



Program Book for ONLINE Conference



Intermag 2023
Sendai, Japan
May 15 - 19, 2023

Online Conference starts May 29



 **IEEE**
MAGNETICS 

公益社団法人
日本磁気学会
The Magnetics Society of Japan

Jointly sponsored by
IEEE Magnetic Society and
The Magnetic Society of Japan

Session TU
TUTORIAL: MAGNETIC SENSORS

Hyunsoo Yang, Chair
National University of Singapore, Singapore

- TU-01. Magnetic nanoparticles and sensors for rapid diagnostic testing in healthcare, food safety, and environmental control. (Invited) M. Rivas¹ I. University of Oviedo, Oviedo, Spain**
- TU-02. Magnetoresistive and anomalous Hall sensors: from static to dynamic linearization and single device vector field sensing. (Invited) Y. Wu¹ I. National University of Singapore, Singapore**
- TU-03. Magnetic sensors for industrial and automotive applications. (Invited) W. Lee¹ I. Texas Instruments, Dallas, TX, United States**

Session PL
IEEE AWARD CEREMONY & PLENARY SESSION

Koki Takanashi, Co-Chair
Tohoku University, Sendai, Japan
Bethanie Stadler, Co-Chair
University of Minnesota, Minneapolis, MN, United States

- PL-01. NanoTerasu: Next Generation Synchrotron Light Source in Japan. (Invited) M. Takata¹ I. International Center for Synchrotron Radiation Innovation Smart (SRIS), Tohoku University, Sendai, Japan**

SYMPOSIA

Session SA
**AI/ML APPROACHES FOR THE DEVELOPMENT
AND DISCOVERY OF FUTURE MAGNETIC
MATERIALS**

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

- SA-01. Machine learning collective excitations in quantum materials. (Invited) M. Li¹ I. Department of Nuclear Science and Engineering, MIT, Cambridge, MA, United States**

- SA-02. Predicting topological properties in materials using machine learning. (Invited)** N. Claussen¹, N. Andrejevic^{2,3}, J. Andrejevic^{4,5}, B. Bernevig^{6,7}, N. Regnault⁸, F. Han^{3,9}, G. Fabbri¹⁰, T. Nguyen^{3,9}, N.C. Drucker^{3,5}, C.H. Rycroft^{11,6} and M. Li^{3,9} 1. Department of Physics, University of California at Santa Barbara, Santa Barbara, CA, United States; 2. Center for Nanoscale Materials, Argonne National Laboratory, Lemont, IL, United States; 3. Quantum Measurement Group, Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Department of Physics, University of Pennsylvania, Philadelphia, PA, United States; 5. John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, United States; 6. Department of Physics, Princeton University, Princeton, NJ, United States; 7. Donostia International Physics Center, Donostia-San Sebastian, Spain; 8. Laboratoire de Physique de l'Ecole Normale Supérieure, ENS, Université PSL, CNRS, Sorbonne Université, Université Paris-Diderot, Paris, France; 9. Department of Nuclear Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 10. Advanced Photon Source, Argonne National Laboratory, Lemont, IL, United States; 11. Department of Mathematics, University of Wisconsin-Madison, Madison, WI, United States
- SA-03. Magnetic materials prediction, high through put, artificial intelligence versus materials intuition. (Invited)** C. Felser¹, M. Vergniory^{1,2}, Y. Zhang^{1,3}, Y. Sun^{1,4} and J. Noky¹ 1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Donostia International Physics Center, Donostia-San Sebastián, Spain; 3. Physics, Massachusetts Institute of Technology, Boston, MA, United States; 4. Shenyang National Laboratory for Materials Science, Shenyang, China
- SA-04. Autonomous materials search for high-magnetization alloy. (Invited)** Y. Iwasaki¹ 1. National Institute for Materials Science (NIMS), Tsukuba, Japan
- SA-05. Robust Exchange Stiffness at Interface of Magnetic Tunnel Junctions. (Invited)** M. Shirai^{1,2}, T. Roy² and M. Tsujikawa¹ 1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan
- SA-06. Physics Informed Machine Learning for Permanent Magnet Design. (Invited)** A. Kovacs^{1,2}, J. Fischbacher^{1,2}, H. Oezelt^{1,2}, A. Kornell^{1,2}, Q. Ali^{1,2}, M. Gusenbauer^{1,2}, M. Yano³, N. Sakuma³, A. Kinoshita³, T. Shoji³, A. Kato³, T. Fukushima⁴, H. Akai⁴, N. Kawashima⁴, T. Miyake⁵ and T. Schrefl^{1,2} 1. Christian Doppler Laboratory for Magnet Design through Physics Informed Machine Learning, University for Continuing Education Krems, Krems, Austria; 2. Department for Integrated Sensor Systems, University for Continuing Education Krems, Krems, Austria; 3. Advanced Materials Engineering Div., Toyota Motor Corporation, Mishuku Susono, Japan; 4. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 5. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

Session SB COHERENT MAGNON INTERACTIONS

Axel Hoffman, Chair

University of Illinois at Urbana-Champaign, Urbana, IL, United States

SB-01. Many-body magnonic open quantum systems. (Invited)

*M. Elyasi*¹, *T. Hioki*^{1,2}, *T. Makiuchi*², *S. Kanai*^{3,1}, *L. Sheng*⁴, *K. Yamamoto*⁵, *H. Kurebayashi*⁶, *T. van der Sar*⁷, *H. Yu*⁴, *Y. Blanter*⁷, *S. Fukami*^{3,1}, *E. Saitoh*^{2,1} and *G. Bauer*^{1,8}
1. Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 4. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 5. Japan Atomic Energy Agency, Tokai, Japan; 6. London Centre for Nanotechnology, University College London, London, United Kingdom; 7. Kavli Institute of Nanoscience, Delft University of Technology, Delft, Netherlands; 8. Kavli Institute for Theoretical Sciences, University of Chinese Academy of Sciences, Beijing, China

SB-02. Withdrawn

SB-03. Coherent Coupling of Two Remote Magnonic Resonators Mediated by Superconducting Circuits. (Invited)

*Y. Li*¹, *V.G. Yefremenko*², *M. Lisovenko*², *C. Trevillian*⁴, *T. Polakovic*³, *T.W. Cecil*², *P.S. Barry*², *J.E. Pearson*¹, *R. Divan*⁵, *V. Tyberkevych*⁴, *C.L. Chang*², *U. Welp*¹, *W. Kwok*¹ and *V. Novosad*¹
1. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States; 2. High Energy Physics Division, Argonne National Laboratory, Lemont, IL, United States; 3. Physics Division, Argonne National Laboratory, Lemont, IL, United States; 4. Department of Physics, Oakland University, Rochester, MI, United States; 5. Center for Nanoscale Materials, Argonne National Laboratory, Lemont, IL, United States

SB-04. Magnon-phonon coupling in a layered antiferromagnet. (Invited)

*J. Puebla*¹, *T. Lyons*¹, *K. Yamamoto*², *R. Deacon*¹, *Y. Hwang*¹, *S. Maekawa*¹ and *Y. Otani*¹
1. Center for Emergent Matter Science, RIKEN, Wako, Japan; 2. Japan Atomic Energy Agency, Tokai, Japan

SB-05. Design of k-space Magnon Dynamics by Machine Learning. (Invited)

*G. Csaba*¹, *A. Papp*¹, *A. Horvath*¹, *J. Kim*³, *M. Massouras*³, *A. Anane*², *C. Serpico*⁴, *S. Perna*⁴ and *M. d'Aquino*⁴
1. Pazmany University Budapest, Budapest, Hungary; 2. Unite Mixte de Physique, CNRS, Thales, Universite Paris-Saclay, Paris, France; 3. Centre for Nanoscience and Nanotechnology, CNRS, Universite Paris-Saclay, France, Paris, France; 4. University of Naples, Naples, Italy

SB-06. Pattern Recognition with Magnons. (Invited)

*K. Schultheiss*¹
1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

Session SC

FUNDAMENTALS OF MAGNETIC NANOPARTICLES: RECENT INSIGHTS IN STRUCTURE-PROPERTY RELATIONS

Jonathan Leliaert, Chair
Ghent University, Ghent, Belgium

- SC-01. Magnetic Nanoparticles: From the Nanostructure to the Physical Properties. (Invited)** X. Batlle^{1,2}, C. Moya^{1,2}, M. Escoda-Torroella^{1,2}, O. Iglesias^{1,2}, A. Fraile Rodríguez^{1,2} and A. Labarta^{1,2} *1. Física de la Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia de la UB (IN2UB), Barcelona, Spain*
- SC-02. Tuning the Intrinsic Features of Magnetic Nanoparticles and Exploiting their Assembly to Optimize the Response to External AC Fields for Magnetic Fluid Hyperthermia. (Invited)** H. Gavilán¹, K. Simeonidis³, E. Myrovali³, E. Mazarió⁴, O. Chubykalo-Fesenko⁵, R.W. Chantrell⁶, L. Balcells⁷, M. Angelakeris³, M.d. Morales⁵ and D. Serantes² *1. Universidad Complutense de Madrid, Madrid, Spain; 2. Universidade de Santiago de Compostela, Santiago de Compostela, Spain; 3. Aristotle University of Thessaloniki, Thessaloniki, Greece; 4. Universidad Autónoma de Madrid, Madrid, Spain; 5. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 6. University of York, Heslington, United Kingdom; 7. Institute of Materials Science of Barcelona, Barcelona, Spain*
- SC-03. Spin Disorder and Magnetic Morphologies in Magnetic Nanoparticles. (Invited)** S. Disch¹ *1. University of Duisburg-Essen, Essen, Germany*
- SC-04. Functional magnetic nanoparticles: from synthesis design to in-depth characterization and nano-labelling for ultrasensitive magnetic biosensing. (Invited)** R. Sack¹, M. Zgheib¹, M. Chowdhury¹, Y. Wang¹, F. Ludwig¹, M. Schilling¹, T. Viereck¹ and A. Lak¹ *1. Institute for Electrical Measurement Science and Fundamental Electrical Engineering, Technical University of Braunschweig, Braunschweig, Germany*
- SC-05. High-throughput determination of structure-property relationships of magnetic nanoparticles using a multi-detector chromatographic approach. (Invited)** N. Löwa¹, A. Remmo¹ and F. Wiekhorst¹ *1. Working Group "Metrology for Magnetic Nanoparticles", Physikalisch-Technische Bundesanstalt, Berlin, Germany*

- SC-06. Quantifying the magnetic anisotropy of individual nanomagnets embedded in biological entities. (Invited)** L. Marcano¹, I. Orue², D. Gandia³, A. García-Prieto⁴, M. Fernandez Gubieda³ and S. Valencia⁵ 1. *Physics, University of Oviedo, Gijón, Spain*; 2. *SGIker, Universidad del País Vasco – UPV/EHU, Leioa, Spain*; 3. *Dpto. Electricidad y Electrónica, Universidad del País Vasco – UPV/EHU, Leioa, Spain*; 4. *Dpto. Física Aplicada, Universidad del País Vasco – UPV/EHU, Bilbao, Spain*; 5. *Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany*

SYMPOSIA

Session SD LATEST ADVANCES IN MAGNETIC NANOTECHNOLOGY

Montserrat Rivas, Chair
Universidad de Oviedo, Gijón, Spain

- SD-01. Challenges in magnetic characterization at the nanoscale. (Invited)** E. Berganza², M. Jaafar¹, C. Bran², R. Perez Del Real², O. Chubykalo-Fesenko², M. Vázquez² and A. Asenjo² 1. *Universidad Autónoma de Madrid, Madrid, Spain*; 2. *Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain*
- SD-02. Noncollinear Magnetism and Spintronics in van der Waals Magnets. (Invited)** P. Upadhyaya¹, M. Rahman¹, G. Cheng², A. Rustagi¹ and Y. Chen¹ 1. *Purdue University, West Lafayette, IN, United States*; 2. *University of Science and Technology of China, Hefei, China*
- SD-03. Superconducting Resonators for Hybrid Magnonics. (Invited)** V. Novosad¹ 1. *Materials Science Division, Argonne National Laboratory, Lemont, IL, United States*
- SD-04. Machine Learning Quantum Systems with Magnetic p-Bits. (Invited)** S. Chowdhury¹ and K. Camsari¹ 1. *Electrical and Computer Engineering, University of California, Santa Barbara, Santa Barbara, CA, United States*
- SD-05. Nanoclustered Magnetic Josephson Junctions as Artificial Synapses. (Invited)** E. Jué^{1,2} 1. *National Institute of Standards and Technology, Boulder, CO, United States*; 2. *Physics, University of Colorado Boulder, Boulder, CO, United States*
- SD-06. Skyrmion Dynamics and the Skyrmion-Excited Spin Wave Fractal Network. (Invited)** D. Gilbert¹ 1. *University of Tennessee, Knoxville, TN, United States*

Session SE
MODELING, DESIGN, CONSTRUCTION AND
ANALYSIS OF ELECTRICAL MACHINES FOR
SUSTAINABLE APPLICATIONS

Yacine Amara, Chair
 Université Le Havre Normandie, Le Havre, France

- SE-01. Improving Repeatability of Tests for Iron Loss Prediction and Electrical Machines Model Calibration. (Invited)** J. Soulard¹, E. Griffin¹, X. Ma¹ and B. Silvester¹ *I. WMG, University of Warwick, Coventry, United Kingdom*
- SE-02. Robust Design of Permanent Magnet Motors for Electric Traction Applications. (Invited)** G.K. Sakkas¹ and A.G. Kladas¹ *I. Electrical and Computer Engineering, National Technical University of Athens, Athens, Greece*
- SE-03. Fast and Accurate Modelling of Laminated Cores in Electrical Machines using Homogenization and Neural Networks. (Invited)** F. Purnode¹, F. Henrotte¹, G. Louppe¹ and C. Geuzaine¹ *I. Department of Electrical Engineering and Computer Science, Université de Liège, Liège, Belgium*
- SE-04. 3D printing of multipolar bonded SmCo permanent magnets. (Invited)** A. Vucemilovic¹, M. Savary¹ and C. Espanet¹ *I. Moving Magnet Technologies, BESANCON, France*
- SE-05. Analytical design and optimization of HTS electrical machines. (Invited)** S. Mezani¹ *I. Laboratoire GREEN, Université de Lorraine, Nancy, France*
- SE-06. Permanent Magnet Linear Machines with Asymmetrical Tooth Tip. (Invited)** Q. Lu¹, M. Zheng¹ and Y. Li¹ *I. College of Electrical Engineering, Zhejiang University, Hangzhou, China*

Session SF

NEW DESIGNS AND DEVELOPMENTS IN SOFT MAGNETIC MATERIALS AND MAGNETIC CORES FOR POWER ELECTRONICS TECHNOLOGY NEEDED FOR CARBON NEUTRAL SOCIETY

Masahiro Yamaguchi, Chair
Tohoku University, Sendai, Japan

- SF-01. Passive Components for Advancement of Power Electronics. (Invited) T. Shimizu¹** *1. Electrical Engineering, Tokyo Metropolitan University, Hachioji, Japan*
- SF-02. Skin effect in iron-silicon steel sheets: from low inductions to saturation. (Invited) O. de la Barrière¹, E. Ferrara², A. Magni², A. Sola², C. Ragusa³, C. Appino² and F. Fiorillo²** *1. SATIE, CNRS, University of Paris-Sud, Gif-sur-Yvette, France; 2. INRIM, Torino, Italy; 3. Energy, Politecnico di Torino, Torino, Italy*
- SF-03. Energy loss and constitutive equation of soft magnetic materials for broadband applications in power electronics. (Invited) C. Ragusa¹, L. Solimene¹, S. Musumeci¹, O. de la Barrière², C. Beatrice³, E. Ferrara³ and F. Fiorillo³** *1. Department of Energy, Politecnico di Torino, Torino, Italy; 2. Laboratoire SATIE, CNRS-ENS, Saclay, France; 3. Advanced Materials Metrology and Life Sciences, INRIM, Torino, Italy*
- SF-04. Challenges to high magnetic flux density and low loss magnetic materials and devices for next-generation power electronics. (Invited) S. Okamoto¹, N. Ono¹, T. Onuma^{1,2}, Z. Li¹, Y. Uehara², A. Bolyachkin³, H. Sepehri-Amin³ and T. Ohkubo³** *1. Tohoku University, Sendai, Japan; 2. Magnetic Device Laboratory Ltd., Kawasaki, Japan; 3. National Institute for Materials Science, Tsukuba, Japan*
- SF-05. Development of anisotropic nanocrystalline ribbon core and powdered core for high frequency transformers and inductors. (Invited) T. Sato¹, T. Tada¹, T. Kanaya¹, M. Sonehara¹ and T. Mizuno¹** *1. Electrical and Computer Engineering, Shinshu University, Nagano, Japan*
- SF-06. Amorphous Metal Ribbon (AMR) & Metal Amorphous Nanocomposite (MANC) Materials Enabled High Power Density Vehicle Motor Applications. (Invited) M. McHenry¹, K. Schneider², S. Simizu¹, J. Egbu¹, M.P. DeBoer² and E. Thiesen³** *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 3. Metglas, Conway, SC, United States*

Session SG

**WHAT IS THE PLACE OF MAGNETIC MATERIALS
IN TOMORROW'S CHIPS?**

Paolo Bortolotti, Chair

Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay,
Palaiseau, France

- SG-01. Spin-Transfer Torque MRAM – Status and Outlook. (Invited)** *G. Hu¹ 1. IBM T.J. Watson Research Center, Yorktown Heights, NY, United States., Yorktown Heights, NY, United States*
- SG-02. Multi-Functionality in Magnetic Tunnel Junctions. (Invited)** *A. Jenkins¹, L. Martins¹, L. Benetti¹, A. Schulman¹, P. Anacleto¹, M. Claro¹, T. Boehnert¹, E. Paz¹ and R. Ferreira¹ 1. International Iberian Nanotechnology Laboratory, Braga, Portugal*
- SG-03. Radio-Frequency Spintronic Neural Networks. (Invited)** *A. Ross¹, N. Leroux¹, A. de Riz¹, D. Markovic¹, D. Sanz Hernandez¹, J. Trastoy¹, P. Bortolotti¹, D. Querlioz², L. Martins³, L. Benetti³, M. Claro³, P. Anacleto³, A. Schulman³, T. Taris⁴, J. Begueret⁴, S. Saïghi⁴, A. Jenkins³, R. Ferreira³, A. Vincent⁴, A. Mizrahi¹ and J. Grollier¹ 1. CNRS Thales, Palaiseau, France; 2. Université Paris Saclay, Palaiseau, France; 3. International Iberian Nanotechnology Laboratory, Braga, Portugal; 4. University of Bordeaux, Bordeaux, France*
- SG-04. Spintronic logic: from transducers to logic gates and circuits. (Invited)** *C. Adelmann¹, F. Ciubotaru¹, F. Meng^{1,2}, S. Cotozana³ and S. Couet¹ 1. Imec, Leuven, Belgium; 2. ESAT, KU Leuven, Leuven, Belgium; 3. QCE, TU Delft, Delft, Netherlands*
- SG-05. Magnetism meet microelectromechanical systems. (Invited)** *F. Maspero¹, S. Cuccurullo², G. Pavese², M. Cocconcelli², A. Del Giacco², A.E. Plaza², O. Koplak² and R. Bertacco^{2,3} 1. Department of Environmental and Civil Engineering, Politecnico di Milano, Milano, Italy; 2. Department of Physics, Politecnico di Milano, Milano, Italy; 3. Institute for Photonics and Nanotechnologies, CNR-IFN, Milano, Italy*
- SG-06. A Collaboration from High Frequency Soft Magnetic Materials to Integrated Circuit Design for beyond 10MHz Switching Power Supply. (Invited)** *K. Miyaji¹, M. Sonehara¹ and T. Sato¹ 1. Shinshu University, Nagano, Japan*

Session AOA

MAGNETORESISTANCE IN HETEROSTRUCTURES I

Jun'ichi Ieda, Chair

Japan Atomic Energy Agency, Tokai, Japan

- AOA-01. Magnetoresistance and Anomalous Hall Effect in Helical Eu Metallic Films.** N. Shrestha¹ and J. Tang¹ *1. Physics & Astronomy, University of Wyoming, Laramie, WY, United States*
- AOA-02. Autonomous material search for highly spin-polarized disordered material: Enhanced spin-polarization of CoFe upon Ag substitution.** V.K. Kushwaha¹, Y. Iwasaki¹, T. Nakatani¹, T. Sasaki¹, S. Kasai¹, K. Uchida¹ and Y. Sakuraba¹ *1. National Institute for Materials Science, Sengen, Japan*
- AOA-03. Room-temperature intrinsic ferromagnetism and magnetic manipulation of epitaxial CrTe₂ ultrathin films.** X. Zhang¹, W. Liu², L. He³, R. Zhang³, G. Bian⁴, P. Li⁵ and Y. Xu³ *1. Shenzhen Institute for Quantum Science and Engr., Shenzhen, China; 2. Royal Holloway University of London, Surrey, United Kingdom; 3. Nanjing University, Nanjing, China; 4. University of Missouri, Columbia, MO, United States; 5. University of Science and Technology of China, Hefei, China*
- AOA-04. Negative spin polarization of Mn₂VGa Heusler alloy thin film studied in current-perpendicular-to-plane giant magnetoresistance devices.** H. Suto¹, V. Barwal¹, Z. Li¹, K. Masuda¹, T. Sasaki¹ and Y. Sakuraba¹ *1. Reserch Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan*
- AOA-05. Large spin-dependent scattering at half-metallic Co₂FeGa_{0.5}Ge_{0.5} Heusler alloy and CoFe polycrystalline interface.** D. Taparia¹, T. Sasaki¹, T. Nakatani¹, H. Suto¹, Y. Miura¹, Z. Li¹, V.K. Kushwaha¹, I. Kazuumi², I. Shinto², N. Katsuyuki², S. Tomoyuki², S. Mitani¹ and Y. Sakuraba¹ *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Advanced Products Development Center, Technology & Intellectual Property HQ, TDK Corporation, Chiba, Japan*
- AOA-06. Over 100% magnetoresistance in perpendicularly magnetized magnetic tunnel junctions with a Co₃Mn/Mo/CoFeB multilayer.** T. Yamamoto¹, T. Ichinose¹, J. Uzuhashi², T. Nozaki¹, T. Ohkubo², K. Yakushiji¹, S. Tamaru¹ and S. Yuasa¹ *1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan*

- AOA-07. Mo-Based Perpendicularly Magnetized Thin Films with Low Damping for Fast and Low-Power Consumption Magnetic Memory.** *H. Cheng¹, Z. Boyu¹, Y. Xu¹, S. Eimer¹ and W. Zhao¹* 1. *School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China*
- AOA-08. CoCrMnZ (Z=Al, Ga, Si, Ge) Heusler Alloys: Potential Electrode Materials for MgO-based Magnetic Tunnel Junctions.** *T. Roy¹, M. Tsujikawa² and M. Shirai^{1,2}* 1. *Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan;* 2. *Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*
- AOA-09. Co₉₀Fe₁₀/Mg-Al-O/Co₉₀Fe₁₀ magnetic tunnel junctions with a fully epitaxial fcc (111) structure.** *J. Song^{1,2}, T. Scheike¹, C. He¹, Z. Wen¹, H. Sukegawa¹, T. Ohkubo¹, K. Hono¹ and S. Mitani^{1,2}* 1. *National Institute for Materials Science (NIMS), Tsukuba, Japan;* 2. *Graduate School of Science and Technology, University of Tsukuba, Tsukuba, Japan*
- AOA-10. Nanosecond Superparamagnetic Tunnel Junctions Controlled by Spin-Transfer-Torque and Joule Heating.** *L. Schnitzspan^{1,2}, M. Kläui^{1,2} and G. Jakob^{1,2}* 1. *Physics, Johannes Gutenberg University, Mainz, Germany;* 2. *Max Planck Graduate Center Mainz, Mainz, Germany*
- AOA-11. CoFeB/MgO/CoFeB-based magnetic tunnel junction using soft magnetic composite free layer with TaFeB spacer.** *T. Nakano¹, K. Fujiwara², S. Kumagai², Y. Ando^{1,3} and M. Oogane¹* 1. *Department of Applied Physics, Tohoku University, Sendai, Japan;* 2. *Spin Sensing Factory Corporation, Sendai, Japan;* 3. *Department of Advanced Spintronics Medical Engineering, Tohoku University, Sendai, Japan*
- AOA-12. Theory for Temperature Dependence of Tunnel Magnetoresistance: Crucial Role of Interfacial s-d Exchange Interaction.** *K. Masuda¹, T. Tadano¹ and Y. Miura¹* 1. *National Institute for Materials Science (NIMS), Tsukuba, Japan*

Session AOB SPIN ORBITRONICS I

Hai Pham, Chair
Tokyo Institute of Technology, Tokyo, Japan

- AOB-01. Current-induced magnetization switching in magnetic multilayers with interlayer exchange coupling by dual spin-orbit torque.** *H. Masuda*^{1,2}, *Y. Yamane*^{3,4}, *T. Seki*^{1,5}, *K. Raab*⁶, *T. Dohi*^{6,4}, *R. Modak*⁵, *K. Uchida*^{5,1}, *J. Ieda*⁷, *M. Kläui*⁶ and *K. Takanashi*^{1,7} *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 4. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 5. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 6. Institute for Physics, Johannes Gutenberg University Mainz, Mainz, Germany; 7. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*
- AOB-02. Spin Hall Switching Enabled by Uniaxial In-Plane Magnetocrystalline Anisotropy.** *S. Nallan*¹ and *J. Zhu*¹ *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*
- AOB-03. Intrinsic Orbital and Spin Hall Effect in Bismuth Semimetal.** *G. Qu*¹ and *G. Tatara*¹ *1. RIKEN, Wako-shi, Japan*
- AOB-04. Withdrawn**
- AOB-05. Time-Resolved Transitions Between Auto-Oscillation Modes in Nanoconstriction-based Spin Hall Nano-oscillators.** *A.A. Awad*¹, *K. Wagner*², *A. Chaurasiya*¹, *V. Gonzalez*¹, *M. Rajabali*¹, *R. Khymyn*¹, *H. Schultheiss*² and *J. Åkerman*¹ *1. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 2. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden–Rossendorf, Dresden, Germany*
- AOB-06. Emulation of Neuron and Synaptic Functions in Spin-Orbit Torque Domain Wall Devices.** *D. Kumar*¹, *M. Ramu*¹, *H. Rahaman*¹, *H. Chung*², *T. Jin*¹, *S. Lim*², *R. Sbiaa*³ and *S. Piramanayagam*¹ *1. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; 2. Institute of Materials Research and Engineering, Singapore, Singapore; 3. Department of Physics, Sultan Qaboos University, Muscat, Oman*

