Zhao, X. (BT-14) 44
Zhao, X. (BU-06) 45
Zhao, X. (BU-11) 46
Zhao, X. (BU-18) 46
Zhao, X. (BW-09) 49
Zhao, X. (CG-09) 60
Zhao, X. (IQ-01) 141
Zhao, X. (IR-06) 144
Zhao, Y. (AQ-02) 13
Zhao, Y. (CS-07) 67
Zhao, Y. (JB-01) 150
Zhao, Y. (JY-15) 182
Zhao, Z. (ER-07) 96
Zheng, H. (AU-07) 20
Zheng, J. (AV-04) 22
Zheng, J. (BW-03) 48
Zheng, L. (EP-08) 94
Zheng, L. (JW-11) 177
Zheng, P. (AV-02) 21
Zheng, P. (BB-10) 24
Zheng, P. (BF-06) 28
Zheng, P. (BF-12) 28
Zheng, P. (BP-03) 35
Zheng, P. (BP-05) 36
Zheng, P. (BP-06) 36
Zheng, P. (BP-12) 36
Zheng, P. (BR-02) 39
Zheng, P. (BR-07) 40
Zheng, P. (BT-02) 43
Zheng, S. (BP-08) 36
Zheng, Y. (JI-12) 164
Zhenhu, J. (IT-03) 147
Zhong, H. (AB-11) 5
Zhong, X. (IA-05) 129
Zhong, Z. (EP-08) 94
Zhong, Z. (IR-07) 144
Zhou, B. (IA-04) 129
Zhou, C. (AB-02) 4

*Best student presentation award finalist

Zhou, H. (CF-08) 59
Zhou, H. (EQ-01) 94
Zhou, H. (HA-05) 121
Zhou, H. (HP-01) 127
Zhou, H. (IS-10) 146
Zhou, J. (BG-11) 30
Zhou, J. (DC-07) 73
Zhou, J. (IR-18) 145
Zhou, L. (AT-02) 19
Zhou, L. (BH-03) 31
Zhou, L. (BW-03) 48
Zhou, W. (BP-16) 37
Zhou, W. (CE-09) 57
Zhou, W. (DE-04) 76
Zhou, W. (IA-01) 128
Zhou, X. (AU-05) 20
Zhou, Y. (AB-02) 4
Zhou, Y. (ED-09) 89
Zhou, Y. (HD-07) 126
Zhou, Y. (HP-03) 127
Zhou, Z. (AT-08) 19
Zhou, Z. (JB-01) 150
Zhu, D. (FG-07) 106
Zhu, D. (IH-01) 138
Zhu, J. (AP-07) 12
Zhu, J. (AQ-01) 13
Zhu, J. (BD-10) 26
Zhu, J. (BF-11) 28
Zhu, J. (BW-05) 49
Zhu, J. (BW-06) 49
Zhu, J. (BW-07) 49
Zhu, J. (BW-08) 49
Zhu, J. (CS-10) 68
Zhu, J. (FC-01) 100
Zhu, J. (IA-04) 129
Zhu, J. (IA-06) 129
Zhu, J. (IB-09) 131
Zhu, L. (BC-03) 24
Zhu, L. (IQ-04) 142
Zhu, M. (EQ-01) 94
Zhu, M. (HP-01) 127
Zhu, M. (IS-10) 146
Zhu, M. (JC-09) 153
Zhu, R. (AU-09) 20
Zhu, T. (CQ-09) 65
Zhu, T. (JP-09) 166
Zhu, T. (JQ-09) 168
Zhu, X. (AQ-12) 14
Zhu, X. (AR-04) 15
Zhu, X. (AU-05) 20
Zhu, X. (BB-01) 23
Zhu, X. (BP-08) 36
Zhu, X. (BT-16) 45
Zhu, Y. (IQ-06) 142
Zhu, Z. (BA-05) 22
Zhu, Z. (BH-03) 31
Zhu, Z. (BJ-13) 34
Zhuang, B. (AP-08) 12
Zhuo, L. (AQ-10) 14
Zhuo, L. (BQ-11) 38
Zhuo, L. (BR-08) 40
Zhuo, L. (BV-08) 48
Zimnyakova, P. (FP-07) 111
Zivanov, L. (IS-12) 146
Zivieri, R. (HD-02) 125
Zobkalo, I. (DF-09) 78
Zografos, O. (EC-07) 88
Zollitsch, C.W. (ED-06) 89
Zollitsch, C.W. (ED-13) 90
Zoppellaro, G. (JA-13) 150
Zou, J. (BK-01) 34
Zou, J. (BQ-11) 38
Zou, J. (BR-08) 40
Zou, X. (IB-12) 131
Zou, Y. (BS-06) 42
Zou, Y. (DP-11) 82
Zucchetti, C. (CB-05) 52
Zuo, L. (JB-10) 151
Zuo, Y. (BG-12) 30
Zurauskiene, N. (IB-13) 131
Zuzek Rozman, K. (JC-11) 153
Zverev, V. (GC-07) 116
Zverev, V.V. (CS-01) 67
Zverev, V.V. (CS-12) 68
Zvezdin, A. (EB-14) 86
Zvezdin, K. (CS-02) 67
Zvezdin, K. (ER-08) 96
Zvezdin, K. (FP-14) 112

*Best student presentation award finalist