- AOB-07. The influence of superconductivity with spin-orbit coupling and magnetic interaction in ferromagnet/superconductor heterostructures.** D. Zhao^{1,2}, Z. Zhao^{1,2}, Y. Xu^{1,2} and D. Wei^{1,2} *1. Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 2. Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing, China*
- AOB-08. Fabrication and evaluation of fully sputtered topological insulator/perpendicularly magnetized CoFeB/MgO multilayers for SOT-MRAM application.** R. Zhang¹, T. Shirokura¹, F. Tuo¹ and H.N. Pham¹ *1. Electric and Electronic Engineering, Tokyo Institute of Technology, Oota, Japan*
- AOB-09. Large interfacial Rashba interaction and resultant dominating field-like torque in atomically thin metallic heterostructures.** S. Krishnia¹, N. Sebe¹, Y. Sassi¹, F. Ajejas¹, N. Reyren¹, S. Collin¹, T. Denneulin², A. Kovács², R.E. Dunin-Borkowski², A. Fert¹, J. George¹, H. Jaffrès¹ and V. Cros¹ *1. Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, 91767, Palaiseau, France; 2. Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons (ER-C 1) and Peter Grünberg Institut (PGI-5), Forschungszentrum Jülich GmbH, 52425, Jülich, Germany*
- AOB-10. Evidence of orbital-torque in two-dimensional GeSe-based heterostructure.** R. Mudgal³, S. Dewan², s. Das¹ and P.K. Muduli³ *1. Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi, New Delhi, India; 2. Indian Institute of Technology Delhi, New Delhi, India; 3. Department of Physics, Indian Institute of Technology Delhi, New Delhi, India*
- AOB-11. Efficient generation of spin currents by the orbital Hall effect in Cu and Al.** A. Rothschild¹, N. Am-Shalom¹, N. Bernstein¹, B.J. Assouline¹, J. Xiao², B. Yan² and A. Capua¹ *1. Applied Physics, The Hebrew University of Jerusalem, Jerusalem, Israel; 2. Weizmann Institute of Science, Rehovot, Israel*
- AOB-12. Field-free spin-orbit torque switching in perpendicularly magnetized synthetic antiferromagnets.** J. Wei¹, C. Wan¹, X. Han¹ and G. Yu¹ *1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, Beijing, China*

Session AOC SPIN ORBITRONICS II

Emilie Jué, Chair

National Institute of Standards and Technology, Boulder,
CO, United States

- AOC-01. Growth, optimization, and electrical manipulation of rare-earth iron garnets for spintronic applications.** *(Invited) C.O. Avci¹ 1. Institute of Materials Science of Barcelona (ICMAB-CSIC), Barcelona, Spain*
- AOC-02. Generalized angle resolved second harmonic method for precise evaluation of spin orbit torque in strong perpendicular magnetic anisotropy system.** *T. Shirokura¹ and H.N. Pham¹ 1. Tokyo Institute of Technology, Meguro, Japan*
- AOC-03. Field-free switching enabled by interplay of spin-orbit torque and interlayer Dzyaloshinskii–Moriya interaction.** *W. He^{1,2}, C. Wan¹ and X. Han¹ 1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Beijing, China; 2. Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing, China*
- AOC-04. Enhancement of Damping-Like Spin-Orbit-Torque Efficiency in Synthetic Antiferromagnetic System Using Pt-Cu Alloy.** *Y. Saito¹, S. Ikeda^{1,2}, H. Inoue¹ and T. Endoh^{1,3} 1. Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan; 2. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan; 3. Department of Electrical Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan*
- AOC-05. Withdrawn**
- AOC-06. Emergence of considerable thermoelectric effect due to the addition of an underlayer in Pt/Co/Pt stack and its application in detecting field free magnetization switching.** *R. Posti¹ 1. Physics, Indian Institute of Technology, Rupnagar, India*
- AOC-07. Emergent inductance in ferromagnetic nanostructures.** *J. Ieda¹ 1. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*

- AOC-08. Magnetic anisotropy and Dzyaloshinskii-Moriya interaction in Ru/Co/W/Ru films studied by XMCD and first principal calculations.** *A. Ognev*¹, A.S. Samardak¹, A. Kolesnikov¹, M. Steblyi¹, V.Y. Samardak¹, I. Iliushin¹, A. Pervishko², D. Yudin², M. Platonov^{3,4}, T. Ono⁶, F. Wilhelm⁵ and A. Rogalev⁵ *1. Institute of High Technologies and Advanced Material, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Skolkovo Institute of Science and Technology, Moscow, Russian Federation; 3. Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 4. Synchrotron Radiation Facility SKIF, Kol'tsovo, Russian Federation; 5. ESRF-The European Synchrotron, Grenoble, France; 6. Kyoto University, Kyoto, Japan*
- AOC-09. Engineering of Pt/Co/Pt Interfacial Dzyaloshinskii-Moriya Interaction by Gd Dusting.** *F. Dörr*¹, C. Deger², M. Erkovan^{3,4}, S. Cardoso^{3,4}, P. Fumagalli¹ and Y. Shokr^{1,5} *1. Institut für Experimentalphysik, Freie Universität Berlin, Berlin, Germany; 2. Department of Physics, Marmara University, Istanbul, Turkey; 3. Instituto de Engenharia de Sistemas E Computadores - Microsystemas e Nanotecnologias, Lisbon, Portugal; 4. Instituto Superior Tecnico, Lisbon, Portugal; 5. Department of Physics, Helwan University, Cairo, Egypt*
- AOC-10. Spin-Charge Interconversion at an Oxidized Cu/W Interface.** *I. Groen*^{1,2}, V. Pham³, S. Ilic⁴, W. Choi¹, A. Chuvilin^{1,5}, E. Sagasta¹, D. Vaz¹, I. Arango¹, N. Ontoso¹, F. Bergeret^{4,6}, L. Hueso^{1,5}, I. Tokatly^{6,5} and F. Casanova^{1,5} *1. CIC nanoGUNE BRTA, San Sebastian, Spain; 2. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan; 3. CNRS, Instituut Neel, Université Grenoble Alpes, Grenoble, France; 4. Centro Mixto CSIC-UPV/EHU, Centro de Fisica de Materiales (CFM-MPC), San Sebastian, Spain; 5. Ikerbasque, Basque Foundation for Science, San Sebastian, Spain; 6. Donostia International Physics Center (DIPC), San Sebastian, Spain*
- AOC-11. Field-free spin orbit torque switching of synthetic antiferromagnet through interlayer Dzyaloshinskii-Moriya interaction.** *Z. Wang*^{1,2}, X. Zhang^{1,3}, F. García Sánchez⁴, A. Fert⁵, B. Koopmans² and W. Zhao¹ *1. Beihang University, Beijing, China; 2. Eindhoven University of Technology, Eindhoven, Netherlands; 3. Truth Instrument Cooperation, Qingdao, China; 4. Universidad de Salamanca, Salamanca, Spain; 5. University of Paris-Saclay, Palaiseau, France*

Session APA
MAGNETORESISTANCE IN HETEROSTRUCTURES II
(Poster Session)

Subhankar Bedanta, Chair
 NISER, Bhubaneswar, Jatani, India

- APA-01. Observation of Magnetoresistance Caused by Orbital Angular Momentum Accumulation.** Z. Zhu¹, X. Xu¹, C. Li¹, C. Dou¹, M. Li¹, K. Meng¹, Y. Wu¹, J. Chen¹ and Y. Jiang²
1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. Institute of Quantum Materials and Devices, School of Electronic and Information Engineering; State Key Laboratory of Separation Membrane and Membrane Processes, Tiangong University, Tianjin, China
- APA-02. Minority-Spin Dominated Band Structure of Fe₄N Thin Films Unveiled by Spin- and Angle- Resolved Photoelectron Spectroscopy.** K. Nakanishi¹, K. Ohwada¹, K. Kuroda¹, K. Sumida³, K. Miyamoto¹, T. Okuda¹, H. Sato¹, S. Isogami², K. Masuda², Y. Sakuraba² and A. Kimura¹
1. Hiroshima University, Higashi-Hiroshima, Japan; 2. National Institute for Materials Science (NIMS), Ibaraki, Japan; 3. Japan Atomic Energy Agency, Hyogo, Japan
- APA-03. Crystal Direction Dependences of Anisotropic Magnetoresistance Effects in Co₂MnGa and Co₂MnAl Heusler Alloy Epitaxial Thin Films.** T. Sato¹, S. Kokado², M. Tsujikawa³, H. Shinya^{3,4}, T. Ogawa³, S. Kosaka¹, A. Miura¹, M. Shirai³ and M. Tsunoda³ *1. Toyota Central R&D Labs., Inc., Nagakute, Japan; 2. Shizuoka University, Hamamatsu, Japan; 3. Tohoku University, Sendai, Japan; 4. Osaka University, Toyonaka, Japan*
- APA-04. Large Tunnel Magnetocapacitance Effect in FeCo/MgAlO/FeCo(001) Magnetic Tunnel Junctions.** Y. Shibata¹, K. Sato¹, H. Sukegawa² and H. Kaiju^{1,3} *1. Faculty of Science and Technology, Keio University, Yokohama, Japan; 2. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. Center for Spintronics Research Network, Keio University, Yokohama, Japan*

- APA-05. Room-Temperature Magnetoresistance in Nanojunctions Consisting of C8-BTBT Molecules Sandwiched Between Two Magnetic Thin-Film Edges.** *M. Matsuzaka*¹, *Y. Sasaki*², *K. Hayashi*¹, *T. Misawa*², *T. Komine*³, *T. Akutagawa*⁴, *M. Fujioka*², *J. Nishii*² and *H. Kaiju*^{1,5} *1. Faculty of Science and Technology, Keio University, Yokohama, Japan; 2. Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan; 3. Graduate School of Science and Engineering, Ibaraki University, Hitachi, Japan; 4. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 5. Center for Spintronics Research Network, Keio University, Yokohama, Japan*
- APA-06. Magnetic tunnel junctions utilizing perpendicularly magnetized MnGa ultrathin films grown on sapphire substrate.** *N. Kamata*^{1,2}, *S. Mizukami*^{2,3} and *K. Suzuki*^{4,2} *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Center for Science and Innovation in Spintronics (CSIS), Tohoku University, Sendai, Japan; 4. Advanced Science Research Center, Japan Atomic Energy Agency, Naka, Japan*
- APA-07. Prediction of High Tunnel Magnetoresistance Ratios in (111)-Oriented Junctions with a SrTiO₃ Barrier.** *K. Masuda*¹, *H. Itoh*², *Y. Sonobe*³, *H. Sukegawa*¹, *S. Mitani*¹ and *Y. Miura*¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Kansai University, Suita, Japan; 3. Waseda University, Shinjuku, Japan*
- APA-08. Optimisation of perpendicular magnetic tunnel junction structures using scanning transmission electron microscopy.** *M. Smith*³, *C. Bull*³, *M.C. Spink*¹, *P. Nutter*³, *C.S. Allen*^{1,2}, *D. Hopkinson*¹ and *T. Thomson*³ *1. Electron Physical Science Imaging Centre (ePSIC), Diamond Light Source Ltd, Didcot, United Kingdom; 2. Department of Materials, University of Oxford, Oxford, United Kingdom; 3. Nano Engineering and Spintronic Technologies (NEST) group, Department of Computer Science, University of Manchester, Manchester, United Kingdom*
- APA-09. Extraordinary magnetoresistance in a 2-terminal structure.** *J. Létang*¹, *S. Lumetti*¹, *P. Malagò*¹, *S.D. Costea*², *W. Heuer*³, *J. Kosel*¹ and *M. Ortner*¹ *1. Silicon Austria Labs GmbH, Villach, Austria; 2. Eaton European Innovation Center, Rostoky u Prahy, Czechia; 3. Eaton Industries GmbH, Vienna, Austria*
- APA-10. Sawtooth-like giant oscillation of tunnel magnetoresistance in epitaxial Fe/Mg₄Al-O_x/Fe(001) magnetic tunnel junctions.** *T. Scheike*¹, *Z. Wen*¹, *S. Kasai*¹, *H. Sukegawa*¹ and *S. Mitani*¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan*

- APA-11. Integrating magnetic tunnel junctions with femtosecond laser pulses.** *L. Wang*¹, *W. Zhao*², *X.L. Lin*², *M. Heck*¹ and *B. Koopmans*¹ *1. Eindhoven Hendrik Casimir Institute, Eindhoven University of Technology, Eindhoven, Netherlands; 2. Fert Beijing Institute, MIIT Key Laboratory of Spintronics, Beihang University, Beijing, China*

POSTER SESSION

Session APB SPIN-ORBITRONICS III (Poster Session)

Guoqiang Yu, Chair
Chinese Academy of Sciences, Beijing, China

- APB-01. Enhancement and Sign Reversal of the Spin Orbit Torque in Co/Pt Bilayers via Natural Oxidization of Co.** *B. Wang*¹, *Y. Guo*¹ and *J. Cao*¹ *1. School of Physical Science and Technology, Lanzhou University, Lanzhou, China*
- APB-02. Gradient Dzyaloshinskii-Moriya interaction induced in Pt/Co films by Pt-Co alloy intralayers.** *A.S. Samardak*⁵, *J. Park*^{1,2}, *T. Kim*¹, *G. Kim*¹, *V. Bessonov*³, *A. Telegin*³, *I. Iliushin*⁵, *A. Pervishko*⁴, *D. Yudin*⁴, *A. Samardak*⁵, *A. Ognev*⁵, *J. Cho*⁶ and *Y. Kim*¹ *1. Department of Materials Science and Engineering, Korea University, Seoul, The Republic of Korea; 2. Semiconductor R&D Center, Samsung Electronics Co. Ltd., Hwaseong, The Republic of Korea; 3. M. N. Mikheev Institute of Metal Physics, Ural Branch of Russian Academy of Science, Yekaterinburg, Russian Federation; 4. Skolkovo Institute of Science and Technology, Moscow, Russian Federation; 5. Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation; 6. Western Seoul Center, Korea Basic Science Institute, Seoul, The Republic of Korea*
- APB-03. Dzyaloshinskii-Moriya interaction effect on self spin-orbit torque in rare earth-transition metal alloy.** *P. Lee*¹, *C. Lai*¹ and *S. Mangin*² *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Physics, Institut Jean Lamour, Nancy, France*
- APB-04. Magneto-transport properties and magnetization switching in perpendicular magnetized Mn-rich Heusler alloy Mn_{2.5}CoAl.** *H. Qin*^{1,3}, *X. Zhao*², *R. Han*^{1,3}, *H. Sun*^{1,3} and *J. Zhao*^{1,3} *1. Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 2. Dongguan University of Technology, Dongguan, China; 3. University of Chinese Academy of Sciences, Beijing, China*

- APB-05. Modulation of perpendicular magnetic anisotropy and spin-orbit torque switching behavior in $D0_{22}$ - Mn_3Ga based heterostructures by interface engineering.** *H. Sun*^{1,2}, *X. Zhao*^{1,3}, *S. Tong*^{1,2}, *R. Han*^{1,2}, *H. Qin*^{1,2} and *J. Zhao*^{1,2}
1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 2. Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing, China; 3. International School of Microelectronics, Dongguan University of Technology, Dongguan, China
- APB-06. Evidence of orbital current and orbital torques in transition metals using oxidized Cu light element.** *B. Bony*¹, *S. Krishnia*¹, *S. Collin*¹, *J. George*¹, *N. Reyren*¹, *V. Cros*¹ and *H. Jaffrès*¹ *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France*
- APB-07. Spin-orbit torques of three spin polarizations in magnetic trilayers.** *J. Ryu*¹, *R. Thompson*³, *J. Park*¹, *S. Kim*^{1,2}, *G. Choi*¹, *J. Kang*¹, *H. Jeong*¹, *M. Kohda*^{3,4}, *J. Yuk*¹, *J. Nitta*^{3,4}, *K. Lee*² and *B. Park*¹ *1. Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 3. Department of Materials Science, Tohoku University, Sendai, Japan; 4. Spintronics Research Network, Tohoku University, Sendai, Japan*
- APB-08. Femtosecond time-resolved ARPES study of the carrier relaxation in Bi doped graphene.** *Q. Liu*¹, *X. Lu*¹, *Y. Liu*², *Z. Li*¹, *P. Yan*¹, *W. Chen*¹, *Q. Meng*¹, *Y. Zhang*¹, *C. Yam*³, *L. He*¹, *Y. Yan*¹, *Y. Zhang*¹, *J. Wu*⁴, *T. Frauenheim*², *R. Zhang*¹ and *Y. Xu*¹ *1. Nanjing University, NanJing, China; 2. University of Bremen, Bremen, Germany; 3. University of Electronic Science and Technology of China, Shenzhen, China; 4. University of York, York, United Kingdom*
- APB-09. Magnetic Switching Properties for Synthetic Antiferromagnetic Layers with Perpendicular Easy Magnetic Anisotropy.** *N. Tezuka*¹, *S. Fujikawa*¹, *H. Akatani*¹, *M. Matsuura*¹, *S. Sugimoto*¹ and *Y. Saito*¹ *1. Tohoku University, Sendai, Japan*

APB-10. Magneto-optical detection of orbital Hall effect. K. Ko¹, Y. Choi¹, D. Jo², D. Go^{3,4}, K. Kim², H. Park⁵, C. Kim^{6,7}, G. Choi^{1,8} and H. Lee^{2,9} *1. Department of Energy Science, Sungkyunkwan University, Suwon, The Republic of Korea; 2. Department of Physics, Pohang University of Science and Technology, Pohang, The Republic of Korea; 3. Peter Grunberg Institut and Institute for Advanced Simulation, Forschungszentrum Julich and JARA, Julich, Germany; 4. Graduate School of Excellence Materials Science in Mainz, Mainz, Germany; 5. Center for Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 6. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 7. Center for Correlated Electron Systems, Institute for Basic Science, Seoul, The Republic of Korea; 8. Center for Integrated Nanostructure Physics, Institute for Basic Science, Suwon, The Republic of Korea; 9. Asia Pacific Center for Theoretical Physics, Pohang, The Republic of Korea*

APB-11. Withdrawn

APB-12. Chiral interlayer exchange coupling for asymmetric domain wall propagation in field-free magnetization switching. J. Zhou¹, L. Huang¹, H. Chung¹, J. Huang², T. Suraj², D.J. Lin², J. Qiu¹, S. Chen¹, S.L. Yap¹, Y. Toh¹, S. Ng¹, H. Tan¹, A. Soumyanarayanan^{1,2} and S. Lim¹ *1. Institute of Materials Research and Engineering, A*STAR, Singapore, Singapore; 2. Physics, National University of Singapore, Singapore*

APB-13. Withdrawn

APB-14. Domain-Wall Tilting Angle Dependence on Current Pulse Width. M. Kim¹, L. Seong-Hyub¹, M. Kim¹ and S. Choe¹ *1. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea*

POSTER SESSION

Session APC SPIN ORBITRONICS IV (Poster Session)

Weigang Wang, Chair
University of Arizona, Tucson, AZ, United States

APC-01. Effect of non-uniform current density application in a heavy metal/ferrimagnet structure. M. Bazrov¹, M. Stebliy¹, Z. Namsaraev¹, M. Letushev¹, A. Kozlov¹, V. Antonov¹, E. Stebliy¹, A. Davydenko¹, A. Ognev¹, Y. Shiota², A. Samardak¹ and T. Ono^{1,2} *1. Laboratory of Spin-Orbitronics, Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Institute for Chemical Research, Kyoto, Japan*

- APC-02. Orbital chiral exchange interaction.** *R. Chen*¹, *D. Go*², *Y. Mokrousov*² and *W. Zhao*¹ *1. Beihang University, Beijing, China; 2. Forschungszentrum Julich, Jülich, Germany*
- APC-03. Implementation of Nonlocal Exchange Potential and Spin-orbit Coupling in First-principles Magnetic Property Calculation.** *T. Huang*¹ and *Y. Tang*¹ *1. National Central University, Taoyuan, Taiwan*
- APC-04. RKKY Coupling Effect on Coercivity of L10 FePt Thin-Film.** *E. Lim*¹, *D. Jeong*¹, *W. Choi*¹, *S. Lee*¹ and *S. Kim*¹ *1. Physics, University of Ulsan, Ulsan, The Republic of Korea*
- APC-05. Detection of noncollinear ordering in CoTb ferrimagnetic alloy under an action of spin orbit torque.** *Z. Namsaraev*¹, *M. Bazrov*¹, *M. Letushev*¹, *V. Antonov*¹, *A. Ognev*¹, *A.S. Samardak*¹ and *M. Steblyi*¹ *1. Laboratory of Spin-Orbitronics, Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation*
- APC-06. Withdrawn**
- APC-07. Type-Y magnetic tunnel junctions with CoFeB doped tungsten as spin current source.** *M. Zhao*¹, *R. Zhang*¹, *C. Wan*¹, *X. Luo*¹ and *X. Han*¹ *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China*
- APC-08. Spin-orbit torque induced magnetization switching in perpendicularly magnetized MnGa/Fe bilayer grown on GaAs.** *M. Ogawa*¹, *T. Hara*¹, *S. Hasebe*¹, *M. Yamanouchi*¹ and *T. Uemura*¹ *1. Grad. School of Information Science and Technology, Hokkaido University, Sapporo, Japan*
- APC-09. Microscopic Calculation of Dzyaloshinskii-Moriya Interaction in a Rashba Ferromagnet.** *Y. Hayakawa*¹, *Y. Imai*¹ and *H. Kohno*¹ *1. Nagoya University, Nagoya, Japan*
- APC-10. Spin Orbit Torques Magnetization Switching In Tb/Gd/FeCo Multilayer.** *Y. Fujita*¹, *D. Oshima*¹, *S. Takahashi*³, *Y. Hirayama*³ and *T. Kato*^{1,2} *1. Department of Electronics, Nagoya University, Nagoya, Japan; 2. Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, Japan; 3. Samsung Device Solutions R&D Japan, Samsung Japan Corporation, Yokohama, Japan*

- APC-11. Improvement of Spin-Orbit Torque Efficiency for High Speed Operation of Tb/Co-Based Skyrmions.**
K. Tokunaga¹, Y. Kurokawa¹, L. Zhang¹, R. Satone¹ and H. Yuasa¹ 1. Kyushu University, Fukuoka, Japan
- APC-12. Non-Volatile Electric-Field Control of Spin-Orbit Torques in Perpendicular Ferromagnet – SrTiO₃ System.**
A. Kandazoglou¹, T. Frottier¹, C. Grezes¹, M. Cosset-Cheneau¹, L. Vicente Arche², P. Sgarro¹, P. Noël^{1,3}, S. Teresi¹, M. Culot¹, L. Hutin¹, G. Prenat¹, S. Auffret¹, K. Garello¹, M. Bibes², L. Vila¹ and J. Attané¹ 1. Université Grenoble Alpes / CEA / IRIG/ SPINTEC, Grenoble, France; 2. Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, Palaiseau, France; 3. Department of Materials, ETH Zurich, Zurich, Switzerland
- APC-13. Separation of rare earth- and transition metal-contributions to the interfacial Dzyaloshinskii-Moriya interaction in ferrimagnetic Co-Gd alloys.** *Z. Zhao¹, S. Dan², T. Lin², Z. Xie¹, D. Zhao¹, J. Zhao¹, N. Lei² and D. Wei¹ 1. Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 2. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China*

ORAL SESSIONS

Session BOA

CHIRALITY DRIVEN PHENOMENA IN NON-COLINEAR ANTIFERROMAGNETS

YoshiChika Otani, Chair

Tokyo Daigaku, Kashiwa, Japan

- BOA-01. Chirality-Driven Spintronic Device: Non-Collinear Antiferromagnet and Spin Selectivity. (Invited)** *S. Miwa¹ 1. The Institute for Solid State Physics (ISSP), The University of Tokyo, Kashiwa, Japan*
- BOA-02. Current-Induced Field-Free Switching in Magnetic Multilayers with Interlayer Chiral Exchange.** *Y. Huang¹, Y. Li¹, C. Huang¹, Y. Liu¹, W. Liao¹, T. Chen¹ and C. Pai¹ 1. Department of Material Science and Engineering, National Taiwan University, Taipei, Taiwan*
- BOA-03. Unconventional octupole dynamics of a non-collinear antiferromagnet driven by spin-orbit torque. (Invited)** *J. Yoon^{1,2}, P. Zhang², C. Chou², Y. Takeuchi¹, T. Uchimura¹, J. Hou², J. Han¹, S. Kanai¹, H. Ohno¹, S. Fukami¹ and L. Liu² 1. Tohoku University, Sendai, Japan; 2. Massachusetts Institute of Technology, Cambridge, MA, United States*

- BOA-04. Electrical manipulation of fast magnetic octupole domain-wall motion in noncollinear antiferromagnets.** *M. Wu*^{1,2}, T. Chen³, T. Nomoto¹, H. Isshiki¹, Y. Nakatani⁴, T. Tomita¹, K. Kondou², R. Arita^{1,2}, S. Nakatsuji¹ and Y. Otani^{1,2} *1. The University of Tokyo, Tokyo, Japan; 2. RIKEN, Wako, Japan; 3. Southeast University, Nanjing, China; 4. University of Electro-Communications, Tokyo, Japan*
- BOA-05. Magnetization Switching in Single Layer Non-Collinear Antiferromagnet Mn_3Sn .** *H. Xie*¹, X. Chen¹, Q. Zhang^{1,2}, Z. Mu³, X. Zhang², B. Yan⁴ and Y. Wu¹ *1. Electrical and Computer Engineering, National University of Singapore, Singapore; 2. Department of Electrical and Electronic Engineering, Southern University of Science and Technology, Shenzhen, China; 3. State Key Laboratory of Functional Materials for Informatics, Chinese Academy of Sciences, Shanghai, China; 4. Department of Condensed Matter Physics, Weizmann Institute of Science, Rehovot, Israel*
- BOA-06. Tunneling Magnetoresistance in Noncollinear Antiferromagnetic Tunnel Junctions.** *J. Dong*¹, M. Zhu¹, E.Y. Tsymbal² and J. Zhang¹ *1. Physics, Hua Zhong University of Science and Technology, Wuhan, China; 2. Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, United States*
- BOA-07. Crystal Orientation Control of the Weyl Antiferromagnet Mn_3Sn in its Film Capped with a Tantalum Layer.** *T. Matsuo*¹, T. Higo^{1,4}, H. Tsai^{1,4}, D. Nishio-Hamane², K. Kondou^{3,4}, S. Miwa^{2,4}, Y. Otani^{2,3} and S. Nakatsuji^{1,2} *1. Department of Physics, The University of Tokyo, Bunkyo-ku, Japan; 2. ISSP, The University of Tokyo, Kashiwa, Japan; 3. RIKEN, Wako, Japan; 4. CREST, Saitama, Japan*
- BOA-08. Anomalous Hall effect induced by spin fluctuations in a triangular lattice antiferromagnet.** *M. Watanabe*¹, R. Asama¹, M. Tokuda¹, S. Suzuki¹, N. Jiang¹, H.K. Yoshida² and Y. Niimi¹ *1. Department of Physics, Osaka University, Toyonaka, Japan; 2. Department of Physics, Hokkaido University, Sapporo, Japan*
- BOA-09. Anisotropic spontaneous anomalous Hall effect in altermagnetic Mn_5Si_3 epitaxial films.** *M. Leiviskä*¹, R. Lopes Seeger¹, I. Kounta², H. Reichlova^{3,5}, L. Smejkal⁶, S. Beckert³, J. Rial¹, A. Badura⁴, D. Kriegner^{3,5}, I. Joumard¹, E. Schmoranzarová⁴, J. Sinova⁶, T. Jungwirth⁵, S. Goennenwein⁷, L. Michez², O. Gomonay⁶ and V. Baltz¹ *1. CEA-SPINTEC, Grenoble, France; 2. Aix-Marseille University, CNRS, CINaM, Marseille, France; 3. Institute of Solid State and Materials Physics, TU Dresden, Dresden, Germany; 4. Department of Chemical Physics and Optics, Charles University, Prague, Czechia; 5. Institute of Physics, Czech Academy of Sciences, Prague, Czechia; 6. Institute for Physics, Johannes Gutenberg University Mainz, Mainz, Germany; 7. Department of Physics, University of Konstanz, Konstanz, Germany*

- BOA-10. Spin Hall angle of L1₂-ordered antiferromagnetic Mn₃Ir evaluated by terahertz emission spectroscopy.** *H. Mao*¹, *Y. Sasaki*², *Y. Kobayashi*^{3,4}, *S. Isogami*², *T. Ono*^{3,4}, *T. Moriyama*^{3,4}, *Y. Takahashi*² and *K. Yamada*¹ *1. Physics, Tokyo Institute of Technology, Tokyo, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Institute for Chemical Research, Kyoto University, Uji, Japan; 4. Center for Spintronics Research Network, Kyoto University, Uji, Jamaica*
- BOA-11. Large anomalous Hall conductivity in compensated ferrimagnetic RFe₃ (R = Er, Dy, Tb) kagome magnets.** *J. Liang*^{1,2}, *X. Xi*¹, *W. Wang*³ and *Y. Lau*^{1,2} *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. University of Chinese Academy of Sciences, Beijing, China; 3. School of Electronic and Information Engineering, Tiangong University, Tianjin, China*
- BOA-12. Mn_{4-x}Ga_xN Thin Films for Ferrimagnetic Spintronics.** *L. Prendeville*¹, *Y. He*¹, *P. Jimenez Caverio*¹, *S. Lenne*¹, *J. Coey*¹ and *K. Rode*¹ *1. Trinity College Dublin, Dublin, Ireland*

ORAL SESSIONS

Session BOB MAGNONICS, INSULATRONICS, AND HEULSER ALLOYS

Martin Jourdan, Chair
Johannes Gutenberg University Mainz, Mainz, Germany

- BOB-01. Femtosecond coherent magnonic manipulation of antiferromagnetism. (Invited)** *D. Bossini*¹ *1. University of Konstanz, Konstanz, Germany*
- BOB-02. Quantum dynamics and transport of spins in magnets. (Invited)** *E. Saitoh*¹, *T. Kikkawa*¹, *T. Hioki*², *H. Shimizu*¹, *Y. Shiomi*³, *D. Hirobe*⁴ and *J. Lustikova*² *1. Department of Applied Physics, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan; 2. Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Department of Basic Science, Graduate School of Arts and Sciences, The University of Tokyo, Tokyo, Japan; 4. Department of Physics, Shizuoka University, Shizuoka, Japan*

- BOB-03. Anisotropic long-distance magnon spin transport in the antiferromagnetic insulator YFeO₃.** *E. Galindez Ruales*¹, S. Das¹, A. Ross¹, X. Ma², S. Becker¹, C. Schmitt¹, S. Filnov¹, F. van Duijn^{3,4}, F. Fuhrmann¹, M. Syskaki¹, U. Ebels³, V. Baltz³, A. Barra⁴, H. Chen², G. Jakob¹, S. Cao², J. Sinova¹, O. Gomonay¹, R. Lebrun⁵ and M. Kläui^{1,6} *1. Institut für Physik, Johannes Gutenberg University, Mainz, Germany; 2. Department of Physics, Materials Genome Institute, International Center for Quantum and Molecular Structures, Shanghai University, Shanghai, China; 3. Univ. Grenoble Alpes, CNRS, CEA, Grenoble INP, SPINTEC, CNRS, University of Paris-Sud, Grenoble, France; 4. Laboratoire National des Champs Magnetiques Intenses, CNRS-UGA-UPS-INS-EMFL, Grenoble, France; 5. Unite Mixte de Physique CNRS, Thales, Universite Paris-Saclay, Palaiseau, France; 6. Center for Quantum Spintronics, Norwegian University of Science and Technology, Trondheim, Norway*
- BOB-04. Spin Current Transmission in (111) and (001) Crystal Oriented NiO Films Probed by Thermo-spin Effects.** *T. Yamazaki*¹, T. Seki¹ and K. Takanashi^{1,2} *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*
- BOB-05. Spin structures in antiferromagnetic NiO/Pt bilayers.** *H. Meer*¹, *C. Schmitt*¹, *L. Sanchez-Tejerina*², *O. Gomonay*¹, *S. Wust*³, *R. Ramos*⁴, *P. Herrgen*³, *F. Schreiber*¹, *F. Fuhrmann*¹, *A. Ross*¹, *B. Bednarz*¹, *A. Rajan*¹, *S. Ding*¹, *M. Filianina*¹, *F. Maccherozzi*⁷, *D. Backes*⁷, *M. Foerster*⁸, *M. Angel*⁸, *F. Kronast*⁹, *S. Valencia*⁹, *M. Mohamad-Assaad*⁹, *A. Kleibert*¹⁰, *J. Sinova*¹, *M. Aeschlimann*³, *G. Finocchio*⁶, *E. Saitoh*⁵, *L. Baldrati*¹ and *M. Kläui*¹ *1. Johannes Gutenberg University, Mainz, Germany; 2. Universidad de Salamanca, Salamanca, Spain; 3. TU Kaiserslautern, Kaiserslautern, Germany; 4. Universidade de Santiago de Compostela, Santiago de Compostela, Spain; 5. The University of Tokyo, Tokyo, Japan; 6. University of Messina, Messina, Italy; 7. Diamond Light Source Ltd, Didcot, United Kingdom; 8. ALBA Synchrotron Light Facility, Barcelona, Spain; 9. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany; 10. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland*
- BOB-06. Withdrawn**
- BOB-07. Sign Change of Spin-Orbit Torque in Pt/NiO/CoFeB Structures.** *Z. Dapeng*¹ and *W. Zhao*¹ *1. Beihang University, Beijing, China*
- BOB-08. Electric field control of interfacial antiferromagnetic moment in Pt/Cr₂O₃/Pt epitaxial trilayer.** *K. Ujimoto*¹, *H. Sameshima*², *H. Sakurai*¹, *K. Toyoki*¹, *R. Nakatani*¹ and *Y. Shiratsuchi*¹ *1. Osaka University, Suita, Japan; 2. Osaka University, Suita, Japan*

- BOB-09. Finite size effect and dimensional crossover in antiferromagnetic epitaxial Cr_2O_3 thin films.** H. Sameshima¹, K. Ujjimoto¹, R. Tsutsumi¹, K. Toyoki^{1,2}, R. Nakatani^{1,2} and Y. Shiratsuchi^{1,2} 1. Graduate School of Engineering, Osaka University, Suita, Japan; 2. Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Suita, Japan
- BOB-10. Withdrawn**
- BOB-11. Spin Transport, Unidirectional Bias and the Effect of Molecular Interfaces in a Metallic Antiferromagnet.** H. Vasili¹, S. Alotibi¹, M. Valvidares², P. Gargiani², M. Rogers¹, M. Ali¹, T. Moorsom¹, G. Burnell¹, B.J. Hickey¹ and O. Cespedes¹ 1. University of Leeds, Leeds, United Kingdom; 2. ALBA Synchrotron, Barcelona, Spain
- BOB-12. Investigation on magnetic ordering of antiferromagnetic thin films by means of magnetoresistance effect measurement.** S. Iguchi¹, S. Fujiwara¹, K. Toyoki¹, Y. Shiratsuchi¹ and R. Nakatani¹ 1. Osaka University, Suita-shi, Japan
- BOB-13. Tetragonal distortion induced giant perpendicular magnetic anisotropy in half-metallic Heusler alloy Mn_2FeGa .** P.D. Bentley¹, S. Li¹, K. Masuda², Y. Miura^{2,5}, Y. Du¹, T. Mitsui^{1,3}, K. Fujiwara³, Y. Kobayashi⁴, T. Guo⁶, G. Yu^{6,7}, C. Suzuki¹, S. Yamamoto¹, F. Zheng⁸, Y. Sakuraba² and S. Sakai¹ 1. National Institute for Quantum Science and Technology, Takasaki, Japan; 2. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. National Institutes for Quantum Science and Technology, Sayo, Japan; 4. Institute for Integrated Radiation and Nuclear Science, Kyoto University, Kumatori, Japan; 5. Center for Spintronics Research Network, Osaka University, Osaka, Japan; 6. Songshan Lake Materials Laboratory, Dongguan, China; 7. Beijing National Laboratory for Condensed Matter Physics, Beijing, China; 8. School of Physics and Electronic-Electrical Engineering, Ningxia University, Yinchuan, China
- BOB-14. Applicability Of Heusler 4d Alloys As Spin-Polarized Current Generators.** D. Baigutlin¹, V.V. Sokolovskiy¹ and V. Buchelnikov¹ 1. Condensed Matter Physics, Chelyabinsk State University, Chelyabinsk, Russian Federation

Session BOC

SPIN TORQUES IN ANTIFERROMAGNETS

Jeffrey Bokor, Chair

University of California, Berkeley, CA, United States

- BOC-01. Geometric rotation of spin polarization for anisotropic and field-free spin orbit torque switching. (Invited)**
C. Pan¹, Y. Lin¹, Y. Yang², S. Zhou¹ and X. Qiu¹ 1. School of Physics Science and Engineering, Tongji University, Shanghai, China; 2. School of Information Science and Technology, ShanghaiTech University, Shanghai, China
- BOC-02. Spin-Orbit Torque-Induced Field-Free Switching of a Perpendicular Antiferromagnet.** Z. Xu¹, J. Ren¹, Z. Yuan¹, Y. Xin¹, X. Zhang¹ and Z. Zhu^{1,2} 1. ShanghaiTech University, Shanghai, China; 2. Shanghai Engineering Research Center of Energy Efficient and Custom AI IC, Shanghaitech University, Shanghai, China
- BOC-03. Demonstration of PtMn-based Field-Free Switching SOT MRAM.** C. Lin^{1,2}, C. Tseng¹, Y. Yen¹, C. Lai¹, K. Li², J. Shieh², J. Sun², J. Wei³ and D. Tang³ 1. Material Science, National Tsing Hua University, Hsinchu, Taiwan; 2. Taiwan Semiconductor Research Institute, Hsinchu, Taiwan; 3. Electronics and Optoelectronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan
- BOC-04. Acoustically Assisted Field Free Spin Orbit Torque Magnetization Switching of Out of Plane Nano Magnet.** P.K. Mishra¹, M. Sravani¹, S. M.¹ and S. Bhuktare¹
1. Electrical Engineering, Indian Institute of Technology, Tirupati, India
- BOC-05. Current-induced Néel order switching facilitated by magnetic phase transition.** H. Wu¹, H. Zhang³, B. Wang⁴, Y. Guo¹, R. Cheng³ and K. Wang² 1. Songshan Lake Materials Laboratory, Dongguan, China; 2. University of California, Los Angeles, Los Angeles, CA, United States; 3. University of California, Riverside, Riverside, CA, United States; 4. Ningbo University, Ningbo, China
- BOC-06. Electrical switching of insulating antiferromagnet/heavy metal bilayers.** C. Schmitt¹, H. Meer¹, O. Gomonay¹, R. Ramos^{2,3}, A. Rajan¹, F. Schreiber¹, G. Beneke¹, A. Kumar¹, T. Sparmann¹, B. Bednarz¹, M. Foerster⁴, M. Angel⁴, J. Sinova¹, E. Saitoh^{2,5}, L. Baldrati¹ and M. Kläui^{1,6}
1. Johannes Gutenberg University, Mainz, Germany; 2. Tohoku University, Sendai, Japan; 3. Universidad de Santiago, Santiago de Compostela, Spain; 4. ALBA Synchrotron Light Facility, Barcelona, Spain; 5. The University of Tokyo, Tokyo, Japan; 6. Graduate School of Excellence Materials Science in Mainz, Mainz, Germany

- BOC-07. Frequency-selective damping modulation induced by spin-orbit torque in a synthetic antiferromagnet/platinum heterostructure.** *S. Karube¹, T. Hoshika¹, C. Zhang¹, M. Kohda¹ and J. Nitta¹ 1. Tohoku University, Sendai, Japan*
- BOC-08. Effect of an antiferromagnetic order on tailoring Dzyaloshinskii-Moriya interaction in Pt/Co/IrMn trilayer.** *S. Chen¹, C. Yang² and C. Lai¹ 1. National Tsing Hua University, Hsinchu, Taiwan; 2. National Yang Ming Chiao Tung University, Hsinchu, Taiwan*
- BOC-09. Simulation of the Back-Hopping Effect in Spin-Transfer Torque Driven Magnetic Tunnel Junctions Based on a Free-Electron Model.** *P. Flauger^{1,2}, C. Abert¹ and D. Suess^{1,2} 1. Faculty of Physics, University of Vienna, Vienna, Austria; 2. University of Vienna Research Platform MMM Mathematics - Magnetism - Materials, Vienna, Austria*
- BOC-10. Prediction of Tunneling Magnetoresistance and Spin-Transfer Torque Effects in Antiferromagnetic Tunnel Junctions.** *D. Shao¹, S. Zhang², Y. Jiang^{1,3}, J. Ding⁴ and E.Y. Tsymbal⁵ 1. Institute of Solid State Physics, HFIPS, Chinese Academy of Sciences, Hefei, China; 2. Beijing University of Chemical Technology, Beijing, China; 3. University of Science and Technology of China, Hefei, China; 4. Henan University of Engineering, Zhengzhou, China; 5. University of Nebraska, Lincoln, NE, United States*
- BOC-11. Tuning Spin-Orbit Torque Generation Via Seed/Heavy Metal Interface Modification.** *T. Jin¹, G.J. Lim¹, H. Poh¹, S. Wu¹, F. Tan¹ and W. Lew¹ 1. Nanyang Technological University, Singapore, Singapore*
- BOC-12. Two-Terminal Magnetoresistance in Lateral Spin-Valve Devices: Scaling with Contact Resistance.** *A.M. Spiesser¹, R. Jansen¹, H. Saito¹ and S. Yuasa¹ 1. Research Center for Emerging Computing Technologies, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

Session BOD

SWITCHING AND ULTRAFAST SPIN DYNAMICS IN ANTIFERROMAGNETS

Maciej Dabrowski, Chair

University of Exeter, Exeter, United Kingdom

- BOD-01. Ultrafast Spin-Orbit-Torque-Induced Coherent Magnetization Switching with Picosecond Current Pulses. (Invited)** J. Bokor^{1,2}, D. Polley^{1,2}, A. Pattabi¹, A. Rastogi¹, J. Hong¹, K. Jhuria^{2,3}, E. Díaz³, A. Lemaitre⁴, M. Hehn³ and J. Gorchon³ *1. EECS, University of California, Berkeley, Berkeley, CA, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. CNRS, Université de Lorraine, Nancy, France; 4. C2N, CNRS, Université Paris-Sud, Palaiseau, France*
- BOD-02. Manipulating exchange bias with a single femtosecond laser pulse.** Z. Guo^{1,2*}, G. Malinowski², Z. Boyu¹, J. Wang³, W. Zhang^{1,2}, H. Wang^{1,2}, Y. Peng², P. Vallobra¹, S. Mangin², W. Zhao¹ and M. Hehn² *1. Beihang University, Beijing, China; 2. Université de Lorraine, Nancy, France; 3. Guangdong University of Technology, Guangzhou, China*
- BOD-03. Writing information by current pulses in antiferromagnetic Mn₂Au.** M. Jourdan¹, S. Reimers¹, Y. Lytvynenko^{1,2}, Y. Niu³, E. Golias³, B. Sarpi⁴, L. Veiga⁴, T. Denneulin⁵, A. Kovács⁵, R.E. Dunin-Borkowski⁵, J. Bläber¹ and M. Kläui¹ *1. Institute of Physics, Johannes Gutenberg University Mainz, Mainz, Germany; 2. Institute of Magnetism, NAS and MES of Ukraine, Kyiv, Ukraine; 3. MAX IV Laboratory, Lund, Sweden; 4. Diamond Light Source Ltd, Didcot, United Kingdom; 5. Forschungszentrum Julich, Julich, Germany*
- BOD-04. Switching of magnetization in synthetic antiferromagnet probed by time-resolved magneto-optical Kerr effect.** M. Ma¹, Z. Li¹, X. Ruan¹, J. Wu², R. Wang¹, J. Du³, X. Lu¹ and Y. Xu^{1,2} *1. School of Electronic Science and Engineering, Nanjing University, Nanjing, China; 2. Department of Electronic and Physics, The University of York, York, United Kingdom; 3. Department of Physics, Nanjing University, Nanjing, China*
- BOD-05. Ultrafast Magnetism of Antiferromagnets. (Invited)** A. Kimmel¹ *1. Radboud University, Nijmegen, Netherlands*
- BOD-06. Revisiting a hidden order at an ferromagnet/antiferromagnet interface and its switching dynamics.** C. Yang¹, S. Chen² and C. Lai² *1. National Chiao Tung University, Hsinchu, Taiwan; 2. National Tsing Hua University, Hsinchu, Taiwan*

- BOD-07. Atomistic simulations of ultrafast, optically induced switching dynamics in antiferromagnets.** *T. Dannegger*¹, M. Berritta², K. Carva³, P. Oppeneer² and U. Nowak¹
1. University of Konstanz, Konstanz, Germany; 2. Uppsala University, Uppsala, Sweden; 3. Charles University in Prague, Prague, Czechia
- BOD-08. Antiferromagnetic Droplet Soliton in a Nano-Contact Spin-Transfer Torque Oscillator.** *R. Khymyn*¹, R. Ovcharov¹, B. Ivanov^{2,3} and J. Åkerman¹
1. University of Gothenburg, Gothenburg, Sweden; 2. Institute of Magnetism of NASU and MESU, Kyiv, Ukraine; 3. Radboud University, Nijmegen, Netherlands
- BOD-09. Exchange-spring-magnet-based spin-torque nano-oscillators.** *S. Jiang*^{1,2}, S. Chung³, Q.T. Le² and J. Åkerman^{2,4}
1. South China University of Technology, Guangzhou, China; 2. University of Gothenburg, Gothenburg, Sweden; 3. Korea National University of Education, Cheongju, The Democratic People's Republic of Korea; 4. KTH Royal Institute of Technology, Stockholm, Sweden
- BOD-10. Microscopic theory of spin-transfer torques in antiferromagnets.** *J.J. Nakane*¹ and H. Kohno¹
1. Nagoya University, Nagoya, Japan

POSTER SESSION

Session BPA ANTIFERROMAGNETIC SPINTRONICS (Poster Session)

Xuepeng Qiu, Co-Chair
Tongji University, Shanghai, China

Shinji Miwa, Co-Chair
The University of Tokyo, Kashiwa, Japan

- BPA-01. Ultrafast spin dynamics of non-collinear antiferromagnet Mn₃Sn driven by an optical spin-orbit torque.** *W. Lee*¹, B. Park¹, K. Lee¹ and G. Choi²
1. Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Sungkyunkwan University, Suwon, The Republic of Korea
- BPA-02. Electrical Switching and Optical Detection of Néel Vectors in Antiferromagnets NiPS₃.** *Y. Chang*¹, M. Chen¹, T. Wu¹, D. Kim², R. Sankar¹, X. Li², K. Lin¹ and S. Lee¹
1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics and Center for Complex Quantum Systems, University of Texas at Austin, Austin, TX, United States

- BPA-03. Role of Field-Like Torque in Magnetization Switching of CoTb alloys.** *H. Wang*^{1,2}, *P. Vallobra*^{1,2}, *S. Peng*^{1,2} and *W. Zhao*^{1,2} *1. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 2. Hefei Innovation Research Institute, Beihang University, Hefei, China*
- BPA-04. Exchange bias in Pd/Co/CoO films with perpendicular magnetic anisotropy.** *E. Tarasov*^{1,2}, *V. Shatilov*¹, *I. Tkachenko*² and *A. Kozlov*¹ *1. Far Eastern Federal University, Vladivostok, Russian Federation; 2. Institute of Chemistry FEB RAS, Vladivostok, Russian Federation*
- BPA-05. Magnetic proximity effect in antiferromagnetic composite thin films: impact of triggering perpendicular magnetic anisotropy.** *B. Wang*¹, *T. Li*¹, *C. Hsiao*¹, *B. Liao*¹, *M. Tsai*^{1,2}, *T. Chuang*³ and *D. Wei*³ *1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. Institute of Photonics Technologies, National Tsing Hua University, Hsinchu, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*
- BPA-06. Manipulation of exchange bias in perpendicularly magnetized IrMn/CoFeB/MgO structures.** *J. Liu*^{1,2}, *S. Peng*^{1,2}, *J. Lu*^{1,2}, *D. Zhu*¹, *W. Li*^{1,2}, *J. Du*¹, *Z. Liu*¹ and *W. Zhao*^{1,2} *1. Fert Beijing Institute, School of Integrated Science and Engineering, Beijing Advanced Innovation Center for Big Data and Brain Computing, Beihang University, Beijing, China; 2. Hefei Innovation Research Institute, Beihang University, Beijing, China*
- BPA-07. Size dependence of critical current density and magnetization switching in CoFeB-based magnetic tunnel junction.** *R. Phoomatna*¹, *A. Meo*^{1,2}, *R.W. Chantrell*³, *J. Chureemart*¹ and *P. Chureemart*¹ *1. Physics, Mahasarakham University, Kantarawichai, Thailand; 2. Electrical and Information Engineering, Politecnico of Bari, Bari, Italy; 3. Physics, University of York, York, United Kingdom*
- BPA-08. Enhanced spin torque efficiency in the W-CoFeB structures by metallic antiferromagnetic insertion.** *Q. Xia*¹, *C. Wang*¹, *D. Zhu*¹ and *W. Zhao*¹ *1. Beihang University, Beijing, China*
- BPA-09. NiO Insertion Effect on Spin-Orbit Torque in Pt/Co System.** *T. Morita*¹, *T. Koyama*^{1,2} and *D. Chiba*^{1,3} *1. SANKEN, Osaka Univ., Osaka, Japan; 2. PRESTO, JST, Saitama, Japan; 3. SRIS, Tohoku Univ., Sendai, Japan*
- BPA-10. Magnon-mediated magnetization switching in all oxide heterostructures.** *D. Zheng*¹ *1. King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia*

- BPA-11. Algebraic decay of non-local spin transport in NiO.** *I. Sugiura*¹, *Y. Kobayashi*¹, *K. Sugi*¹, *R. Hisatomi*^{1,2}, *Y. Shiota*¹, *T. Ono*¹ and *T. Moriyama*^{1,2} *1. ICR, Kyoto University, Uji, Japan; 2. PRESTO, JST, Kawaguchi, Japan*
- BPA-12. Spin dissipation in strained NiO (110) film.** *Y. Kobayashi*¹, *I. Sugiura*¹, *Y. Shiota*^{1,2}, *T. Ono*^{1,2} and *T. Moriyama*^{1,2} *1. Institute for Chemical Research, Kyoto University, Uji, Japan; 2. Center for Spintronics Research Network, Kyoto University, Uji, Japan*
- BPA-13. Spin Hall Magnetoresistance in Antiferromagnetic Insulators.** *S. Geprägs*¹, *M. Opel*¹, *J. Fischer*^{1,2}, *P. Schwenke*^{1,3}, *M. Althammer*^{1,4}, *H. Huebl*^{1,4} and *R. Gross*^{1,4} *1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. CEA-SPINTEC, Grenoble, France; 3. RPTU Kaiserslautern Landau, Kaiserslautern, Germany; 4. TUM School of Natural Sciences, Technical University of Munich, Garching, Germany*
- BPA-14. Tailoring the spin transport in antiferromagnetic insulators.** *E. Galindez Ruales*¹, *S. Filnov*¹, *C. Schmitt*¹, *F. Fuhrmann*¹, *M. Syskaki*¹, *G. Jakob*¹, *O. Gomonay*¹ and *M. Kläui*^{1,2} *1. Institut für Physik, Johannes Gutenberg University, Mainz, Germany; 2. Center for Quantum Spintronics, Norwegian University of Science and Technology, Trondheim, Norway*
- BPA-15. Large Anisotropic Magnetoresistance of FeRh on Room Temperature and its Phase Diagram.** *W. Won*¹, *M. Park*², *T. Lee*¹ and *K. Kim*¹ *1. Physics, KAIST, Daejeon, The Republic of Korea; 2. Physics, Sogang University, Seoul, The Republic of Korea*
- BPA-16. Investigation of Hall contribution in FeCo-compensated ferrimagnetic novel structures.** *L. Ye*^{1,2}, *R.C. Bhatt*^{1,2}, *N. Huang*^{1,2} and *T. Wu*^{1,2} *1. Graduate School of Materials Science, National Yunlin University of Science and Technology, Douliu, Taiwan; 2. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Douliu, Taiwan*
- BPA-17. Phase Field Modelling of Magnetoelasticity in Antiferromagnets.** *R.A. Mackay*^{1,2}, *J. Barker*^{1,2} and *S. Fitzgerald*^{2,3} *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. The Bragg Centre for Materials Research, Leeds, United Kingdom; 3. School of Mathematics, University of Leeds, Leeds, United Kingdom*
- BPA-18. Microscopic Theory of Spin Motive Force in Antiferromagnets.** *S. Hirata*¹, *Y. Toda*¹ and *H. Kohno*¹ *1. Department of Physics, Nagoya University, Nagoya, Japan*

- BPA-19. The transition from soft to hard exchange bias and oscillation of biasing field with the variation of IrMn thickness.** *A. Joy¹, S. Kayal¹ and P. Anil Kumar¹ 1. Physics, Indian Institute of Science Bangalore, Bangalore, India*
- BPA-20. Vertical long pillar magnetic memory with two magnetic junctions.** *S. Honda¹ and Y. Sonobe² 1. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 2. Research Organization for Nano & Life Innovation, Waseda University, Shinjuku, Japan*

ORAL SESSIONS

Session COA SKYRMION DETECTION, CONTROL, AND COMPUTING

Wanjun Jiang, Chair
Tsinghua University, Beijing, China

- COA-01. Electrical detection of magnetic skyrmions in a magnetic tunnel junction.** *Y. Guang¹, G. Finocchio², X. Han¹ and G. Yu¹ 1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. University of Messina, Messina, Italy*
- COA-02. Driving skyrmions with high mobility in synthetic ferrimagnets.** *S. Mallick¹, N. Figueiredo-Prestes¹, Y. Sassi¹, N. Reyren¹, K. Bouzehouane¹, S. Krishnia¹, V. Jeudy², A. Thiaville², T. Denneulin³, R.E. Dunin-Borkowski³, V. Cros¹ and A. Fert¹ 1. Unite Mixte de Physique, CNRS, Thales, Palaiseau, France; 2. Laboratoire de Physique des Solides, Orsay, France; 3. Forschungszentrum Julich, Julich, Germany*
- COA-03. Encoding and Multiplexing Information Signals in Magnetic Multilayers with Fractional Skyrmion Tubes.** *R. Chen¹, Y. Li¹, Y. Zang¹, W. Griggs¹, V. Pavlidis¹ and C. Moutafis¹ 1. Department of Computer Science, University of Manchester, Manchester, United Kingdom*
- COA-04. Static and dynamic control of skyrmion chirality in low DMI systems.** *J. Fischer¹, C. Fillion¹, C. Gueneau¹, F. Ibrahim¹, L. Vojáček¹, A. Fassatoui², S. Pizzini², L. Ranno², L. Cagnon², D. Ourdani³, M. Belmeguenai³, Y. Roussigné³, S. Chérif³, S. Auffret¹, I. Joumard¹, O. Boulle¹, G. Gaudin¹, M. Chshiev¹, L.D. Buda-Prejbeanu¹, C. Baraduc¹ and H. Béa¹ 1. CEA-SPINTEC, Grenoble, France; 2. Institut Néel CNRS, Grenoble, France; 3. LSPM, Villetaneuse, France*

- COA-05. Electric Field Controlled Mechanism for the Deflection of Skyrmions.** *S.H. Moody¹, M. Littlehales¹, J.S. White², D. Mayoh³, G. Balakrishnan³, D. Alba Venero⁴ and P. Hatton¹*
1. Condensed Matter Physics, Durham University, Durham, United Kingdom; 2. Neutron Scattering and Imaging (LNS), Paul Scherrer Institut, Villigen, Switzerland; 3. Physics, University of Warwick, Warwick, United Kingdom; 4. ISIS Neutron and Muon Source, Didcot, United Kingdom
- COA-06. Reading and Writing Skyrmions in a Magnetic Tunnel Junction.** *A. Soumyanarayanan^{1,2}*
*1. A*STAR Institute of Materials Research and Engineering, Singapore, Singapore; 2. Physics, National University of Singapore, Singapore*
- COA-07. Skyrmion nucleation in thin films of an antiferromagnet for the next generation spintronic devices. (Invited)**
M. Leiviskä¹, S. Jenkins², D. Gusakova¹, R.F. Evans² and V. Baltz¹
1. SPINTEC, Grenoble, France; 2. Physics, University of York, York, United Kingdom
- COA-08. Reservoir Computing with Spin Waves in a Skyrmion Crystal.** *M. Lee¹ and M. Mochizuki¹*
1. Applied Physics, Waseda University, Shinjuku, Japan
- COA-09. Spatial Metrics for Advancing Skyrmion Reservoir Computing.** *R. Msiska¹, J. Love¹, J. Mulkers², J. Leliaert² and K. Everschor-Sitte^{1,3}*
1. Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany; 2. Department of Solid state sciences, Ghent University, Ghent, Belgium; 3. Center for Nanointegration Duisburg-Essen (CENIDE), Duisburg, Germany
- COA-10. Non-conventional computing using thermal and driven skyrmion dynamics.** *M.A. Brems¹, K. Raab¹, J. Zázvorka², G. Beneke¹, T. Winkler¹, J. Rothörl¹, F. Kammerbauer¹, P. Virnau¹, J. Mentink³ and M. Kläui¹*
1. Institute for Physics, Johannes Gutenberg University, Mainz, Germany; 2. Institute of Physics, Charles University in Prague, Prague, Czechia; 3. Institute for Molecules and Physics, Radboud University, AJ Nijmegen, Netherlands
- COA-11. Demonstration of weighted sum using electrical manipulation and detection of magnetic skyrmions.**
T. da Câmara Santa Clara Gomes¹, Y. Sassi¹, S. Krishnia¹, D. Sanz Hernandez¹, N. Reyren¹, M. Martin¹, P. Seneor¹, T. Bhatnagar-Schöffmann², D. Ravelosona², D. Querlioz², L. Herrera Diez², J. Grollier¹ and V. Cros¹
1. Unité Mixte CNRS-Thales, Université Paris Saclay, Palaiseau, France; 2. Centre de Nanosciences et de Nanotechnologies, Palaiseau, France

- COA-12. Experimental demonstration of skyrmionic magnetic tunnel junction and its on-chip learning application.** *S. Li¹, A. Du¹, Y. Wang², X. Wang¹, S. Liu¹, Z. Zhang¹, B. Pan¹, W. Kang¹, Z. Wang¹, Z. Hou² and W. Zhao¹* *1. Beihang University, Beijing, China; 2. South China Normal University, Guangzhou, China*
- COA-13. Nucleation, stabilization, annihilation, and transformation of topological spin textures for reservoir computing.** *X. Liu¹* *1. Department of Electrical and Computer Engineering, Shinshu University, Nagano, Japan*
- COA-14. Experimental Demonstration of a Skyrmion-Enhanced Straintronic Physical Reservoir Computing System.** *N. Lei¹ and Y. Sun¹* *1. Beihang University, Beijing, China*

ORAL SESSIONS

Session COB

SKYRMION MATERIALS AND ENGINEERING

Shawn Pollard, Chair

The University of Memphis, Memphis, TN, United States

- COB-01. Toggle-like Current-Induced Bloch Point Dynamics of 3D Skyrmion Strings in a Room Temperature Nanowire.** *M. Birch¹, D. Cortés-Ortuño², K. Litzius¹, S. Wintz¹, F. Schulz¹, M. Weigand³, A. Stefancic⁴, D. Mayoh⁴, G. Balakrishnan⁴, P. Hatton⁵ and G. Schütz¹* *1. Modern Magnetic Materials, Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Department of Earth Sciences, Utrecht University, Utrecht, Netherlands; 3. Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany; 4. Department of Physics, University of Warwick, Coventry, United Kingdom; 5. Department of Physics, Durham University, Durham, United Kingdom*
- COB-02. A weakly pinned skyrmion liquid in a magnetic heterostructure.** *R. Mansell¹, Y. Zhou¹, K. Kohvakka¹, S. Ying², K.R. Elder³, E. Granato⁴ and T. Ala-Nissila^{1,5}* *1. Department of Applied Physics, Aalto University, Espoo, Finland; 2. Department of Physics, Brown University, Providence, RI, United States; 3. Department of Physics, Oakland University, Rochester, MI, United States; 4. Laboratório Associado de Sensores e Materiais, Instituto Nacional de Pesquisas Espaciais, São José dos Campos, Brazil; 5. Interdisciplinary Centre for Mathematical Modelling and Department of Mathematical Sciences, Loughborough University, Loughborough, United Kingdom*

- COB-03. Observation of antiferromagnetic merons and antimerons in synthetic antiferromagnets.** *M. Bhukta*², *T. Dohi*^{2,1}, *V. Bharadwaj*², *R. Zarzuela*², *M. Syskaki*^{2,3}, *J. Sinova*², *R. Frömter*² and *M. Kläui*² *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, RIEC, Tohoku University, Sendai 980-8577, Japan, Japan; 2. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 3. Singulus Technologies AG, Kahl am Main, Germany*
- COB-04. Chiral spintronics. (Invited)** *S. Parkin*¹ *1. Max Planck Institute for Microstructure Physics, Halle, Germany*
- COB-05. Correlation between Hall effect and skyrmion density in CoFeB based skyrmion multilayers.** *Y. Kumar*¹, *H.C. Chauhan*¹, *N. Reyren*², *S. Krishnia*², *T. Srivastava*², *V. Cros*² and *P. Das*¹ *1. Physics, Indian Institute of Technology, New Delhi, India; 2. Unite Mixte de Physique, CNRS, Thales, Palaiseau, France*
- COB-06. Double heterostructure introduction in Pt/Ni/Co system for skyrmion with small size and fast transport.** *L. Zhang*¹, *K. Tokunaga*¹, *Y. Kurokawa*¹, *R. Satone*¹, *T. Tamaoka*², *Y. Tomita*², *Y. Murakami*^{2,3} and *H. Yuasa*¹ *1. Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan; 2. The Ultramicroscopy Research Center, Kyushu University, Fukuoka, Japan; 3. Department of Applied Quantum Physics and Nuclear Engineering, Kyushu University, Fukuoka, Jamaica*
- COB-07. Observation of Liquid-Like Skyrmion Phase in FeGe.** *M. Littlehales*^{1,2}, *S.H. Moody*¹, *B. Brereton*¹, *G. Balakrishnan*³, *H. Popescu*⁴, *N. Jaouen*⁴ and *P. Hatton*¹ *1. Department of Physics, Durham University, Durham, United Kingdom; 2. ISIS Neutron and Muon Source, Oxford, United Kingdom; 3. Department of Physics, University of Warwick, Coventry, United Kingdom; 4. SEXTANTS, Synchrotron SOLEIL, Saint-Aubin, France*
- COB-08. Demonstration of a Thickness-Step Skyrmion Injector in FeGe.** *M. Wilson*^{1,2}, *M. Littlehales*^{2,3}, *S.H. Moody*², *L. Turnbull*², *B. Huddart*², *B. Brereton*², *G. Balakrishnan*⁴, *P. Steadman*⁵, *R. Fan*⁵ and *P. Hatton*² *1. Department of Physics and Physical Oceanography, Memorial University of Newfoundland, St. John's, NL, Canada; 2. Department of Physics, Durham University, Durham, United Kingdom; 3. ISIS Neutron and Muon Source, Oxford, United Kingdom; 4. Department of Physics, University of Warwick, Coventry, United Kingdom; 5. Diamond Light Source Ltd, Oxford, United Kingdom*

- COB-09. Topological Transformation of Magnetic (Anti)Skyrmions via Thermal Current.** *F.S. Yasin¹, J. Masell^{1,2}, K. Karube¹, D. Shindo¹, Y. Taguchi¹, Y. Tokura^{1,3} and X. Yu¹* *1. Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan; 2. Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany; 3. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*
- COB-10. Coexistence of distinct spin textures beyond skyrmions.** *B. Göbel¹, J. Jena², I. Mertig¹ and S. Parkin²* *1. Martin-Luther-University Halle-Wittenberg, Halle, Germany; 2. Max Planck Institute of Microstructure Physics, Halle, Germany*
- COB-11. Large Dzyaloshinskii-Moriya interaction and room-temperature nanoscale skyrmions in CoFeB/MgO heterostructures.** *R. Chen¹, X. Wang¹, H. Cheng¹, K. Lee², M. Kläui², H. Yang³, S. Peng¹, X. Zhang¹ and W. Zhao¹* *1. Beihang University, Beijing, China; 2. Johannes Gutenberg University Mainz, Mainz, Germany; 3. Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China*
- COB-12. Suppression of skyrmion Hall effect via standing surface acoustic waves in hybrid ferroelectric/ferromagnetic heterostructures.** *C. Chen¹, D. Wei² and N. Lei¹* *1. Beihang University, Beijing, China; 2. Institute of Semiconductors Chinese Academy of Sciences, Beijing, China*
- COB-13. Stack engineering of antiferromagnetic skyrmion dynamics from bi-layer skyrmions to skyrmion tubes.** *T. Dohi^{1,2}, M. Bhukta², F. Kammerbauer², M. Syskaki^{1,3}, K. Raab², M. Weißenhofer⁴, S. Wintz⁵, R. Frömter², G. Jakob², U. Nowak⁴ and M. Kläui²* *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Institut für Physik, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 3. Singulus Technologies AG, Hanauer, Germany; 4. Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 5. Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany*
- COB-14. Withdrawn**
- COB-15. Withdrawn**

Session COC

SPINS IN 2D MATERIALS

Safeer Chenattukuzhiyil, Chair
University of Oxford, Oxford, United Kingdom

- COC-01. Single-Atomic-Layer Stanene on Ferromagnetism Co Nanoislands with Nontrivial Band Topology.** *C. Chen*¹, Y. Chao², Y. Lin¹, Y. Zhuang¹, Y. Lai³, S. Huang¹, A.H. McDonald⁴, C. Shih⁴, B. Wang³, J. Su² and P. Hsu¹
1. Department of Physics, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Electrophysics, National Yang Ming Chiao Tung University, Hsinchu, Taiwan; 3. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 4. Department of Physics, The University of Texas at Austin, Austin, TX, United States
- COC-02. Yu-Shiba-Rusinov States of Fe Atoms on Ni Kagome Lattice on Pb(111).** *Y. Lin*¹, N. Kumar¹, T. Lin¹, J. Xiao¹, C. He¹ and P. Hsu¹ *1. Department of Physics, National Tsing Hua University, Hsinchu, Taiwan*
- COC-03. Ferromagnetism modulation by ultralow current in a two-dimensional polycrystalline molybdenum disulfide atomic layered structure.** *I. Muneta*¹, T. Shirokura², H.N. Pham², K. Kakushima¹, K. Tsutsui¹ and H. Wakabayashi¹ *1. Tokyo Institute of Technology, Yokohama, Japan; 2. Tokyo Institute of Technology, Tokyo, Japan*
- COC-04. Spin Logic and Emergent Spin Phenomena in 2D Materials Heterostructures. (Invited)** *S.P. Dash*¹
1. Chalmers University of Technology, Gothenburg, Sweden
- COC-05. Graphene-Supported Atom-Sized Magnets for Data Storage: What Can We Learn from First-Principles Calculations?** *J. Navratil*^{1,2}, R. Langer^{1,2}, M. Otyepka^{1,3}, T. Susi⁴ and P.S. Blonski¹ *1. Regional Centre of Advanced Technologies and Materials, Czech Advanced Technology and Research Institute (CATRIN), Palacký University Olomouc, Olomouc, Czechia; 2. Department of Physical Chemistry, Faculty of Science, Palacký University Olomouc, Olomouc, Czechia; 3. IT4Innovations, Technical University of Ostrava, Ostrava, Czechia; 4. Faculty of Physics, University of Vienna, Vienna, Austria*
- COC-06. Anomalous Zeeman shift of defect-bound states in epitaxial FeSn films.** *L. Li*¹ and H. Zhang¹ *1. Physics and Astronomy, West Virginia University, Morgantown, WV, United States*

- COC-07. Spin transport in CrXY monolayers: multiscale computational study.** L. Vojáček¹, J.H. Garcia², J.E. Medina Dueñas², F. Ibrahim¹, S. Roche^{2,3}, J. Li⁴ and M. Chshiev^{1,5}
1. CEA-SPINTEC, Grenoble, France; 2. ICN2, Barcelona, Spain; 3. ICREA, Barcelona, Spain; 4. Leti, Grenoble, France; 5. Institut Universitaire de France, Paris, France
- COC-08. Role of Er Doping in Observed Superconductivity of Non-Centrosymmetric YPdBi Half-Heusler Non-Trivial Thin Films.** S. Srivastava¹, B. Das², V. Bhardwaj³, A. Alam² and R. Chatterjee¹
1. Physics, Indian Institute of Technology Delhi, New Delhi, India; 2. Physics, Indian Institute of Technology Bombay, Mumbai, India; 3. Department of Condensed Matter Physics, Weizmann Institute of Science, Rehovot, Israel
- COC-09. Magnetization and Spin Dynamics in Two-Dimensional Magnets.** L. Alahmed¹, B. Nepal², J. Macy³, B. Casas³, A. Sapkota², A. Mazza⁴, M. Brahlek⁴, J. Wen⁵, W. Jin¹, S. Zhang⁶, C. Mewes², L. Zhang⁷, Y. Mokrousov^{7,12}, W. Zhang¹⁰, Y. Lee^{5,8}, L. Balicas³, T. Mewes², X. Zhang¹¹ and P. Li⁹
1. Auburn University, Auburn, AL, United States; 2. University of Alabama, Tuscaloosa, AL, United States; 3. Florida State University, Tallahassee, FL, United States; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 5. SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 6. Case Western Reserve University, Cleveland, OH, United States; 7. Forschungszentrum Jülich and JARA, Jülich, Germany; 8. Stanford University, Palo Alto, CA, United States; 9. University of Science and Technology of China, Hefei, China; 10. University of North Carolina, Chapel Hill, NC, United States; 11. Southern University of Science and Technology, Shenzhen, China; 12. Johannes Gutenberg University Mainz, Mainz, Germany
- COC-10. Unconventional Anomalous Hall Effect in Cr₂Te₃ Thin Films.** M. Bian^{1,2}, K. He³, S. Seddon⁴, P. Milde⁴, C. Huai¹, J. Zang⁵, R. Sabirianov⁶, J. Bird³, X. Cheng⁷, G. Miao⁸, L. Eng⁴, Y. Hou² and H. Zeng¹
1. Department of Physics, University at Buffalo, the State University of New York, Buffalo, NY, United States; 2. School of Materials Science and Engineering, Peking University, Beijing, China; 3. Department of Electrical Engineering, University at Buffalo, the State University of New York, Buffalo, NY, United States; 4. Institut für Angewandte Physik, Technische Universität Dresden, Dresden, Germany; 5. Department of Physics, University of New Hampshire, Durham, NH, United States; 6. Department of Physics, University of Nebraska-Omaha, Omaha, NE, United States; 7. Department of Physics, Bryn Mawr College, Bryn Mawr, PA, United States; 8. Department of Electrical Engineering, University of Waterloo, Waterloo, ON, Canada

- COC-11. Proximity effects in molecular beam epitaxy grown van der Waals ferromagnet Cr_2Te_3 on two-dimensional layers.** *Q. Guillet*¹, *H. Boukari*², *L. Vojáček*¹, *D. Dosenovic*³, *H. Okuno*³, *F. Ibrahim*¹, *J. Li*⁴, *C. Vergnaud*¹, *A. Marty*¹, *F. Bonell*¹, *M. Chshiev*¹ and *M. Jamet*¹ *1. Univ. Grenoble Alpes, CEA, CNRS, IRIG-SPINTEC, Grenoble, France; 2. Univ. Grenoble Alpes, CNRS, Institut Neel, Grenoble, France; 3. Univ. Grenoble Alpes, CEA, CNRS, IRIG-MEM, Grenoble, France; 4. CEA, LETI, Univ. Grenoble Alpes, Grenoble, France*

ORAL SESSIONS

Session COD SPINS IN GRAPHENE AND TOPOLOGICAL MATERIALS

Yi Wang, Chair

Dalian University of Technology, Dalian City, India

- COD-01. Disentangling magnetic proximity effects in magnetic insulator-topological insulator thin film heterostructures.** *(Invited) L. Riddiford*^{1,2}, *A.J. Grutter*³, *T. Pillsbury*⁴, *M. Stanley*⁴, *D. Reifsnyder Hickey*⁵, *P. Li*², *N. Alem*⁵, *N. Samarth*⁴ and *Y. Suzuki*^{1,2} *1. Department of Applied Physics, Stanford University, Stanford, CA, United States; 2. Geballe Lab for Advanced Materials, Stanford University, Stanford, CA, United States; 3. National Institute of Standards and Technology, Gaithersburg, MD, United States; 4. Department of Physics, The Pennsylvania State University, State College, PA, United States; 5. Department of Materials Science, The Pennsylvania State University, State College, PA, United States*
- COD-02. Spin-Sensitive Epitaxial In_2Se_3 Tunnel Barrier in $\text{In}_2\text{Se}_3/\text{Bi}_2\text{Se}_3$ Topological Van der Waals Heterostructure.** *C. Li*¹, *J. Moon*¹, *O.M. van't Erve*¹, *D. Wickramaratne*¹, *E. Cobas*¹, *M.D. Johannes*¹ and *B.T. Jonker*¹ *1. Naval Research Laboratory, Washington, DC, United States*
- COD-03. Magnetic memory driven by topological insulators.** *H. Wu*¹, *A. Chen*², *X. Zhang*¹, *H.N. Pham*³, *X. Zhang*² and *K. Wang*⁴ *1. Songshan Lake Materials Laboratory, Dongguan, China; 2. King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 3. Tokyo Institute of Technology, Tokyo, Japan; 4. University of California, Los Angeles, Los Angeles, CA, United States*
- COD-04. BiSb topological insulator/MnGa ferromagnet systems for spin-to-charge interconversion.** *D. She*¹, *N. Figueiredo-Prestes*¹, *L. Baringthon*¹, *L. Largeau*², *M. Morassi*², *H. Jaffrès*¹, *P. Lefvère*³, *N. Reyren*¹, *A. Lemaitre*² and *J. George*¹ *1. CNRS/Thales, Palaiseau, France; 2. C2N, Palaiseau, France; 3. Synchrotron SOLEIL, Saint-Aubin, France*

- COD-05. Large and isotropic spin-orbit torques and spin Hall magnetoresistance from the twin-free topological insulator $\text{Bi}_{0.9}\text{Sb}_{0.1}$.** F. Binda¹, S. Fedel¹, S.F. Alvarado¹, P. Noël¹ and P. Gambardella¹ *1. Department of Materials, ETH Zurich, Zürich, Switzerland*
- COD-06. Intrinsic Magnetic Topological Insulators: Discovery and Current Status. (Invited)** M.M. Otrokov^{1,2} *1. Centro de Física de Materiales (CFM-MPC), Centro Mixto CSIC-UPV/EHU, Donostia-San Sebastián, Spain; 2. Ikerbasque, Basque Foundation for Science, Bilbao, Spain*
- COD-07. Large spin conversion in the Fe/graphene/Pt interface.** A. Anadón¹, I. Arnay², R. Guerrero³, A. Gudín², S. Petit-Watelot¹, J. Camarero^{2,4}, P. Perna² and J. Rojas-Sanchez¹ *1. Institut Jean Lamour, Nancy, France; 2. IMDEA Nanociencia, Madrid, Spain; 3. Universidad de Castilla la Mancha, Toledo, Spain; 4. Universidad Autónoma de Madrid, Madrid, Spain*
- COD-08. Helicity-Dependent Terahertz Emission from a Weyl Semimetal Mn_3Sn .** D.F. Hamara¹, G. Lange¹, A. Markou², R. Slager¹ and C. Ciccarelli¹ *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*
- COD-09. Spintronic THz emission in 2D- PtSe_2 .** K. Abdukayumov¹, C. Vergnaud¹, A. Marty¹, F. Bonell¹, I.G. de Moraes¹, M. Chshiev¹, F. Ibrahim¹, H. Okuno², D. Dosenovic², A. Ouerghi³, M. Micica⁴, S. Dhillon⁴, J. George⁵, H. Jaffrès⁵ and M. Jamet¹ *1. CEA-SPINTEC, Grenoble, France; 2. IRIG-MEM, Grenoble, France; 3. C2N, Université Paris Saclay, Paris, France; 4. Ecole Normale Supérieure Paris, Paris, France; 5. Unité Mixte de Physique, CNRS, Thales, Palaiseau, France*
- COD-10. Antiferromagnetic Dirac nodal line/point and topological insulator states tuned by magnetization orientation in monolayer MnB .** L. Huang¹ and L. Wang^{1,2} *1. Tianjin Key Laboratory of Low Dimensional Materials Physics and Preparation Technology, Tianjin University, Tianjin, China; 2. Tianjin Demonstration Center for Experimental Physics Education, School of Science, Tianjin University, Tianjin, China*

Session COE

SPINS IN VAN DER WAALS MATERIALS

Maciej Dabrowski, Chair

University of Exeter, Exeter, United Kingdom

- COE-01. Gate-tunable anomalous Hall effect in a 3D topological insulator/2D magnet van der Waals heterostructure.** *(Invited)* R. Jain¹, V. Gupta¹, Y. Ren³, X.S. Zhang¹, H.F. Alnaser², A. Vashist², V.V. Deshpande², D. Xiao³, T.D. Sparks² and D.C. Ralph¹ 1. Cornell University, Ithaca, NY, United States; 2. University of Utah, Salt Lake, UT, United States; 3. University of Washington, Seattle, WA, United States
- COE-02. Unconventional spin-to-charge interconversion in low-symmetry van der Waals materials.** S. Chenattukuzhiyil^{5,1}, N. Ontoso¹, J. Ingla-Aynes¹, F. Herling¹, V. Pham¹, I. Groen¹, H. Yang¹, Z. Chi¹, I. Robredo², M. Vergniory^{2,4}, F. de Juan^{2,4}, A. Chuvilin^{1,4}, M. Gobbi¹, R. Calvo^{3,1}, L. Hueso^{1,4} and F. Casanova^{1,4} 1. CIC nanoGUNE, San Sebastian, Spain; 2. Donostia International Physics Center (DIPC), San Sebastian, Spain; 3. Universidad de Alicante, Alicante, Spain; 4. Ikerbasque, Basque Foundation for Science, Basque Country, Spain; 5. University of Oxford, Oxford, United Kingdom
- COE-03. Switchable unconventional charge-spin interconversion in van der Waals heterostructures.** Z. Chi¹, S. Lee², H. Yang¹, N. Ontoso¹, E. Dolan¹, C. Safeer¹, J. Ingla-Aynes¹, F. Herling¹, B. Martin-Garcia^{1,3}, M. Gobbi^{1,3}, T. Low^{2,4}, L. Hueso^{1,3} and F. Casanova^{1,3} 1. CIC nanoGUNE BRTA, Donostia-San Sebastian, Spain; 2. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 3. Ikerbasque, Basque Foundation for Science, Bilbao, Spain; 4. Department of Physics, University of Minnesota, Minneapolis, MN, United States
- COE-04. Efficient spin-orbit torque generation in van der Waals heterostructures.** T. Guillet¹, R. Galceran², J. Sierra¹, M. Jamet³, F. Bonell³ and S.O. Valenzuela¹ 1. Catalan Institute of Nanoscience and Nanotechnology, Barcelona, Spain; 2. University of Barcelona, Barcelona, Spain; 3. CEA-SPINTEC, Grenoble, France
- COE-05. Thickness-dependent SOT effective fields and magnetization control in Topological insulator/2D-ferromagnet Bi₂Te₃/Cr_{1+x}Te₂ Van der Waals heterostructures with PMA.** N. Figueiredo-Prestes¹, A. Lintzeris^{2,3}, P. Tsipas², N. Reyren¹, H. Jaffrès¹, A. Dimoulas² and J. George¹ 1. Unité Mixte de Physique CNRS, Thales, Université Paris-Saclay, Palaiseau, France; 2. National Center for Scientific Research Demokritos, Athens, Greece; 3. Physics Department, National Kapodistrian University of Athens, Athens, Greece

- COE-06. Microscopic magnetic properties of two-dimensional magnetic Fe_xGeTe_2 films on graphene. (Invited)**
A.I. Figueroda^{2,1}, H. Lv³, J. Herfort³, D. Czubak³, E. Zallo^{3,4}, C. Guillemand⁵, M. Valvidares⁵, J. Rubio-Zuazo^{6,7}, J. López-Sánchez^{6,7}, S.O. Valenzuela^{2,8}, M. Hanke³, M. Ramsteiner³ and J. J. Lopes³ 1. Condensed Matter Physics, University of Barcelona, Barcelona, Spain; 2. Catalan Institute of Nanoscience and Nanotechnology, Bellaterra, Spain; 3. Paul-Drude-Institute, Berlin, Germany; 4. Physik Department, Walter Schottky Institut, Technische Universität München, Garching, Germany; 5. ALBA Synchrotron Light Source, Barcelona, Spain; 6. Spanish CRG BM25-SpLine, ESRF—The European Synchrotron, Grenoble, France; 7. Instituto de Ciencia de Materiales de Madrid (ICMM), CSIC, Madrid, Spain; 8. Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain
- COE-07. Enhancement of spin-flop induced magnetic hysteresis in van der Waals magnet $(\text{Fe}_{1-x}\text{Co}_x)_5\text{GeTe}_2$.** *T. Ohta¹, K. Kurokawa¹, N. Jiang^{1,2}, K. Yamagami³, Y. Okada³ and Y. Niimi^{1,2}* 1. Department of Physics, Osaka University, Toyonaka, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 3. Okinawa Institute of Science and Technology, Onna-son, Japan
- COE-08. Magnetism of epitaxial $(\text{Fe,Co})_5\text{GeTe}_2$ van der Waals magnets in the monolayer limit.** *J. Courtin¹, R. Sant², P. Vasconcelos², F. Choueikani³, F. Ibrahim¹, A. Marty¹, D. Dosenovic⁴, H. Okuno⁴, V. Polewczyk¹, I.G. de Moraes¹, C. Vergnaud¹, D. Jalabert⁴, M. Chshiev¹, M. Jamet¹ and F. Bonell¹* 1. SPINTEC, Grenoble, France; 2. ESRF, Grenoble, France; 3. SOLEIL Synchrotron, Gif-sur-Yvette, France; 4. CEA-IRIG-MEM, Grenoble, France
- COE-09. Torques and Topological Spin Structures in Conducting 2D Materials.** *M. Schmitt¹, F. Martin¹, K. Lee^{1,2}, A. Liedtke¹, A. Shahee¹, A. Puthirath Balan¹, H. Simensen³, T. Scholz⁴, T. Saunderson¹, R. Borkowski⁷, D. Go⁵, M. Gradhand^{1,6}, Y. Mokrousov^{1,5}, T. Denneulin⁷, A. Kovács⁷, P. Rüßmann^{5,8}, A. Tavabi⁷, P. Mavropoulos⁹, B. Lotsch⁴, S. Blügel⁵, A. Brataas³ and M. Kläui^{1,3}* 1. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 2. Division of Display and Semiconductor Physics, Korea University, Sejong, The Democratic People's Republic of Korea; 3. Centre for Quantum Spintronics, Department of Physics, Norwegian University of Science and Technology, Trondheim, Norway; 4. Max Planck Institute for solid state research, Stuttgart, Germany; 5. Peter Grünberg Institute and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany; 6. H. H. Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom; 7. Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter Grünberg Institute, Forschungszentrum Jülich, Jülich, Germany; 8. Institute of Theoretical Physics and Astrophysics, University of Würzburg, Würzburg, Germany; 9. Department of Physics, National and Kapodistrian University of Athens, Athens, Greece

- COE-10. Seeding and Emergence of Composite Skyrmions in van der Waals Magnet Fe_3GeTe_2 .** L. Powalla¹, M. Birch², K. Litzius², S. Wintz², F.S. Yasin³, L. Turnbull⁴, F. Schulz², D. Mayoh⁵, G. Balakrishnan⁵, M. Weigand⁶, X. Yu³, K. Kern^{1,7}, G. Schütz² and M. Burghard¹ *1. Nanoscale Science, Max Planck Institute for Solid State Research, Stuttgart, Germany; 2. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 3. RIKEN Center For Emergent Matter Science, Wako, Japan; 4. Durham University, Durham, United Kingdom; 5. University of Warwick, Coventry, United Kingdom; 6. Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany; 7. Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*

POSTER SESSION

Session CPA SKYRMION MATERIALS AND DEVICES (Poster Session)

Anjan Soumyanarayanan, Chair
A*STAR Institute of Materials Research and
Engineering, Singapore, Singapore

- CPA-01. Skyrmion diffusion and its voltage gating.** S. Miki^{1,2}, K. Hashimoto^{1,2}, R. Ishikawa³, M. Goto^{1,2}, Y. Shiota^{4,5}, E. Tamura^{1,2}, H. Nomura^{1,2} and Y. Suzuki^{1,2} *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. OTRI-Osaka, Osaka University, Suita, Japan; 3. ULVAC, Inc., Suita, Japan; 4. Institute for Chemical Research, Kyoto University, Uji, Japan; 5. CSRN-Kyoto, Kyoto University, Uji, Japan*
- CPA-02. Topology-Dependent Brownian Gyromotion of a Single Skyrmion.** L. Zhao^{1,3}, Z. Wang^{1,3}, X. Zhang², X. Liang², Y. Zhou² and W. Jiang^{1,3} *1. Department of Physics, Tsinghua University, Beijing, China; 2. The Chinese University of Hong Kong (shenzhen), Shenzhen, China; 3. Frontier Science Center for Quantum Information, Tsinghua University, Beijing, China*
- CPA-03. Current-induced skyrmion dynamics in 2-dimensional van der Waals ferromagnet at room temperature.** Y. Ji¹, S. Yang², H. Ahn³, T. Ju², M. Im⁴, H. Han⁴, C. Lee³, C. Hwang² and K. Kim¹ *1. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Quantum Spin Team, Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea; 3. School of Mechanical Engineering, Sungkyunkwan University, Suwon, The Republic of Korea; 4. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA, United States*

- CPA-04. Realization of zero-field skyrmions in a magnetic tunnel junction.** B. He^{1,2}, Y. Hu³, J. Zhang³, Y. Peng³, X. Han^{1,2} and G. Yu^{1,2} *1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Beijing, China; 2. Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing, China; 3. Key Laboratory for Magnetism and Magnetic Materials of Ministry of Education, Lanzhou University, Lanzhou, China*
- CPA-05. Precise Transport of Skyrmions by Surface Acoustic Waves.** J. Shuai¹, L. Lopez-Diaz², J.E. Cunningham³ and T.A. Moore¹ *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Department of Applied Physics, Universidad de Salamanca, Salamanca, Spain; 3. School of Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom*
- CPA-06. Obtaining skyrmion lattices in epitaxial [Pd/Co/CoO]_n multilayers.** V. Shatilov¹, A. Ognev¹, A. Samardak¹ and A. Kozlov¹ *1. Laboratory of Spin-Orbitronics, Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation*
- CPA-07. Manipulating density of magnetic skyrmions via multilayer repetition and thermal annealing.** X. Wang¹, A. Cao¹, S. Li¹, J. Tang², A. Du¹, H. Cheng¹, Y. Sun¹, H. Du², X. Zhang¹ and W. Zhao¹ *1. Beihang University, Beijing, China; 2. High Magnetic Field Laboratory of Chinese Academy of Sciences, Hefei, China*
- CPA-08. Logic operations of magnetic-skyrmion chirality via a branched nanowire.** Y. Nakatani¹, K. Yamada² and A. Hirohata³ *1. Graduate School of Informatics and Engineering, University of Electro-Communications, Chofu, Japan; 2. Faculty of Engineering, Gifu University, Gifu, Japan; 3. Department of Electronic Engineering, University of York, York, United Kingdom*
- CPA-09. Withdrawn**
- CPA-10. Generation and annihilation of skyrmions and antiskyrmions in magnetic heterostructures.** S. Koraltan¹, F. Bruckner¹, C. Abert¹ and D. Suess¹ *1. Faculty of Physics, University of Vienna, Vienna, Austria*
- CPA-11. Mechanisms and Control of Inter-Skyrmion Attractions.** M. Kameda^{1,2}, K. Kobayashi³ and Y. Kawaguchi² *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Department of Applied Physics, Nagoya University, Nagoya, Japan; 3. Department of Physics, Kyushu University, Fukuoka, Japan*

- CPA-12. Numerical study on skyrmion transport with small size and high speed.** *R. Satone¹, Y. Kurokawa¹ and H. Yuasa¹*
1. Information Science and Electrical Engineering, Kyushu University, Motoooka Nishi-ku, Japan
- CPA-13. Thermal Skyrmion Dynamics in Thin Films Revealed by Kerr Microscopy.** *R. Gruber¹, M.A. Brems¹, J. Rothörl¹, T. Sparmann¹, J. Zázvorka², M. Schmitt¹, I. Kononenko^{1,3}, F. Kammerbauer¹, M. Syskaki^{1,4}, D. Rodrigues⁵, P. Virnau¹ and M. Kläui¹*
1. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 2. Faculty of Mathematics and Physics, Charles University in Prague, Prague, Czechia; 3. Institute of Applied Physics, National Academy of Sciences of Ukraine, Sumy, Ukraine; 4. Singulus Technologies AG, Kahl am Main, Germany; 5. Dipartimento di Ingegneria Elettrica e dell'Informazione, Politecnico di Bari, Bari, Italy
- CPA-14. Towards Coding Information by 3D Chiral Spin Textures.** *H.J. Hug¹, A. Mandru¹, O. Yildirim¹, T. Dutta¹, Y. Feng¹, R. Peremadathil-Pradeep¹, R. Tomasello², G. Carlotti³, S. Tacchi⁴, D. Suess⁵, A. Giordano⁶ and G. Finocchio⁶*
1. Magnetic and Functional Thin Films, Empa, Duebendorf, Switzerland; 2. Politecnico di Bari, Bari, Italy; 3. University of Perugia, Perugia, Italy; 4. IOM - Istituto Officina dei Materiali, Perugia, Italy; 5. University of Vienna, Vienna, Austria; 6. University of Messina, Messina, Italy
- CPA-15. Voltage-Controlled Skyrmionic Interconnect with Multiple Magnetic Information Carriers.** *R. Chen¹, W. Griggs¹, Y. Li¹, V. Pavlidis¹ and C. Moutafis¹*
1. Department of Computer Science, University of Manchester, Manchester, United Kingdom
- CPA-16. XMCD study on skyrmion-host chiral ferromagnetic $\text{Fe}_{2-x}\text{Pd}_x\text{Mo}_3\text{N}$ thin films.** *B. Qiang^{1,2}, T. Fukasawa¹, T. Hajiri¹, H. Asano^{1,3} and T. Ito⁴*
1. Department of Materials Physics, Nagoya University, Nagoya, Japan; 2. Department of Material s Design Engineering, Nagoya University, Nagoya, Japan; 3. Research Department, Nagoya Industrial Science Research Institute, Nagoya, Japan; 4. Synchrotron Radiation Research Center, Nagoya University, Nagoya, Japan
- CPA-17. Gate-controlled skyrmion-based majority logic in a nanomagnetic device.** *B. Paikaray¹, M. Kuchibhotla², A. Haldar² and C. Murapaka¹*
1. Department of Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad, Sangareddy, India; 2. Physics, Indian Institute of Technology Hyderabad, Sangareddy, India
- CPA-18. Withdrawn**
- CPA-19. The correlation between skyrmion size, shape and device geometry.** *W.Z. Al Saidi¹*
1. Physics, Sultan Qaboos University, Muscat, Oman

- CPA-20. Overlapping-skyrmions based racetrack memory.**
T. Nishitani¹, S. Honda¹ and H. Itoh¹ 1. Department of Pure and Applied Physics, Kansai University, Suita, Japan

POSTER SESSION

Session CPB **SPINS IN 2D AND TOPOLOGY MATERIALS** **(Poster Session)**

Amir Capua, Co-Chair

The Hebrew University of Jerusalem, Jerusalem, Israel

Kyusup Lee, Co-Chair

Pukyong National University, Busan, Korea (Republic of)

- CPB-01. Ferromagnetism in two-dimensional PtSe₂.** H. Xu¹, H. Wu¹, M. Wang² and C. Chang² *1. School of Physics, Beijing Institute of Technology, Beijing, China; 2. Department of Physics, National Taiwan University, Taipei, Taiwan*
- CPB-02. Second-order spin and charge responses in LaO/STO heterostructure.** Z. Siu¹, A. Kundu^{1,2} and M.B. Jalil¹
1. National University of Singapore, Singapore; 2. Ariel University, Ariel, Israel
- CPB-03. Breaking through the Mermin-Wagner limit in 2D van der Waals magnets.** S. Jenkins^{1,2}, L. Rózsa³, U. Atxitia⁴, R.F. Evans¹, K.S. Novoselov⁵ and E. Santos⁶ *1. Physics, University of York, York, United Kingdom; 2. Physics, Johannes Gutenberg University, Mainz, Germany; 3. Physics, University of Konstanz, Konstanz, Germany; 4. Physics, Freie Universität Berlin, Berlin, Germany; 5. Physics, National University of Singapore, Singapore; 6. Physics, University of Edinburgh, Edinburgh, United Kingdom*
- CPB-04. Growth and terahertz conductivity of epitaxial Mn₃Sn thin films.** D. Gao¹, T. Zhang¹, T. Yin¹, F. Tang¹, Z. Bin¹, Y. Yang¹, W. Yang¹, J. Qin¹, S. Liu¹, L. Deng¹, M. Hu¹ and L. Bi¹ *1. University of Electronic Science and Technology of China, Chengdu, China*
- CPB-05. Gate-Controlled Charge Rectification in Elemental Tellurium.** D. Hirobe¹, Y. Nabei^{2,3} and H. Yamamoto^{2,3}
1. Shizuoka University, Shizuoka, Japan; 2. Institute for Molecular Science, Okazaki, Japan; 3. The Graduate University for Advanced Studies, Okazaki, Japan

- CPB-06. Two-Step Synthesis of Spin-Helix Layered Material SnS by Physical Vapor Deposition and Nitrogen Etching.** *K. Koyama*¹, *M. Aoyama*¹, *T. Odagawa*¹, *T. Miyazaki*¹, *C. Zhang*², *S. Karube*¹ and *M. Kohda*^{1,3} *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 3. Quantum Materials and Applications Research Center, National Institutes for Quantum Science and Technology, Takasaki, Japan*
- CPB-07. Tunneling magnetoresistance effects based on van der Waals room-temperature ferromagnet Fe₃GaTe₂.** *M. Zhu*¹, *X. Li*¹, *Y. Wang*¹, *F. Zheng*¹, *J. Dong*¹, *Y. Zhou*¹, *L. You*¹ and *J. Zhang*¹ *1. Huazhong University of Science & Technology, Wuhan, China*
- CPB-08. Two-dimensional GdI₂/GeC van der Waals heterostructure: Bipolar magnetic semiconductor with high Curie temperature and large magnetic anisotropy energy.** *X. Fan*¹ and *W. Mi*¹ *1. Department of Applied Physics, Tianjin University, Tianjin, China*
- CPB-09. Unconventional Emergent Hall Effect Phenomena and its Modification in a van der Waals Ferromagnet Fe₃GeTe₂.** *R. Roy Chowdhury*¹, *C. Patra*¹, *S. Duttagupta*^{2,3}, *S. Fukami*^{3,4} and *R. Singh*¹ *1. Physics, Indian Institute of Science Education and Research Bhopal, Bhopal, India; 2. Saha Institute of Nuclear Physics, KOLKATA, India; 3. Center for Science and Innovation in Spintronics (CSIS), Tohoku University, 980-8577, Japan, Sendai, Japan; 4. Research Institute of Electrical Communication (RIEC), Tohoku University, SENDAI, Japan*
- CPB-10. Dzyaloshinskii–Moriya Interaction in WS₂/Py Bilayers.** *C. Wu*¹, *Y. Lin*², *L. Tsai*¹, *R. Jain*¹, *J. Liang*³, *Y. Lee*² and *S. Lee*¹ *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Materials, National Tsing Hua University, Hsinchu, Taiwan; 3. Physics, Fu Jen Catholic University, New Taipei, Taiwan*
- CPB-11. The Enhancement of Perpendicular Magnetic Anisotropy of Pt/Co/Pt by inserting a few-layer MoS₂.** *C. Li*¹, *X. Xu*¹, *Z. Zhu*¹, *C. Dou*¹, *M. Li*¹, *K. Meng*¹, *Y. Wu*¹, *J. Chen*¹ and *Y. Jiang*² *1. University of Science and Technology Beijing, Beijing, China; 2. Tiangong University, Tianjin, China*
- CPB-12. Influence of magnetic moments on spin-orbit torque efficiency from topological surface state in TI/FM interface.** *H. Poh*¹ and *W. Lew*¹ *1. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore*

CPB-13. Spin-charge interconversion in Topological Insulator Sb_2Te_3 . S. Teresi¹, T. Frottier¹, M. Cosset-Cheneau¹, A. Kandazoglou¹, P. Sgarro¹, C. Grezes¹, N. Sebe¹, P. Noé², J. Patterson², F. Hippert³, L. Hutin², G. Prenat¹, A. Marty¹, J. Attané¹ and L. Vila¹ *1. Université Grenoble Alpes / CEA / IRIG / SPINTEC, Grenoble, France; 2. Université Grenoble Alpes / CEA / LETI, Grenoble, France; 3. Université Grenoble Alpes / CNRS / Grenoble INP / LMGP, Grenoble, France*

CPB-14. Effect of cracker cell temperature on MBE-grown Sb_2Te_3 topological insulator thin film. A. Yagmur¹, C.S. Knox¹, J. Burton¹, B.J. Hickey¹ and S. Sasaki¹ *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

ORAL SESSIONS

Session DOA

SPIN CURRENTS, SPIN PUMPING, SPIN HALL, AND RELATED EFFECTS I

Guoqiang Yu, Chair

Chinese Academy of Sciences, Beijing, China

DOA-01. Control of spin currents and antiferromagnetic moments via topological surface states for ultralow energy consumption. (Invited) X. Chen¹, H. Bai¹, Y. Ji², X. Kou², F. Pan¹ and C. Song¹ *1. Tsinghua University, Beijing, China; 2. ShanghaiTech University, Shanghai, China*

DOA-02. Power and Phase Profiles in Nano-constriction Based Synchronized Spin Hall Nano-oscillators near Threshold Current. W. Ronayne^{1,2}, A. Samanta^{1,2}, A. Amann^{3,4} and S. Roy^{1,2} *1. Micropower Devices and Nanomagnetism Group, Tyndall National Institute, Cork, Ireland; 2. Department of Physics, University College Cork, Cork, Ireland; 3. School of Mathematical Sciences, University College Cork, Cork, Ireland; 4. Photonics Centre, Tyndall National Institute, Cork, Ireland*

DOA-03. Effect of magnetic ordering on the spin Hall angle of epitaxial $\text{Ho}(\text{0001})$ thin films. B. Sahoo^{1,2}, Y. Xiao² and E. Fullerton² *1. Physics, University of California, San Diego, La Jolla, CA, United States; 2. Center for Memory and Recording Research, University of California, San Diego, La Jolla, CA, United States*

DOA-04. Anatomy of Type- π Spin-Orbit Torque Switching: Insights from Simulations and Experiments. Y. Liu¹, C. Huang¹, Y. Huang¹, K. Chen¹, C. Tsai¹, Y. Li¹, T. Chang¹, C. Cheng¹ 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*

- DOA-05. Direct Electrical Probing of Anomalous Nernst Conductivity.** *W. Zhou*¹, *A. Miura*², *Y. Sakuraba*² and *K. Uchida*^{2,3} *1. International Center for Young Scientists, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan*
- DOA-06. Spin-fluctuation induced enhancement for pure spin current.** *P. Wu*^{1,2}, *D. Qu*^{3,4}, *Y. Tu*^{1,2}, *H. Liang*¹, *Y. Lin*¹, *S. Lee*⁵, *C. Chien*⁶ and *S. Huang*^{1,4} *1. Physics Department, National Taiwan University, Taipei, Taiwan; 2. Delta Electronics, Inc., Jhongli, Taiwan; 3. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 4. Center of Atomic Initiative for New Materials, National Taiwan University, Taipei, Taiwan; 5. Institute of Physics, Academia Sinica, Taipei, Taiwan; 6. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, United States*
- DOA-07. State tomography for magnetization dynamics and persistent coherence in $\text{Y}_3\text{Fe}_5\text{O}_{12}$.** *T. Hioki*^{1,2}, *T. Makiuchi*², *H. Shimizu*², *K. Hoshi*², *M. Elyasi*¹, *K. Yamamoto*³, *N. Yokoi*², *G. Bauer*¹ and *E. Saitoh*^{2,1} *1. AIMR, Tohoku University, Sendai, Japan; 2. Applied Physics, The University of Tokyo, Bunkyo, Japan; 3. Japan Atomic Energy Agency, Tokai, Japan*
- DOA-08. Significant effect of carrier concentration on spin lifetime at low temperatures in strained $\text{Si}_{0.1}\text{Ge}_{0.9}$.** *K. Kawashima*¹, *T. Naito*^{1,2}, *M. Yamada*^{2,3}, *T. Okada*¹, *Y. Wagatsuma*⁴, *K. Sawano*⁴ and *K. Hamaya*^{2,5} *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Center for Spintronics Research Network, Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 3. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan; 4. Advanced Research Laboratories, Tokyo City University, Setagaya, Japan; 5. Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Toyonaka, Japan*
- DOA-09. Nonreciprocal Parametric Magnon Excitation by Surface Mode.** *S. Horibe*¹, *H. Shimizu*¹, *K. Hoshi*¹, *T. Hioki*^{2,1} and *E. Saitoh*^{1,2} *1. Applied Physics, The University of Tokyo, Tokyo, Japan; 2. Advanced Institute for Materials Research, Tohoku University, Sendai, Japan*
- DOA-10. Ultra-low-current spin Hall nano-oscillators.** *N. Behera*¹, *A. Chaurasiya*¹, *V. Gonzalez*¹, *L. Bainsla*¹, *A. Kumar*¹, *A. Awad*¹, *H. Fulara*² and *J. Åkerman*¹ *1. Physics, University of Gothenburg, Gothenburg, Sweden; 2. Physics, Indian Institute of Technology Roorkee, Roorkee, India*

- DOA-11. Spin voltage gradient is the driving force for ultrafast demagnetization and terahertz spin transport.**
M. Rouzegar^{1,2}, L. Brandt³, L. Nadvornik⁴, D. Reiss¹, A. Chekhov^{1,2}, O. Gueckstock^{1,2}, C. In¹, M. Wolf², T. Seifert¹, P. Brouwer¹, G. Woltersdorf³ and T. Kampfrath^{1,2}
1. Experimental Physics, Free University of Berlin, Berlin, Germany; 2. Physical Chemistry, Fritz-Haber-Institute of Max-Planck Society, Berlin, Germany; 3. Institut für Physik, Martin-Luther-Universität Halle, Halle, Germany; 4. Mathematics and Physics, Charles University in Prague, Prague, Czechia

ORAL SESSIONS

Session DOB **SPIN CURRENTS, SPIN PUMPING, SPIN HALL, AND RELATED EFFECTS II**

Jiahao Han, Chair
 Tohoku University, Tokyo, Japan

- DOB-01. Observation of a Strong Magnetic-Field-Induced Spin Seebeck Effect Suppression in a Nearly Compensated Ferrimagnet.** *R. Ramos^{2,4}, T. Hioki^{1,3}, T. Kikkawa^{4,1}, Y. Hashimoto⁴ and E. Saitoh^{1,4}* *1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 2. CIQUS, Universidad de Santiago de Compostela, Santiago de Compostela, Spain; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan*
- DOB-02. Topologically Influenced Spintronic Terahertz Emission in Co₂MnGa Weyl Semimetal.** *R. Mandal¹, R. Momma¹, K. Ishibashi¹, S. Iihama¹, K. Suzuki¹ and S. Mizukami¹*
1. Tohoku University, Sendai, Japan
- DOB-03. Picosecond optospintronic tunnel junctions. (Invited)**
W. Zhao¹ *1. Fert Beijing Institute, MIIT Key Laboratory of Spintronics, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China*
- DOB-04. Scalable Spin-to-Charge Conversion Effect in the Inverse Spin Hall Nanodevice.** *Y. Lin¹, T. Hsin¹, Y. Wu¹, J. Sun² and Y. Tseng¹* *1. Materials Science & Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan; 2. Industry Academia Innovation School, National Yang Ming Chiao Tung University, Hsinchu, Taiwan*
- DOB-05. Observation of Spin-resolved Band Structure in Fe₃Ga Thin-films.** *K. Ohwada¹, K. Nakanishi¹, K. Kuroda¹, K. Miyamoto¹, T. Okuda¹, W. Zhou², T. Sasaki², K. Masuda², S. Isogami², Y. Sakuraba² and A. Kimura¹* *1. Hiroshima University, Higashi-hiroshima, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan*

- DOB-06. Magnonic Unidirectional Spin Hall Magnetoresistance and Spin Seebeck Effect in Ferrimagnetic Alloys with Spin-Flop Transition.** *S. Ding*¹, *W. Legrand*¹, *P. Noël*¹, *R. Schlitz*¹, *G. Krishnaswamy*¹, *G. Sala*¹ and *P. Gambardella*¹
1. ETH Zurich, Zurich, Switzerland
- DOB-07. Nonlocal detection of interlayer three-magnon coupling.** *L. Sheng*¹, *M. Elyasi*², *J. Chen*³, *G. Bauer*² and *H. Yu*¹
1. Beihang University, Beijing, China; 2. Tohoku University, Sendai, Japan; 3. Southern University of Science and Technology, Shenzhen, China
- DOB-08. High Spin-Charge Conversion Efficiency of Co₃Sn₂S₂ Promoted by Transition from Paramagnetic to Ferromagnetic Phase.** *T. Seki*¹, *Y. Lau*^{1,2}, *J. Ikeda*^{1,4}, *K. Fujiwara*¹, *A. Ozawa*¹, *S. Iihama*^{3,4}, *K. Nomura*^{1,5} and *A. Tsukazaki*^{1,6}
1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 3. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 4. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 5. Department of Physics, Kyushu University, Fukuoka, Japan; 6. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan
- DOB-09. Origin of Field-Free Switching in Obliquely Deposited Pt/Co/Pt Structures.** *C. Hu*¹, *W. Chen*¹, *Y. Liu*¹, *C. Huang*¹ and *C. Pai*^{1,2}
1. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Taiwan Semiconductor Manufacturing Company, Taipei, Taiwan
- DOB-10. Amplification of electron-mediated spin currents by stimulated spin pumping.** *B.J. Assouline*¹, *M. Brik*¹, *N. Bernstein*¹ and *A. Capua*¹
1. Applied Physics, The Hebrew University of Jerusalem, Jerusalem, Israel
- DOB-11. Spin to charge conversion in ferroelectric Germanium Telluride (GeTe) for a new generation of logic devices.** *S. Teresi*¹, *T. Frottier*¹, *M. Cosset-Cheneau*¹, *A. Kandazoglou*¹, *P. Sgarro*¹, *M. Wissmann*¹, *M. Culot*¹, *P. Noël*², *J. Patterson*¹, *F. Hippert*⁵, *L. Hutin*², *F. Cheynis*³, *F. Leroy*³, *B. Cores*³, *M. Bibes*⁴, *G. Prenat*¹, *A. Marty*¹, *J. Attané*¹ and *L. Vila*¹
1. Université Grenoble Alpes / CEA / IRIG / SPINTEC, Grenoble, France; 2. Université Grenoble Alpes / CEA / LETI, Grenoble, France; 3. Aix Marseille Université / CNRS / CINAM / AMUTECH, Marseille, France; 4. Unité Mixte de Physique CNRS/Thalès, Université Paris-Saclay, Palaiseau, France; 5. Université Grenoble Alpes / CNRS / Grenoble INP / LMGP, Grenoble, France

Session DOC

**SPIN CURRENTS, SPIN PUMPING, SPIN HALL,
AND RELATED EFFECTS III**

Christoforos Moutafis, Chair

University of Manchester, Manchester, United Kingdom

- DOC-01. Efficient spin to charge current conversion in WSe₂ by spin pumping from CoFeB.** *E.O. Burgos Parra¹, K. Abdukayumov², G. Rodriguez¹, C. Vergnaud², H. Boukari², A. Marty², F. Bonell², I.G. de Moraes², R. Rodriguez³, S. Oyarzún¹ and M. Jamet²* *1. Physics Department, Universidad de Santiago de Chile, Santiago, Chile; 2. CEA-SPINTEC, Grenoble, France; 3. Physics Department, Pontificia Universidad Católica de Chile, Santiago, Chile*
- DOC-02. Single layer spin-orbit torque in Mn₂Ru_{0.9}Ga.** *S. Lenne¹, G. Acheson¹, R. Smith¹, P.S. Stamenov¹ and K. Rode¹* *1. Trinity College Dublin, Dublin, Ireland*
- DOC-03. Gate-Tunable and Chirality-Dependent Unidirectional Magnetoresistance in Tellurium Nanowires.** *F. Calavalle^{1,2}, M. Suárez-Rodríguez¹, B. Martin-García^{1,3}, A. Johansson^{4,5}, D. Vaz¹, H. Yang¹, I.V. Maznichenko⁴, S. Ostanin⁵, A. Mateo-Alonso^{6,3}, A. Chuvilin^{1,3}, I. Mertig⁴, M. Gobbi^{1,3}, F. Casanova^{1,3} and L. Hueso^{1,3}* *1. CIC nanoGUNE BRTA, Donostia - San Sebastian, Spain; 2. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan; 3. Ikerbasque, Bilbao, Spain; 4. Institute of Physics, Martin-Luther-University Halle-Wittenberg, Halle, Germany; 5. Max Planck Institute of Microstructure Physics, Halle, Germany; 6. POLYMAT, Donostia - San Sebastian, Spain*
- DOC-04. Effect of layer thickness to the in-plane coercive field and anomalous Nernst effect in Sm/Co multilayer films.** *R. Modak¹, W. Zhou¹, Y. Sakuraba¹ and K. Uchida^{1,2}* *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*
- DOC-05. Determining the Mechanism of Transverse Spin-Current Absorption in Nanometer-Thick Ferromagnets.** *Y. Lim¹, S. Wu¹, D.A. Smith¹, C. Klewe², P. Shafer² and S. Emori¹* *1. Virginia Tech, Blacksburg, VA, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*
- DOC-06. Effects of Elemental Doping and Interface Engineering on Spin-Orbit Torques in CoSi-based Topological Semimetal Thin Films.** *K. Tang^{1,2}, Z. Wen¹, T. Seki³, H. Sukegawa¹ and S. Mitani^{1,2}* *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. University of Tsukuba, Tsukuba, Japan; 3. Tohoku University, Sendai, Japan*

- DOC-07. Nonlinear Hall Effect Driven by Electric Field and Temperature Gradient with Three-Dimensional Magnetic Textures.** *T. Yamaguchi*², K. Nakazawa¹ and A. Yamakage³
1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 2. Center for Emergent Matter Science, RIKEN, Wako, Japan; 3. Department of Physics, Nagoya University, Nagoya, Japan
- DOC-08. Spin-Gapless Semiconducting Properties in a Polycrystalline CoCrFeAl Heusler-Alloy Film.** T. Sarfo¹ and A. Hirohata¹ 1. University of York, York, United Kingdom
- DOC-09. Circular Memristive Nano-Gates on Spin Hall Nano Oscillators.** *M. Khademi*^{1,2}, A. Kumar³, M. Rajabali², S.P. Dash¹ and J. Åkerman³ 1. Department of Microtechnology and Nanoscience, Chalmers University of Technology, Gothenburg, Sweden; 2. NanOsc AB, Kista, Sweden; 3. Physics Department, University of Gothenburg, Gothenburg, Sweden
- DOC-10. Antimagnonics and enhancing the magnon spin current using the bosonic Klein paradox.** *J.S. Harms*¹, H. Yuan¹ and R.A. Duine^{1,2} 1. Utrecht University, Utrecht, Netherlands; 2. Eindhoven University of Technology, Eindhoven, Netherlands
- DOC-11. Nonreciprocal Magnon Hanle Effect in Antiferromagnetic α -Fe₂O₃.** J. Gückelhorn^{1,2}, S. de-la-Peña³, M. Scheufele^{1,2}, M. Grammer^{1,2}, *M. Opel*¹, S. Geprägs¹, J.C. Cuevas³, R. Gross^{1,2}, H. Huebl^{1,2}, A. Kamra³ and M. Althammer^{1,2}
1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. TUM School of Natural Sciences, Technical University of Munich, Garching, Germany; 3. Condensed Matter Physics Center (IFIMAC), Universidad Autónoma de Madrid, Madrid, Spain
- DOC-12. Thermoelectric Generation in Y₃Fe₅O₁₂/Co-Ru/Pt Systems.** *Y. Ikeda*¹, Y. Hamada¹, Y. Kurokawa¹, C. Martin Valderrama², B. Andreas² and H. Yuasa¹ 1. Kyushu University, Fukuoka, Japan; 2. CIC nanoGUNE, San Sebastian, Spain
- DOC-13. THz emission from Fe/Pt spintronic emitters with L1₀-FePt alloyed interface.** *L. Scheuer*¹, M. Ruhwedel¹, L. Franke¹, D. Sokoluk¹, G. Torosyan², G. Vourlias³, M. Rahm¹, B. Hillebrands¹, T. Kehagias³, R. Beigang¹ and E. Papaioannou^{4,3} 1. Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau, Kaiserslautern, Germany; 2. Photonic Center Kaiserslautern, Kaiserslautern, Germany; 3. Aristotle University of Thessaloniki, Thessaloniki, Greece; 4. Martin-Luther-University Halle-Wittenberg, Halle, Germany

Session DOD

VOLTAGE-CONTROLLED MAGNETIC ANISOTROPY I

Tom Thomson, Chair

University of Manchester, Manchester, United Kingdom

DOD-01. Antiferromagnetic Tunnel Junctions for Spintronics.*(Invited) E.Y. Tsybal¹ 1. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, United States***DOD-02. Orbital Polarization Enhanced by Electron Correlation at the Fe/MgO Interface: A Depth-Resolved X-Ray Magnetic Circular Dichroism Study.***S. Sakamoto¹, M. Tsujikawa², M. Shirai², K. Amemiya³ and S. Miwa^{1,4} 1. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Institute of Materials Structure Science, KEK, Tsukuba, Japan; 4. Trans-scale Quantum Science Institute, The University of Tokyo, Bunkyo, Japan***DOD-03. Voltage-controlled magnetic easy-cone states for low-power spintronic applications.***J. Jeong¹, M. Kang¹, S. Lee¹, J. Kang¹, K. Lee¹ and B. Park¹ 1. Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea***DOD-04. Withdrawn****DOD-05. Effect of alkali halide layer insertions on magnetic anisotropy at the Fe/MgO interface.***J. Chen¹, S. Sakamoto¹, H. Kosaki¹ and S. Miwa^{1,2} 1. The Institute for Solid State Physics, The University of Tokyo, Chiba, Japan; 2. Trans-scale Quantum Science Institute, The University of Tokyo, Tokyo, Japan*

- DOD-06. Interface control of anisotropy in CoFeB/MgO/HfO₂ using dusting layers and magneto-ionic gating.** T. Bhatnagar-Schöffmann¹, A. Kovács², R. Pachat¹, D. Ourdani³, A. Lamperti⁴, M. Syskaki⁵, T. da Câmara Santa Clara Gomes⁶, Y. Roussigné³, S. Ono⁷, J. Langer⁵, R.E. Dunin-Borkowski², P. Schöffmann⁸, D. Ravelosona^{1,9}, M. Belmeguenai³, A. Solignac¹⁰ and L. Herrera Diez¹
1. Centre de Nanosciences et de Nanotechnologies, CNRS, Université Paris-Saclay, Palaiseau, France;
2. Forschungszentrum Jülich GmbH, Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter Grünberg Institute (PGI-5), Jülich, Germany; *3. Laboratoire des Sciences des Procédés et des Matériaux, CNRS-UPR 3407, Université Sorbonne Paris Nord, Villetaneuse, France;*
4. CNR-IMM, Agrate Unit, Agrate-Brianza, Italy; *5. Singulus Technologies AG, Kahl am Main, Germany;* *6. Unité Mixte de Physique CNRS/Thales, Université Paris-Saclay, Palaiseau, France;* *7. Central Research Institute of Electric Power Industry, Yokosuka, Japan;* *8. Synchrotron SOLEIL, Saint Aubin, France;* *9. Spin-Ion Technologies, Palaiseau, France;* *10. SPEC, CEA, CNRS, Université Paris-Saclay, Gif-sur-Yvette, France*

ORAL SESSIONS

Session DOE

VOLTAGE-CONTROLLED MAGNETIC ANISOTROPY II

Ivan Vera Marun, Chair

University of Manchester, Manchester, United Kingdom

- DOE-01. Advances in Magnetic Tunnel Junctions and Voltage-Induced Dynamic Switching for Voltage-Controlled MRAM. (Invited)** S. Yuasa¹, T. Nozaki¹, T. Yamamoto¹, T. Ichinose¹, T. Nozaki¹, H. Onoda¹, A. Sugihara¹, R. Matsumoto¹, H. Imamura¹, H. Nakayama¹, M. Konoto¹ and K. Yakushiji¹ *1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*
- DOE-02. VCMA-MTJ: Towards GHz operation low power MRAM. (Invited)** W. Kim¹, R. Carpenter¹, K. Sankaran¹, S. Rao¹, D. Favaro¹, N. Jossart¹, N. Franchina Vergel¹, D. Crotti¹, K. Wostyn¹, G. Kar¹ and S. Couet¹ *1. Imec, Leuven, Belgium*
- DOE-03. Magneto-Transport Properties of CoFeB/MgO/CoFeB Magnetic Tunnel Junctions Deposited at Cryogenic Temperature.** T. Ichinose¹, T. Yamamoto¹, T. Nozaki¹, K. Yakushiji¹, S. Tamaru¹, M. Konoto¹ and S. Yuasa¹ *1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*
- DOE-04. Solid-State Lithium-Ion Supercapacitor for Voltage Control of Skyrmions.** M. Ameziane¹, J. Huhtasalo¹, L. Flajšman¹, R. Mansell¹ and S. van Dijken¹ *1. Applied Physics, Aalto University, Espoo, Finland*

- DOE-05. Interplay of voltage-controlled magnetic anisotropy and spin-orbit torque in IrMn-based perpendicular magnetic tunnel junctions.** *J. Lu², W. Li¹, J. Liu², Z. Liu², Y. Wang², C. Jiang², J. Du², S. Lu¹, N. Lei², S. Peng² and W. Zhao²* *1. Beihang University, Beijing, China; 2. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China*
- DOE-06. Electric field control of RKKY coupling through solid-state ionics.** *R. Mansell¹, M. Ameziane¹, R. Rosenkamp¹, L. Flajšman¹ and S. van Dijken¹* *1. Department of Applied Physics, Aalto University, Espoo, Finland*

POSTER SESSION

Session DPA SPIN CURRENTS, SPIN PUMPING, SPIN HALL, AND RELATED EFFECTS IV (Poster Session)

Tatsuya Yamamoto, Co-Chair

National Institute of Advanced Industrial Science and Technology
(AIST), Tsukuba, Japan

Rajkumar Modak, Co-Chair

National Institute for Materials Science (NIMS), Tsukuba, Japan

- DPA-01. Systematic study of parallel parametric amplification of magnetization dynamics in YIG thin disk.** *G. Emdi¹, T. Hioki^{2,1} and E. Saitoh^{1,2}* *1. Department of Applied Physics, The University of Tokyo, Bunkyo, Japan; 2. Advanced Institute for Material Research, Tohoku University, Sendai, Japan*
- DPA-02. Atomic Layer Deposition of Perpendicularly Magnetized Co Layers Showing Current-induced Domain Wall Motion.** *M. Kado¹, Y. Tokuda¹, Y. Ootera¹, N. Umetsu¹, M. Quinsat¹, H. Fukumizu¹ and T. Kondo¹* *1. Kioxia Corporation, Yokohama, Japan*
- DPA-03. Spin-Orbit Torques in PtCr and PtCu multi-layers/Co bi-layers.** *W. Janssens^{1,2}, G. Talmelli², K. Cai², R. Carpenter², J. De Boeck^{1,2} and S. Couet²* *1. Department of Electrical Engineering, KU Leuven, Leuven, Belgium; 2. Imec, Leuven, Belgium*
- DPA-04. Spin-orbit torques in Co₂MnGa magnetic Weyl semimetal thin films.** *L. Bainsla^{1,2}, Y. Sakuraba³, A. Awad², A. Kumar², N. Behera², R. Khymyn², S.P. Dash¹ and J. Åkerman²* *1. Department of Microtechnology and Nanoscience, Chalmers University of Technology, Gothenburg, Sweden; 2. Physics Department, University of Gothenburg, Gothenburg, Sweden; 3. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan*

- DPA-05. Anomalous Hall Transport of Ferrimagnetic Inverse Heusler Alloy Mn₂PdSn.** *A. Bhattacharya¹, S. Duttagupta¹ and I. Das¹* *1. Condensed Matter Physics, Saha Institute of Nuclear Physics, Kolkata, India*
- DPA-06. Nano artificial alloys in bulk-immiscible Ru-Cu system for spin-current generation.** *C. He¹, J. Song^{1,2}, Z. Wen¹, H. Sukegawa¹, Y. Miura¹, T. Ohkubo¹, Y. Nozaki³ and S. Mitani^{1,2}* *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 3. Department of Physics, Keio University, Yokohama, Japan*
- DPA-07. Quantification of Spin Accumulation in Ferromagnetic Heterostructure using DC Bias Harmonic Hall Measurement.** *H. Poh¹, C.C. Ang¹, W. Lew¹ and G.J. Lim¹* *1. School Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore*
- DPA-08. High-Throughput Calculation of Transverse Transport Properties in Heusler Compounds.** *G. Xing¹, K. Masuda¹, T. Tadano¹ and Y. Miura¹* *1. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- DPA-09. Spin Hall effect in Se-implanted Pt from extrinsic scattering.** *G. Vashisht¹, U. Shashank¹, Y. Kusaba¹, T. Tomoda¹, R. Nongjai², P. Murmu³, J. Kennedy³, R. Medwal⁴, S. Gupta⁵, R. Rawat⁵, A. Kandasami⁶, H. Asada⁷ and Y. Fukuma¹* *1. Department of Physics and Information Technology, Faculty of Computer Science and System Engineering, Kyushu Institute of Technology, Iizuka, Japan; 2. Materials Science Division, Inter-University Accelerator Centre, Delhi, India; 3. National Isotope Centre, GNS Science, Lower Hutt, New Zealand; 4. Department of Physics, Indian Institute of Technology, Kanpur, India; 5. Natural Sciences and Science Education, National Institute of Education, Nanyang Technological University, Singapore, Singapore; 6. Department of Physics & Centre for Interdisciplinary Research, University of Petroleum and Energy Studies, Dehradun, India; 7. Graduate School of Sciences and Technology for Innovation, Yamaguchi University, Ube, Japan*
- DPA-10. Thickness dependence of Gilbert damping in Ta/CoFeB/MgO films probed by Tr-MOKE.** *Y. Gong¹, X. Lu¹, J. Su², Z. Chen¹, L. Yang¹, Y. Yan¹, Y. Li¹, X. Ruan¹, J. Du³, J. Cai², J. Wu⁴, L. He¹, R. Zhang¹, H. Meng⁵, B. Liu⁵ 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. York-Nanjing Joint Center (YNJC) for Spintronics and Nano-engineering, Department of Electronics and Physics, University of York, York, United Kingdom; 5. Devices and Systems of Zhejiang Province, Hangzhou, China*

- DPA-11. Spin current generation in highly conductive Ru/Cu epitaxial heterostructures.** Z. Wen¹, J. Song^{1,2}, C. He¹, T. Scheike¹, H. Sukegawa¹, T. Ohkubo¹, Y. Nozaki³ and S. Mitani^{1,2} *1. National Institute for Materials Science, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 3. Department of Physics, Keio University, Yokohama, Japan*
- DPA-12. Spin Swapping Effect of Band Structure Origin in Centrosymmetric Ferromagnets.** H. Park¹, H. Ko², G. Go², J. Oh³, K. Kim⁴ and K. Lee² *1. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul, The Republic of Korea; 2. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 3. Department of Materials Science and Engineering, Korea University, Seoul, The Republic of Korea; 4. Center of Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea*
- DPA-13. Unconventional Spin Pumping and Magnetic Damping in an Insulating Compensated Ferrimagnet.** Y. Li¹ *1. Physical Science and Engineering, King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia*
- DPA-14. Spin-Pump-Induced Spin Transport in A Thermally Evaporated Naphthyl Diamine Derivative Film.** E. Shikoh^{1,2}, Y. Onishi² and Y. Teki^{1,2} *1. Osaka Metropolitan University, Osaka, Japan; 2. Osaka City University, Osaka, Japan*
- DPA-15. Optical spin-orbit torque measurement of poly-Bi/CoFeB bilayer.** S. Kim¹ *1. Department of Energy Science, Sungkyunkwan University, Suwon, The Republic of Korea*
- DPA-16. An Electromotive Force in Pt/VO₂/Ni₈₀Fe₂₀ Tri-Layer Junctions Under the Ferromagnetic Resonance.** T. Nishimura^{1,2}, F. Kishi¹, S. Yamauchi¹, T. Kanki³ and E. Shikoh^{1,2} *1. Osaka City University, Osaka, Japan; 2. Osaka Metropolitan University, Osaka, Japan; 3. Osaka University, Osaka, Japan*
- DPA-17. Independent Control of Spin-Orbit Torque.** S. Lee¹, J. Park¹, M. Kim¹, M. Kim¹, J. Shin¹ and S. Choe¹ *1. Seoul National University, Seoul, The Republic of Korea*

Session DPB
SPIN CURRENTS, SPIN PUMPING, SPIN HALL,
AND RELATED EFFECTS V
(Poster Session)

Shoya Sakamoto, Chair
 The University of Tokyo, Kashiwa, Japan

- DPB-01. Independent Control of Field-like Spin-Orbit Torque by Adjusting Ferromagnet Thickness.** *J. Yoon¹, M. Kim¹, S. Lee¹, D. Kim² and S. Choe¹* *1. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 2. Center for Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea*
- DPB-02. Magneto-electric signal due to microwave heating in ferromagnetic/nonmagnetic bilayer system.** *S. Obinata¹, R. Iimori¹, R. Kajima¹, T. Tanaka¹ and T. Kimura¹* *1. Physics, Kyushu University, Fukuoka, Japan*
- DPB-03. Spin Hall magnetoresistance of CoFe₂O₄/Pt heterostructures with interface non-collinear magnetic configurations.** *J. Guo¹, K. Meng¹, T. Zhang¹, J. Liu¹, J. Chen¹, Y. Wu¹, X. Xu¹ and Y. Jiang¹* *1. University of Science and Technology Beijing, Beijing, China*
- DPB-04. Generation of Spin-wave Soliton using Magnetostatic Surface Mode.** *T. Iwata¹, T. Eguchi¹ and K. Sekiguchi¹* *1. Yokohama National University, Yokohama, Japan*
- DPB-05. Mechanical Spin Current Generation via Intrinsic Spin-Orbit Interaction with Spatial Inversion Symmetry.** *Y. Ogawa¹ and H. Kohno¹* *1. Physics, Nagoya University, Nagoya, Japan*
- DPB-06. Transition from digital to analog spin-orbit torque switching in PtMn/(Co/Pd)_n/Ta heterostructures using current treatment.** *A. Ranjan¹* *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*
- DPB-07. Electrical Determination of Magnetization Switching in In-plane Anisotropy Spin-orbit Systems.** *Y. Huang¹, Y. Lin¹, Y. Wu¹ and Y. Tseng¹* *1. Materials Science & Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan*

- DPB-08. Microfabrication and Characterization of Ferromagnetic Metal/Nonmagnetic Semiconductor Junctions for Spin Pumping-Induced Highly Efficient Spin Injection.** T.S. Balland^{1,2}, T. Seki^{2,3}, T. Yamazaki², R.Y. Umetsu², M. Ogawa⁴, T. Uemura⁴ and K. Takanashi^{2,5} *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. JST-CREST, Tokyo, Japan; 4. Faculty of Information Science and Technology, Hokkaido University, Sapporo, Japan; 5. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*
- DPB-09. A new method for emitting spin-polarized electron.** Y. Chow¹, S. Chao¹, P. Jiang², C. Chang¹ and C. Chang¹ *1. Department of Electronic Engineering, Mingshin University of Science and Technology, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Minghsin University of Science and Technology, Hsinchu, Taiwan*
- DPB-10. Observation of Anomalous Nernst Effect in Flexible Co-Pt Nanoparticle Assembled Films Fabricated by Chemical Processes.** Y. Kurokawa¹, K. Yamada², H. Matsui², M. Shima² and H. Yuasa¹ *1. Graduate School and Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan; 2. Graduate School of Natural Science and Technology, Gifu University, Gifu, Japan*
- DPB-11. Four-terminal sensing of laser-induced anomalous-Nernst voltages.** S. Mochizuki¹, T. Obayashi¹, I. Sugiura², Y. Shiota², T. Moriyama², T. Ono², T. Satoh¹ and K. Yamada¹ *1. Department of Physics, Tokyo Institute of Technology, Meguro, Japan; 2. Institute of Chemical Research, Kyoto University, Uji, Japan*
- DPB-12. Acoustic Spin Rotation in Heavy-Metal-Ferromagnet Bilayers.** Y. Cao¹, H. Ding¹, Y. Zuo¹, N. Lei², J. Cao¹, M. Si¹, L. Xi¹, C. Jia¹, D. Xue¹ and D. Yang¹ *1. School of Physical Science and Technology, Lanzhou University, Key Laboratory for Magnetism and Magnetic Materials of Ministry of Education, Lanzhou University, Lanzhou 730000, China, Lanzhou, China; 2. School of Integrated Circuit Science and Engineering, Fert Beijing Institute, MIIT Key Laboratory of Spintronics, School of Integrated Circuit Science and Engineering, Beihang University, Beijing 100191, China, Beijing, China*
- DPB-13. Determination of Spin Transport Properties of Non-collinear Antiferromagnets in Tunnel Junctions.** C. Fang¹, B.K. Hazra¹ and S. Parkin¹ *1. NISE, Max Planck Institute for Microstructure Physics, Halle (Saale), Germany*
- DPB-14. First-Principles Simulation of Anomalous- and Spin-Hall Effect in Fe-Co Disordered Systems.** Y. Kota¹ and A. Sakuma² *1. National Institute of Technology, Fukushima College, Iwaki, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Japan*

- DPB-15. Experimental and Theoretical Evaluation for Pressure Effects on Spin Hall Effect in Pt.** *R. Iimori¹, S. Obinata¹, T. Yamazaki¹, A. Mitsuda¹ and T. Kimura¹* *1. Physics, Kyushu University, Fukuoka, Japan*
- DPB-16. Spin-orbit effective fields generated by geometric rotation induced novel spin polarization.** *C. Pan¹ and X. Qiu¹* *1. School of Physics Science and Engineering, Tongji University, Shanghai, China*
- DPB-17. Detecting spin hall signals of permalloy and heavy metal using inverse spin Hall effect.** *K. Lai¹, D. Shiu¹, N. Liang¹, C. Chang¹ and L. Horng¹* *1. National Changhua University of Education Department of Physics, Changhua, Taiwan*

POSTER SESSION

Session DPC VOLTAGE-CONTROLLED ANISOTROPY AND SPIN-CURRENTS (Poster Session)

Saroj Dash, Co-Chair

Chalmers Tekniska Hogskola, Gothenburg, Sweden

Lakhan Bainsla, Co-Chair

Chalmers University of Technology, Gothenburg, Sweden

- DPC-01. Sub-Volt Switching of Nanoscale Voltage-Controlled Magnetic Random-Access Memory Cell.** *Y. Shao¹, V. Lopez-Dominguez¹, N. Davila², Q. Sun³, N. Kioussis⁴, J. Katine² and P. Khalili¹* *1. Department of Electrical and Computer Engineering, Northwestern University, Evanston, IL, United States; 2. Western Digital, San Jose, CA, United States; 3. School of Science, Shandong Jianzhu University, Jinan, China; 4. Department of Physics and Astronomy, California State University, Northridge, CA, United States*
- DPC-02. Voltage control of frequency and effective damping in nano-constriction-based spin Hall nano-oscillators.** *V. Gonzalez¹, R. Khymyn¹, H. Fulara², A.A. Awad¹ and J. Åkerman¹* *1. University of Gothenburg, Gothenburg, Sweden; 2. Indian Institute of Technology, Roorkee, India*
- DPC-03. Systematic study of the strength of VCMA effect in nanomagnets of small and large strength of spin-orbit interaction.** *V. Zayets¹, I. Serdeha² and V. Grygoruk²* *1. Platform Photonics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Educational and Scientific Institute of High Technologies, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*

- DPC-04. Magnetic compensation behavior driven by excess Mn in ferrimagnet $\text{Mn}_{2.21}\text{Ru}_{0.86}\text{Ga}$ thin films.** C. Dou¹, X. Xu¹, K. Yang², C. Li¹, T. Zhang¹, Z. Zhu¹, X. Zhao¹, K. Meng¹, Y. Wu¹, J. Chen¹, M. Yang² and Y. Jiang¹ 1. *University of Science and Technology Beijing, Beijing, China*; 2. *The Hong Kong Polytechnic University, Hong Kong, China*
- DPC-05. Write-error rate estimation of voltage-controlled magnetization switching in a magnetic-topological-insulator-based device.** T. Komine¹, S. Watahiki¹ and T. Chiba² 1. *Ibaraki University, Ibaraki, Japan*; 2. *Fukushima National College of Technology, Fukushima, Japan*
- DPC-06. Engineering of Voltage Controlled Magnetic Anisotropy Magnetic Tunnel Junctions at Cryogenic Temperatures.** P. Brandao Veiga¹, R. Sousa¹, L.D. Buda-Prejbeanu¹, S. Auffret¹, L. Vila¹, I. Joumard¹, I. Prejbeanu¹ and B. Dieny¹ 1. *CEA-SPINTEC, Grenoble, France*
- DPC-07. Electrically controllable exchange bias via interface magnetoelectric effect.** A.B. Cahaya¹, A.A. Anderson¹, A. Azhar² and M.A. Majidi¹ 1. *Physics, Universitas Indonesia, Depok, Indonesia*; 2. *UIN Syarif Hidayatullah Jakarta, Jakarta, Indonesia*
- DPC-08. Withdrawn**
- DPC-09. Comparative study on the origin of spin Hall effect in poly and single crystalline $\alpha\text{-W}$ in W/CoFeB bilayers.** M. Talluri^{1,2}, Z. Wen¹, C. Murapaka¹ and S. Mitani¹ 1. *Spintronics Group, National Institute for Materials Science (NIMS), Tsukuba, Japan*; 2. *Materials Science and Metallurgical Engineering, IIT Hyderabad, Hyderabad, India*
- DPC-10. Large spin Hall conductivity in epitaxial thin films of non-collinear antiferromagnet Mn_3Sn .** H. Bangar¹, K. Imtiyaz Ali Khan¹, A. Kumar², N. Chowdhury¹, P. Muduli³ and P. Kishor Muduli¹ 1. *Department of Physics, Indian Institute of Technology Delhi, New Delhi, India*; 2. *Department of Physics, University of Gothenburg, Gothenburg, Sweden*; 3. *Department of Physics, Indian Institute of Technology Madras, Chennai, India*
- DPC-11. Manipulating Sign and Amplitude of Interlayer Dzyaloshinskii-Moriya Interaction by Electrical Currents.** F. Kammerbauer¹, W. Choi¹, F. Freimuth^{1,2}, K. Lee^{1,3}, R. Frömter¹, D. Han⁴, R. Lavrijsen⁵, H. Swagten⁵, Y. Mokrousov^{1,2} and M. Kläui¹ 1. *Institute of Physics, Johannes Gutenberg University, Mainz, Germany*; 2. *Forschungszentrum Jülich, Jülich, Germany*; 3. *Korea University, Sejong, The Republic of Korea*; 4. *Korea Institute of Science and Technology, Seoul, The Republic of Korea*; 5. *Eindhoven University of Technology, Eindhoven, Netherlands*

- DPC-12. Acoustic spin transport in s-wave superconductors.** T. Funato², A. Yamakage¹ and M. Matsuo³ 1. Nagoya University, Nagoya, Japan; 2. Keio University, Yokohama, Japan; 3. University of Chinese Academy of Sciences, Beijing, China
- DPC-13. Effect of sputtering process parameters on tungsten structural phases and its spin Hall angle.** K. Sriram¹, R. Mondal¹, Y. Pappu¹, J. Pradhan², A. Haldar² and C. Murapaka¹ 1. Department of Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad, Sangareddy, India; 2. Department of Physics, Indian Institute of Technology Hyderabad, Sangareddy, India
- DPC-14. Single Domain Spin Orbit Torque Enabled Magnetic Field Sensor With Offset Compensation.** S. Zeilinger^{1,2}, J. Guettinger², A. Satz², S. Koraltan¹ and D. Suess¹ 1. Physics of Functional Materials, University of Vienna, Vienna, Austria; 2. Infineon Technologies Austria, Villach, Austria

ORAL SESSIONS

Session EOA

BIOMAGNETICS I: THERAPY AND DIAGNOSTICS

Ron Goldfarb, Co-Chair

National Institute of Standards and Technology, Boulder,
CO, United States

Maria Luisa Fernandez Gubieda, Co-Chair

Universidad del Pais Vasco, Leioa, Spain

- EOA-01. Magnetotactic Bacteria: Biorobots for Targeted Therapies and Model Nanomagnetic Systems. (Invited)** J. Alonso¹, D. Gandia², E. M. Jefremovas^{1,3}, L. Gandarias⁴, D. Villanueva⁵, N. Lete⁵, L. Marciano^{6,5}, A. García-Prieto⁹, I. Orue⁷, L. Fernández Barquín¹, D. de Cos Elices⁸, A. García-Arribas^{5,2}, A. Muela⁴ and M. Fernandez Gubieda^{5,2}
1. CITIMAC, Universidad de Cantabria, Santander, Spain; 2. BCMaterials, Leioa, Spain; 3. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 4. Inmunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 5. Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 6. Física, Universidad de Oviedo, Oviedo, Spain; 7. SGiker Medidas Magnéticas, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 8. Física Aplicada, Universidad del País Vasco (UPV/EHU), Vitoria, Spain; 9. Física Aplicada, Universidad del País Vasco (UPV/EHU), Bilbao, Spain
- EOA-02. Evaluation of alternative magnetic nanoparticle materials for biomedical applications.** I. Dirba¹, C.K. Chandra¹, Y. Ablets¹ and O. Gutfleisch¹ 1. Institute of Materials Science, TU Darmstadt, Darmstadt, Germany

- EOA-03. Iron oxide nanoparticles as a new tool for treating cardiovascular diseases. (Invited)** D. Cabrera², J. Ranjbar¹, A. Santana-Otero³, M. Eizadi Sharifabad², D. Ortega³, N. Telling² and A. Harper¹ *1. School of Medicine, Keele University, Keele, Newcastle under Lyme, United Kingdom; 2. School of Pharmacy and Bioengineering, Guy Hilton Research Centre, Keele University, Stoke on Trent, United Kingdom; 3. Condensed Matter Physics Department, University of Cádiz, Puerto Real, Cadiz, Spain*
- EOA-04. Withdrawn**
- EOA-05. From thermographical data to 2D temperature maps: how to evaluate performance for magnetic hyperthermia experiments in phantoms.** D.P. Valdés^{1,2}, T.E. Torres^{1,2}, A.C. Moreno Maldonado³, G. Urretavizcaya⁴, M.S. Nadal¹, M. Vasquez Mansilla¹, R.D. Zysler^{1,2}, G.F. Goya³, E. De Biasi^{1,2} and E. Lima Jr.¹ *1. Instituto de Nanociencia y Nanotecnología, CNEA-CONICET, Bariloche, Argentina; 2. Instituto Balseiro, UNCuyo, Bariloche, Argentina; 3. Departamento de Física de la Materia Condensada, INMA, UNIZAR, Zaragoza, Spain; 4. Consejo Nacional de Investigaciones Científicas y Técnicas, CNEA, Bariloche, Argentina*
- EOA-06. Synthetic Antiferromagnet Disk Particles for Hyperthermia.** S. Scheibler¹, I.K. Herrmann³, D. Suess⁴, M. Krupinski⁵, M. Graeser^{6,7} and H.J. Hug^{1,2} *1. Magnetic and Functional Thin Films, Empa, Duebendorf, Switzerland; 2. Physics, University of Basel, Basel, Switzerland; 3. Dep. of Mechanical and Process Eng., ETH Zurich, Zurich, Switzerland; 4. Physics of Functional Materials, University of Vienna, Vienna, Austria; 5. Polish Academia of Science, The Henryk Niewodniczanski Institute of Nuclear Physics, Krakow, Poland; 6. Luebeck University, Luebeck, Germany; 7. Individualized and Cell-based Medical Engineering, Fraunhofer Research Institution, Luebeck, Germany*
- EOA-07. Exchange bias, magnetic fluid hyperthermia, and cellular uptake by endothelial cells in core-shell Fe@Fe₃O₄ nanoparticles.** K. Riahi¹, I. Dirba¹, Y. Ablets¹, N. Sultana Shaik², E. Adabifiroozjaei², A. Filatova³, L. Molina-Luna², U. Nuber³ and O. Gutfleisch¹ *1. Functional Materials, Institute of Materials Science, TU Darmstadt, Darmstadt, Germany; 2. Advanced Electron Microscopy Division, Institute of Materials Science, Darmstadt, Germany; 3. Stem Cell and Developmental Biology, TU Darmstadt, Darmstadt, Germany*

- EOA-08. MagPure Chip: A Microfluidic Device to Isolate Viable Circulating Tumor Cells.** *D. Le Roy*¹, *L. Descamps*^{2,1}, *J. Garcia*³, *D. Barthélémy*³, *E. Laurenceau*⁴, *S. Cavassila*⁵, *L. Payen*³ and *A. Deman*² *1. Institut Lumière Matière, ILM UMR5306, Université Claude Bernard Lyon 1, Villeurbanne, France, Villeurbanne, France; 2. Institut des Nanotechnologies de Lyon, INL UMR5270, Université Claude Bernard Lyon 1, Villeurbanne, France., Villeurbanne, France; 3. Laboratoire de Biochimie et Biologie Moléculaire, CICLY UR3738, Groupe Hospitalier Sud, HCL, Pierre Bénite, France., Pierre Bénite, France; 4. Institut des Nanotechnologies de Lyon, INL UMR5270, Ecole Centrale de Lyon, Ecully, France., Ecully, France; 5. CREATIS, Univ Lyon, INSA Lyon, Université Claude Bernard Lyon 1, UJM Saint Etienne, CNRS, Inserm, CREATIS UMR 5220, U1206, F69621, LYON, France., Lyon, France*
- EOA-09. Effect of Substitution in the Heating Efficiency of CuFe₂O₄ Nanoparticles for Magnetic Hyperthermia Application.** *G. Phukan*¹ and *J. Borah*¹ *1. Department of Science And Humanities, National Institute of Technology Nagaland, Dimapur, India*
- EOA-10. Revealing the relation between the magnetic anisotropy and the heating efficiency of different magnetotactic bacteria species.** *D. Gandia*¹, *L. Gandarias*³, *L. Marciano*², *D. Villanueva*¹, *A.G. Gubieda*³, *A. Abad*³, *A. García Prieto*⁴, *J. Alonso*⁵ and *M. Fernandez Gubieda*¹ *1. Electricidad y Electronica, Universidad Del Pais Vasco, Leioa, Spain; 2. Física, Universidad de Oviedo, Oviedo, Spain; 3. Inmunología, Microbiología y Parasitología, Universidad Del Pais Vasco, Leioa, Spain; 4. Física Aplicada, Universidad Del Pais Vasco, Bilbao, Spain; 5. CITIMAC, Universidad de Cantabria, Santander, Spain*
- EOA-11. Ultrafast Heating Rate of Ultrasmall Gold-coated Iron Oxide Magnetic Nanoparticles by Ferromagnetic Resonance.** *L. Tonthat*¹, *A. Kuwahata*¹, *T. Ogawa*¹ and *S. Yabukami*¹ *1. Tohoku University, Sendai, Japan*
- EOA-12. Ferromagnetic resonance heating of magnetic nanoparticles Resovist for biomedical applications.** *W. Szawro*^{1,2}, *A. Kuwahata*^{1,3}, *T. Kagami*¹ and *S. Yabukami*¹ *1. Tohoku University, Sendai, Japan; 2. Faculty of Chemistry, Warsaw University of Technology, Warsaw, Poland; 3. Graduate School of Biomedical Engineering, Tohoku University, Sendai, Japan*
- EOA-13. Multifunctional nano-probes for cancer diagnosis and therapy based on iron carbide nanoparticles.** *J. Yu*¹ *1. College of Materials Science and Engineering, Zhejiang University of Technology, Hangzhou, China*

Session EOB

BIOMAGNETICS II: SENSORS AND DEVICES

Zoe Boekelheide, Co-Chair

Lafayette College, Easton, PA, United States

Sachiko Yamaguchi-Sekino, Co-Chair

National Institute of Occupational Safety and Health,
Japan, Kawasaki, Japan

- EOB-01. Glioblastoma Cancer Cells Destruction by Mechanical Stimulation Using Magnetic Particles: In vitro Versus In vivo Assays and Investigations in 3D Gels. (Invited)**
C. Naud^{1,5}, C. Thébault¹, A. Visonà^{1,2}, H. Joisten^{1,4}, F. Berger⁵, M. Carrière³, Y. Hou³, A. Nicolas², B. Dieny¹ and R. Morel¹ 1. CEA-SPINTEC, Grenoble, France; 2. LTM\ CNRS, Grenoble, France; 3. CEA-SyMMES, Grenoble, France; 4. CEA-LETI, Grenoble, France; 5. INSERM/ BrainTechLab, Grenoble, France
- EOB-02. High Gradient Magnetic Separator Design with Hybrid Poles and Increased Efficiency.** C. Li¹, H. King¹, A. Toy¹, Y. Kanevskiy¹, I. Ambriz¹ and p. Paiz¹ 1. R&D Engineering, Dexter Magnetic Technologies Inc., Elk Grove Village, IL, United States
- EOB-03. Factors Affecting Magnetic Particle Imaging: Frequency-Sustained Hysteresis and Dipole-dipole Interactions, Challenges and Solutions. (Invited)** G. Barrera¹, P. Allia¹ and P. Tiberto¹ 1. Advance Materials and Life sciences, INRIM, Torino, Italy
- EOB-04. Development of a human size magnetic particle imaging device for breast cancer sentinel lymph node biopsy.** B. Shi^{1,3}, L. Gai¹, Q. Zhang¹, Y. Kang², Z. Liu^{1,3}, T. Li¹, F. Hou¹, H. Cui¹, Y. He^{1,4} and M. Zhang⁵ 1. School of Information Science and Engineering, Shenyang University of Technology, Shenyang, China; 2. Department of Breast Surgery, Cancer Hospital of Dalian University of Technology, Cancer Hospital of China Medical University, Liaoning Cancer Hospital & Institute, Shenyang, China; 3. Liaoning Magnetic Medical Sensing and Treatment Technological Innovation Center, Liaoning Jiayin Medical Technology, Shenyang, China; 4. Keio University, Yokohama, Japan; 5. First Affiliated Hospital, China Medical University, Shenyang, China
- EOB-05. An MRI-Compatible Implantable Magnet Design with Self-Realigning Orientation.** B. Zhang¹, A. Hirka¹ and Y. Kanevskiy¹ 1. Dexter Magnetic Technologies inc., Elk Grove Village, IL, United States

- EOB-06. Giant Magnetoresistive Biosensing Platform for Point-of-Care Gene Expression Analysis.** *A. de Olazarra*¹ and *S.X. Wang*^{1,2} *1. Electrical Engineering, Stanford University, Stanford, CA, United States; 2. Materials Science and Engineering, Stanford University, Stanford, CA, United States*
- EOB-07. The Induced Electric Field in the Head Model With Titanium Skull Plate During Transcranial Magnetic Stimulation.** *M. Lu*¹ and *S. Ueno*² *1. Lanzhou Jiaotong University, Lanzhou, China; 2. The University of Tokyo, Tokyo, Japan*
- EOB-08. Development of a Non-magnetic Helical Sensor Drive Mechanism for Magnetocardiography Multipoint Measurement in Animals.** *W. Shang*¹, *M. Fushimi*¹, *S. Chikaki*¹ and *M. Sekino*¹ *1. Graduate School of Engineering, The University of Tokyo, Tokyo, Japan*
- EOB-09. Proposal of a Method for Estimating the Position of Ferromagnetic Markers under Magnetization Conditions.** *Y. Inoue*¹, *S. Chikaki*¹, *M. Fushimi*¹, *Y. Xiao*¹, *A. Kuwahata*², *M. Kusakabe*^{3,4} and *M. Sekino*¹ *1. Graduate School of Engineering, The University of Tokyo, Bunkyo-ku, Japan; 2. Graduate School of Engineering, Tohoku University, Aoba-ku, Japan; 3. Graduate School of Agricultural and Life Sciences, Research Center for Food Safety, The University of Tokyo, Bunkyo-ku, Japan; 4. Matrix Cell Research Institute Inc., Ushiku, Japan*
- EOB-10. Reconstruction of the Electrical Properties in Human Bodies Based on the Estimation of the Unmeasurable Magnetic Fields.** *N. Eda*¹ and *T. Nara*¹ *1. The Graduate School of Information Science and Technology, The University of Tokyo, Tokyo, Japan*
- EOB-11. Dipolar Interaction Effect on Harmonics in Liner Chain Magnetic Nanoparticles.** *H. Zhang*¹, *Y. Sun*¹, *S. Yamamura*¹, *T. Sasayama*¹ and *T. Yoshida*¹ *1. Kyushu University, Fukuoka, Japan*
- EOB-12. Low-Concentration Magnetic Particle Spectroscopy Using Gradiometric Receive Coil-Coupled Magnetoresistive Sensor.** *S. Trisnanto*¹, *T. Kasajima*², *T. Shibuya*² and *Y. Takemura*¹ *1. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 2. Technology and Intellectual Property HQ, TDK Corporation, Tokyo, Japan*
- EOB-13. Optimization Of Receive Coil Shape For Highly Sensitive MRI In Deep Local Region.** *M. Takahashi*¹, *M. Fushimi*², *M. Sekino*², *S. Yabukami*¹ and *A. Kuwahata*¹ *1. Tohoku University, Sendai, Japan; 2. The University of Tokyo, Tokyo, Japan*

- EOB-14. Wireless Magnetoelectric Neural Interfaces.** *E. Zhang*¹, *M. Abdel-Mottaleb*², *J. Shulgach*³, *M. Alberteris Campos*¹, *M. Murphy*³, *B. Navarrete*¹, *S. Chen*^{1,4}, *V. Andre*², *M. Shotbolt*², *D. Griffin*³, *D. Weber*³, *P. Liang*⁵ and *S. Khizroev*¹ *1. Electrical and Computer Engineering, University of Miami, Coral Gables, FL, United States; 2. Biomedical Engineering, University of Miami, Coral Gables, FL, United States; 3. Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 4. Chemical, Environmental, and Materials Engineering, University of Miami, Coral Gables, FL, United States; 5. Cellular Nanomed Inc, Irvine, CA, United States*

POSTER SESSION

Session EPA BIOMEDICAL DIAGNOSTICS AND IMAGING (Poster Session)

David Cabrera, Co-Chair
Keele University, Stoke on Trent, United Kingdom
Akihiro Kuwahata, Co-Chair
Tohoku University, Miyagi, Japan

- EPA-01. Evaluation of Superconducting Self-Shield and Zero Boil-Off Magnetoencephalogram Systems Using Dry Phantom.** *K. Tanaka*¹, *A. Tsukahara*¹, *Y. Miyanaga*², *K. Yokoyama*², *T. Yamaguchi*², *S. Tsunematsu*², *T. Kato*² and *Y. Matsubara*² *1. School of Science and Engineering, Tokyo Denki University, Hatoyama, Japan; 2. Sumitomo Heavy Industries, Ltd., Yokosuka, Japan*
- EPA-02. High Efficiency Magnetic Induction System Development with Synchronous MPI Imaging.** *B. Shi*¹, *X. Zhang*¹, *Y. Zou*¹, *Z. Liu*¹, *Y. Lin*¹, *P. Huang*¹ and *Y. Takashi*² *1. Shenyang University of Technology, Shenyang City in Liaoning Province, China; 2. Kyushu University, Fukuoka, Japan*
- EPA-03. Estimation of Q-factor of Composite Heating Element for Magnetic Hyperthermia.** *T. Takura*¹, *H. Sunaguchi*¹ and *K. Takahashi*¹ *1. Tohoku Institute of Technology, Sendai, Japan*
- EPA-04. Drug targeting system for guiding? magnetic nanoparticles toward a blood vessel wall using an array of permanent magnets.** *B. Son*¹ and *J. Yoon*¹ *1. School of Integrated Technology, Gwangju Institute of Science and Technology (GIST), Gwangju, The Republic of Korea*

- EPA-05. Effect of the static magnetic field bias on the dynamic hysteresis loop of a magnetic nanoparticle suspension.** R. Onodera¹, E. Kita^{1,2}, T. Kuroiwa³ and H. Yanagihara²
1. National Institute of Technology, Ibaraki College, Hitachinaka, Japan; 2. Department of Applied Physics, University of Tsukuba, Tsukuba, Japan; 3. Graduate school of Science and Engineering, University of Tsukuba, Tsukuba, Japan
- EPA-06. Magnetic Resonance Imaging Using a Magnetoresistive Sensor with a Flux Transformer.** D. Oyama¹, Y. Adachi¹ and N. Tsuyuguchi^{2,3} 1. Applied Electronics Laboratory, Kanazawa Institute of Technology, Kanazawa, Japan; 2. Department of Neurosurgery, Kindai University, Osakasayama, Japan; 3. Neurosurgery, Naniwaikuno Hospital, Osaka, Japan
- EPA-07. Magnetic nanowires versus nano/micro-particles for cancer cell destruction by magneto-mechanical actuation.** H. Chiriac¹, A. Minuti^{1,2}, C. Stavila^{1,2} and N. Lupu¹
1. National Institute of Research and Development for Technical Physics, Iasi, Romania; 2. Faculty of Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania
- EPA-08. Dynamics of magnetization under spin-lock pulse with T_1 relaxation.** H. Ueda¹ and Y. Ito¹ 1. Department of Electrical Engineering, Kyoto University, Kyoto, Japan
- EPA-09. Magnetic Hyperthermia Properties of Green Synthesized CoFe₂O₄/ZnS Nanocomposites Utilizing *Moringa Oleifera* Extract.** D.A. Larasati¹, D.L. Puspitarum¹, M.Y. Darmawan¹, N.I. Istiqomah¹, J. Partini¹, D. Oshima², T. Kato² and E. Suharyadi¹ 1. Physics, Universitas Gadjah Mada, Yogyakarta, Indonesia; 2. Nagoya University, Nagoya, Japan
- EPA-10. Dynamic magnetization and specific loss powers of commercial magnetic nanoparticles.** H. Obana¹, S. Ota², S. Takeuchi¹, S. Trisnanto¹ and Y. Takemura¹ 1. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 2. Electrical and Electronic Engineering, Shizuoka University, Hamamatsu, Japan
- EPA-11. Detection of Magnetic Nanoparticles Using Drive and Receive Coils for Head-Size Magnetic Particle Imaging.** H. Ahn¹, K. Suzuki¹, S. Trisnanto¹, S. Ota², T. Yoshida³ and Y. Takemura¹ 1. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 2. Electrical and Electronic Engineering, Shizuoka University, Hamamatsu, Japan; 3. Electrical Engineering, Kyushu University, Fukuoka, Japan

- EPA-12. Formulation and in-vitro evaluations of hedgehog pathway inhibitor drugs loaded polymer coated magnetic nanocarriers for hyperthermia and targeting Hep 1-6 liver cancer cells.** G.C. Hermosa¹, L. Fang², C. Liao¹, C. Chang³ and A.A. Sun^{1,4} 1. Department of Chemical Engineering & Materials Science, Yuan Ze University, Taoyuan, Taiwan; 2. Department of Mechanical and Industrial Engineering, Vanung University, Taoyuan, Taiwan; 3. Department of Medical Research, Far Eastern Memorial Hospital, New Taipei City, Taiwan; 4. Graduate School of Biotechnology and Bioengineering, Yuan Ze University, Taoyuan, Taiwan
- EPA-13. The Pulse Magnetic Field Controls the TNF- α of the BALB_C Mice Injected with LPS.** S. Kim¹, B. Lee¹, J. Moon¹, M. Ahn¹ and H. Lee¹ 1. Sangji University, Wonju, The Republic of Korea

POSTER SESSION

Session EPB BIOMEDICAL SENSORS AND DEVICES (Poster Session)

Javier Alonso, Co-Chair

University of Cantabria, Santander, Spain

Ravi Hadimani, Co-Chair

Virginia Commonwealth University, Richmond, VA, United States

- EPB-01. Investigation of EEG Functional Connectivity Relationship with TMS Response in Mild Traumatic Brain Injury Patients.** M.Z. Hussain³, A. Jamil¹, L. Franke² and R.L. Hadimani^{3,1} 1. Psychiatry, Harvard University, Boston, MA, United States; 2. Physical Medicine and Rehabilitation, Virginia Commonwealth University, Richmond, VA, United States; 3. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States
- EPB-02. Biocompatible Nanoparticles for DDS with Field-Dependent Radical Pair System.** H. Nakagawa¹, M. Fujimoto² and T. Tadokoro¹ 1. Department of Electrical and Electronic Engineering, Tokyo Denki University, Tokyo, Japan; 2. Department of Health and Nutrition, University of Human Arts and Sciences, Saitama, Japan
- EPB-03. An ELF Magnetic Control Study of Metamorphic Qualities in T₄-Administrated Axolotls (*Ambystoma mexicanum*).** H. Nakagawa¹, M. Fujimoto² and T. Tadokoro¹ 1. Department of Electrical and Electronic Engineering, Tokyo Denki University, Tokyo, Japan; 2. Department of Health and Nutrition, University of Human Arts and Sciences, Tokyo, Japan

- EPB-04. Shape Observation by Local illumination Using Reflected Light from Magnetically Controlled Guanine Crystal Platelet.** *H. Asada¹, E. Muneyama¹, M. Kurahashi¹, K. Takeuchi¹ and M. Iwasaka²* 1. *Yamaguchi University, Ube, Japan*; 2. *Hiroshima University, Higashi-Hiroshima, Japan*
- EPB-05. Human Error Verification During ELF Stimuli: Retinal Receptivity of ELF-Inducing Phosphenes.** *H. Nakagawa¹ and S. Ueno²* 1. *Department of Electrical and Electronic Engineering, Tokyo Denki University, Tokyo, Japan*; 2. *Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan*
- EPB-06. Calibration of AC Hysteresis Magnetometers for Magnetic Fluids.** *Z. Boekelheide¹, J. Santos¹ and H. Steinthal¹* 1. *Physics, Lafayette College, Easton, PA, United States*
- EPB-07. Hybrid Transcranial Magnetic Stimulation and Deep Brain Stimulation in the Presence of an Implantable Pulse Generator.** *A. Mhaskar^{1,2}, M. Tashli¹, K. Holloway^{4,5} and R.L. Hadimani^{1,3}* 1. *Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States*; 2. *Center for Medical Sciences, Mills E. Godwin High School, Richmond, VA, United States*; 3. *Department of Biomedical Engineering, Virginia Commonwealth University, Richmond, VA, United States*; 4. *Hunter Holmes McGuire Veterans Affairs Medical Center, McGuire Research Institute, Richmond, VA, United States*; 5. *Department of Neurosurgery, Virginia Commonwealth University, Richmond, VA, United States*
- EPB-08. Human Skull Implantable Wireless Power Transfer System.** *Ú.d. Resende¹, M.D. Almeida¹ and I.V. Soares²* 1. *Electrical Engineering, CEFET-MG, Belo Horizonte, Bouvet Island*; 2. *Institut d'Electronique et de Telecommunications de Rennes, Université de Rennes 1, Rennes, France*
- EPB-09. Effects of Magnetic Field and Magnetic Force on Proliferation and Differentiation of Osteoblast cells.** *S. Yamaguchi-Sekino¹ and M. Sekino²* 1. *Work Environment Research Group, National Institute of Occupational Safety and Health, Japan, Kawasaki, Japan*; 2. *Department of Bioengineering, School of Engineering, The University of Tokyo, Tokyo, Japan*

- EPB-10. Investigation of Resting Motor Threshold Variability in Schizophrenia Patients during Transcranial Magnetic Stimulation.** C.J. Lewis¹, E. Cheng¹, U.M. Mehta³, A.K. Pandurangi⁴ and R.L. Hadimani^{2,5} *1. Biomedical Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 3. Psychiatry, National Institute of Mental Health & Neurosciences, Bangalore, India; 4. Psychiatry, Virginia Commonwealth University, Richmond, VA, United States; 5. Psychiatry, Harvard Medical School, Boston, MA, United States*
- EPB-11. Dry-type phantom emulating quadrupole-like magnetic field distribution for evaluation of magnetoneurography.** Y. Adachi¹, D. Oyama¹, G. Uehara¹ and S. Kawabata² *1. Applied Electronics Laboratory, Kanazawa Institute of Technology, Kanazawa, Japan; 2. Tokyo Medical and Dental University, Tokyo, Japan*
- EPB-12. Withdrawn**
- EPB-13. Simplified Magnetic Flux Density Measurement for Local Resolution Analysis of Transcranial Magnetic Stimulation.** T. Torii², H. Sakamoto¹ and A. Sato² *1. Department of Clinical Engineering, Komatsu University, Komatsu, Japan; 2. Department of Human Information Engineering, Tokai University, Kumamoto, Japan*

ORAL SESSIONS

Session FOA ANALYTICAL, SEMI-ANALYTICAL AND NUMERICAL MODELLING FOR DESIGN AND ANALYSIS OF ELECTRICAL MACHINES I

Yacine Amara, Co-Chair
Université Le Havre Normandie, Le Havre, France
Abdelmounaim Tounzi, Co-Chair
Univ. Lille, Arts et Metiers Institute of Technology,
Villeneuve d'Ascq, France

- FOA-01. Analytical Modelling of Cogging Torque Based on Harmonic Action.** L. Dai¹, W. Zhang², J. Gao¹ and S. Huang¹ *1. College of Electrical and Information Engineering, Hunan University, Changsha, China; 2. Changsha University, Changsha, China*
- FOA-02. Analytical Model for Electromagnetic Field in Permanent Magnet Synchronous Motor Considering Stator Slotting and Rotor Eccentricity.** Q. Wei¹, Y.W. Li¹, J.Z. Shuai¹ and D. Zeng² *1. College of Power and Energy Engineering, Harbin Engineering University, Harbin, China; 2. College of Intelligent Systems Science and Engineering, Harbin Engineering University, Harbin, China*

- FOA-03. Experimental Validation of a Mesh-to-Mesh Magnetic Force Projection for e-NVH Simulation.** *R. Pile¹, J. Le Besnerais², M. Glesser², G. Parent¹ and Y. Le Menach³*
1. LSEE, Université d'Artois, Béthune, France; 2. EOMYS Engineering, Villeneuve d'Ascq, France; 3. L2EP, Université de Lille, Lille, France
- FOA-04. Approximation of nonlinear properties of soft-magnetic materials with Bézier curves.** *E. Rahmanović¹ and M. Petrun¹*
1. UM FERi, Maribor, Slovenia
- FOA-05. 3-D Stray Loss Evaluation of Structural Component under Harmonic and DC-Biased Magnetization by Harmonic-Balanced Method.** *S. Gao¹, X. Zhao¹, L. Liu³, K. Muramatsu², Y. Gao⁴ and B. Forghani⁵*
1. North China Electric Power University, Baoding, China; 2. Saga University, Saga, Japan; 3. Hebei Provincial Key Laboratory of Electromagnetic and Structural Performance of Power Transmission and Transformation Equipment, Baoding, China; 4. Oita University, Oita, Japan; 5. A Siemens Business, Montreal, QC, Canada
- FOA-06. High-Speed Iron Loss Calculation of Permanent Magnet Synchronous Motor Combining Reluctance Network Analysis and One-Dimensional Magnetic Circuit Models Considering Dynamic Hysteresis Behavior.** *Y. Hane¹ and K. Nakamura¹*
1. Electrical Engineering, Tohoku University, Sendai, Japan
- FOA-07. Comparison of the Finite Element Method and High-Order Isogeometric Analysis for Modeling Magnetic Vector Hysteresis.** *B. Daniels¹, M. Curti¹, T. Overboom² and E. Lomonova¹*
1. Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; 2. Royal SMIT Transformers (SGB-SMIT Group), Nijmegen, Netherlands
- FOA-08. Equivalent 2D FEA Modeling Method for High-speed Electrical Machines with Litz Winding Considering Transposition Influence.** *H. Jiang¹, J. Zhang¹, Z. Zhang¹ and G. Hu¹*
1. Nanjing University of Aeronautics and Astronautics, Nanjing, China
- FOA-09. Development and Experimental Verification of Magnetic Loss Models for High-Speed Electric Drives.** *R. Zeinali¹, D. Krop¹ and E. Lomonova¹*
1. Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands
- FOA-10. Novel Stator Slot Opening to Reduce Electrical Machine Bearing Currents.** *D. De Gaetano¹, W. Zhu¹, X. Sun¹, X. Chen¹, A. Griffio¹ and G.W. Jewell¹*
1. Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom

- FOA-11. Stator Optimization for a Novel Magnetic Levitation Actuator.** *G. Zuidema¹, D. Krop¹ and E. Lomonova¹*
1. Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands
- FOA-12. Topology Optimization of Magnetic Actuator based on Reluctance Network Modeling and Adjoint Variable Method.** *M. Yin¹, M. Naidjate², N. Bracikowski¹, A. Pierquin¹ and D. Trichet¹* *1. Nantes Université, Saint Nazaire, France; 2. École Polytechnique Montréal, Montréal, QC, Canada*
- FOA-13. Semi-analytical modeling for linear motors with conductive media in high-dynamic applications.** *A. Desikan¹, D. Krop¹, B. De Bruyn¹ and E. Lomonova¹*
1. Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands
- FOA-14. Dynamic Analysis of Eddy Current Damper for Multiple-Degree-of-Freedom Vibration.** *Y. Umekawa¹, A. Heya¹ and T. Inoue¹* *1. Mechanical Systems Engineering, Nagoya University, Nagoya, Japan*
- FOA-15. Analysis of a Magnetic Damping Structure for Ball Balancer.** *S. Fukuda¹, A. Heya¹ and T. Inoue¹* *1. Mechanical systems engineering, Nagoya University, Nagoya, Japan*
- FOA-16. Analysis of the amount of flux variation on the HTS surface by the oscillation of HTS magnetic bearing rotor.** *R. Taniguchi¹, S. Ishida¹, K. Yagi¹ and S. Ohashi¹*
1. Department of Electrical and Electronic Engineering, Kansai University, Suita, Japan

POSTER SESSION

Session FPA **ANALYTICAL, SEMI-ANALYTICAL AND NUMERICAL MODELLING FOR DESIGN AND ANALYSIS OF ELECTRICAL MACHINES II (Poster Session)**

Shuangxia Niu, Co-Chair
 The Hong Kong Polytechnic University, Kowloon, Hong Kong
 Georges Barakat, Co-Chair
 University of Le Havre, Le Havre, France

- FPA-01. Performance Prediction of a FMaSynRM Considering MTPA, FW, and MTPV Operating Conditions Using Open-Source FEA.** *C. Di^{1,2}, X. Bao¹ and W. Jiang²* *1. Hefei University of Technology, Hefei, China; 2. Luoyang Bearing Research Institute Co., Ltd., Luoyang, China*

- FPA-02. Design, Analysis, and Experimental Verification of a PM-Based Hybrid Brake System for Personal e-Mobility Applications.** *G. Choi¹, J. Park¹ and G. Jang¹ 1. Inha University, Incheon, The Republic of Korea*
- FPA-03. Electromagnetic Analysis Technique and Experimental Study of Permanent Magnet Synchronous Machine Considering Axial Leakage Flux using Subdomain Method.** *K. Shin¹, J. Lee¹, S. Sung² and J. Choi³ 1. Chonnam National University, Yeosu, The Republic of Korea; 2. Korea Research Institute of Science and Ocean Engineering, Daejeon, The Republic of Korea; 3. Chungnam National University, Daejeon, The Republic of Korea*
- FPA-04. Electromagnetic Performance Analysis of a Bearingless Permanent Magnet Synchronous Motor by Model Order Reduction.** *K. Xu¹, Y. Guo¹, G. Lei¹, J. Zhu² and X. Sun³ 1. Faculty of Engineering and Information Technology, University of Technology Sydney, Sydney, NSW, Australia; 2. School of Electrical and Information Engineering, The University of Sydney, Sydney, NSW, Australia; 3. Automotive Engineering Research Institute, Jiangsu University, Zhenjing, China*
- FPA-05. Analytical Analysis of a Novel Axial-Radial Permanent Magnet Eddy-Current Coupling With Mechanical Magnetic Adjuster.** *Z. Li¹, F. Bian¹ and X. Chai¹ 1. School of Electronic and Information, Zhongyuan University of Technology, Zhengzhou, China*
- FPA-06. Study of Levitation Characteristic against Vertical Displacement at Minimum Levitation Velocity in the Electrodynamic Suspension System with Damper Coils.** *S. Higashiike¹, R. Yamamoto¹ and S. Ohashi¹ 1. Electrical and Electronic Engineering, Kansai University, Suita, Japan*
- FPA-07. Investigation of the Excess Loss of the Grain-Oriented Steel Sheets in A High-Frequency Range Considering Skin Effect.** *L. Chen¹, X. Wen¹, T. Ben², P. Wei¹ and X. Zhang³ 1. College of Electrical Engineering and New Energy, China Three Gorges University, Yichang, China; 2. Hubei Provincial Research Center on Microgrid Engineering Technology, China Three Gorges University, Yichang, China; 3. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*
- FPA-08. Calculation of Iron Loss in Permanent Magnet Synchronous Motors Based on PSO-RNN.** *K. Xu¹, Y. Guo¹, G. Lei¹, L. Liu¹ and J. Zhu² 1. Faculty of Engineering and Information Technology, University of Technology Sydney, Sydney, NSW, Australia; 2. School of Electrical and Information Engineering, The University of Sydney, Sydney, NSW, Australia*

- FPA-09. Analytical Calculation and Experiment of 3-D Electromagnetic Force of Permanent Magnet Electrodynamic Suspension System.** *F. Bu¹, J. Xu¹ and J. Chen¹ 1. College of National Key Laboratory of Science and Technology on Vessel Intergrated Power System, Naval University of Engineering, Wuhan, China*
- FPA-10. Analysis and Modeling of Field Distributions in Tooth-Yoke Junction Close Slot Grain-Oriented Electrical Steel Electrical Machine.** *Z. Li¹, Y. Ma¹, W. Li^{1,2}, Y. Li¹ and R. Pei¹ 1. Department of Electrical Engineering, Shenyang University of Technology, Shenyang, China; 2. School of Electrical and Mechanical Engineering (Engineering Training Centre), XuChang University, Xuchang, China*
- FPA-11. Multi-Objective Tradeoff Designs of Rotor Flux-Barrier in a Multi-Layered IPM Machines for EV Applications.** *Y. Hu¹ and S. Zhu¹ 1. Nanjing Engineering Institute of Aircraft Systems, Nanjing, China*
- FPA-12. Withdrawn**
- FPA-13. Multiphysics modeling and optimization of PMSM for high speed operation.** *T.A. Marcand¹, C. Bonnard¹, S. Mezani¹ and N. Takorabet¹ 1. Laboratoire GREEN, Université de Lorraine, Nancy, France*
- FPA-14. Design and Analysis of Axial Flux Permanent Magnet Motor with Halbach Magnet Array Dual Rotor Based on Three-Dimensional Analytical Approach.** *M. Koo¹, H. Shin¹, K. Lee¹ and S. Lee¹ 1. Automotive Materials & Components R&D Group, Korea Institute of Industrial Technology, Gwangju, The Republic of Korea*
- FPA-15. Investigation of Electromagnetic Formulations for Efficient Analysis of MFTs.** *S. Pourkeivannour¹, M. Curti¹ and E. Lomonova¹ 1. Department of Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands*
- FPA-16. Development of a Machine Learning-based Design Platform for Permanent-Magnet Synchronous Motor Toward Simulation Free.** *L. Lin¹ and M. Hsieh¹ 1. National Cheng Kung University, Tainan, Taiwan*
- FPA-17. Comparative Study of Superconducting Machines according to Shielding and Electromagnetic Structures based on Analytical Method.** *K. Shin¹, J. Lee¹, J. Choi², S. Sung³ and H. Cho² 1. Chonnam National University, Yeosu, The Republic of Korea; 2. Chungnam National University, Daejeon, The Republic of Korea; 3. Korea Research Institute of Science and Ocean Engineering, Daejeon, The Republic of Korea*

Session GOA
PERMANENT MAGNET MACHINES I

Narayan Kar, Chair
 University of Windsor, Windsor, ON, Canada

- GOA-01. Axial Force Negative Stiffness in Axial-Flux Electric Machines. (Invited)** *W. Soong¹, E. Roshandel², Z. Cao², A. Mahmoudi² and S. Kahourzade³* *1. School of Electrical and Mechanical Engineering, University of Adelaide, Adelaide, SA, Australia; 2. College of Science & Engineering, Flinders University, Adelaide, SA, Australia; 3. STEM, University of South Australia, Adelaide, SA, Australia*
- GOA-02. An Inductance Testing Method of Dual Three-Phase Permanent Magnet Synchronous Machines Using Equivalent Electromagnetic Field Analysis.** *D. Zeng¹, Q. Zhang¹, J. Zou², Y. Xu² and H. Pan¹* *1. Harbin Engineering University, Harbin, China; 2. Harbin Institute of Technology, Harbin, China*
- GOA-03. Study on Injection Molding IPMSM Using Sm-Fe-N Bonded Magnet.** *Y. Yoshida¹, R. Yoshida², M. Abe², K. Takeda¹, S. Tada², M. Yamamoto² and K. Tajima¹* *1. Graduate School of Engineering Science, Akita University, Akita, Japan; 2. Magnet Manufacturing Dept. Functional Materials Business Unit, Nichia corporation, Akita, Japan*
- GOA-04. Effect of Reaction Field Caused by Eddy Currents and Hysteresis Phenomenon in Laminated Cores on Torque Characteristics of Interior Permanent Magnet Synchronous Motors.** *K. Yamazaki¹ and Y. Nakatani¹* *1. Electrical and Electric Engineering, Chiba Institute of Technology, Narashino, Japan*
- GOA-05. Complex shaped magnets for an efficient use of rare earths in synchro-reluctant machines.** *B. Chareyron², A. Nasr², O. Guyon², S. Desrousseaux¹ and G. Delette¹* *1. DTNM, CEA-LITEN, Grenoble, France; 2. IFPEN, Rueil-Malmaison, France*

Session GPA
PERMANENT MAGNET MACHINES II
(Poster Session)

Yukihiro Yoshida, Chair
 Akita University, Akita, Japan

- GPA-01. Analysis and Monitoring Method for Inter-Turn Short Circuit Fault for PMSM.** *C. Liu¹, J. Zou¹, Y. Xu¹ and S. Li¹*
1. Harbin Institute of Technology, Harbin, China
- GPA-02. Investigation of Fault-Tolerant Performance and Inductance in a Modular Permanent Magnet In-Wheel Motor.** *Y. Tang¹, F. Chai², Y. Xie¹ and W. Cai¹* *1. Electrical Engineering, Harbin University of Science and Technology, Harbin, China; 2. Electrical Engineering, Harbin Institute of Technology, Harbin, China*
- GPA-03. A Novel Rotor-Step Skewing Method for Vibration Mitigation in Interior Permanent Magnet Synchronous Motor.** *D. Li¹, Y. Xie¹, F. Liu¹, W. Cai¹ and F. Yang¹* *1. Harbin University of Science and Technology, Harbin, China*
- GPA-04. A Novel Fault Tolerant Structure of Open Circuit Fault in Arc Linear Flux Switching Permanent Magnet Motors Based on Redundant Winding.** *F. Liu¹, Y. Xie¹ and W. Cai¹*
1. Harbin University of Science and Technology, Harbin, China
- GPA-05. Magnetic Property Investigation of High-Tension Electrical Steel Sheet Applied to Interior Permanent Magnet Synchronous Motors Considering Multiaxial Stress Caused by Centrifugal Force.** *K. Yamazaki¹, K. Ishikawa¹, H. Ohguchi², S. Imamori³ and M. Shuto³*
1. Chiba Institute of Technology, Narashino, Japan; 2. Electrical and Electric Engineering, Tokai University, Hiratsuka, Japan; 3. Fuji Electric Co., Ltd., Hino, Japan
- GPA-06. Optimal Design of Outer Rotor Permanent Magnet Synchronous Motor Considering Electromagnetic Loss and Torque Characteristics.** *H. Kim¹, J. Kang¹, J. Kim¹, J. Lee¹ and S. Won²* *1. Hanyang university, Seoul, The Republic of Korea; 2. Dongyang Mirae University, Seoul, The Republic of Korea*
- GPA-07. A Novel Partitioned-Stator Flux Reversal Machine with Two Sets of Permanent Magnet.** *K. Yang¹, F. Zhao¹, J. Yu¹ and Y. Wang¹* *1. Harbin Institute of Technology (Shenzhen), Shenzhen, China*

- GPA-08. Analytical Calculation and Low-Order Component Optimization of Axial Electromagnetic Force for an Axial Flux Motor.** *F. Zhao*¹, *Z. Shao*¹ and *H. Fan*² *1. Harbin Institute of Technology (Shenzhen), Shenzhen, China; 2. Shenzhen MSU-BIT University, Shenzhen, China*
- GPA-09. Design Optimization Using Asymmetric Rotor in IPMSM for Torque Ripple Reduction Considering Forward and Reverse Directions.** *J. Park*^{1,2}, *J. Kim*¹, *S. Park*^{1,3}, *K. Kim*¹, *M. Sung*⁴ and *M. Lim*¹ *1. Department of Automotive Engineering, Hanyang University, Seoul, The Republic of Korea; 2. Robot Business Team, Samsung Electronics Co., Ltd, Suwan-si, The Republic of Korea; 3. R&D Division, Hyundai Motor Company, Hwaseong-si, The Republic of Korea; 4. Department of Automotive Engineering (Automotive-Computer Convergence), Hanyang University, Seoul, The Republic of Korea*
- GPA-10. Comparative Study of Mechanical and Electrical Characteristics on High-Strength Steel and Conventional Steel for EV Traction High-Speed Multilayer IPMSM Using Rare-Earth Free PM.** *K. Kim*¹, *Y. Jung*³, *J. Park*^{2,1} and *M. Lim*¹ *1. Hanyang University, Seoul, The Republic of Korea; 2. Samsung Electronics, Suwan, The Republic of Korea; 3. Hyundai Motor Company, Hwaseong, The Republic of Korea*
- GPA-11. Effects of High-Pressure Environment on Deep-sea Fe-Co-V Alloys Permanent Magnet Synchronous Motors.** *G. Yu*¹, *J. Huang*¹, *Y. Xu*¹, *L. Xiao*¹ and *J. Zou*¹ *1. Harbin Institute of Technology, Harbin, China*
- GPA-12. A Study on Radial Magnetic Bearing of a New Stator Shape for High Manufacturability and Reduction of and Weight.** *S. Song*¹, *S. Lee*², *W. Kim*², *J. Lee*¹ and *D. Jung*³ *1. Hanyang University, Seoul, The Republic of Korea; 2. Gachon University, Seong-Nam, The Republic of Korea; 3. Halla University, Wonju, The Republic of Korea*
- GPA-13. A Novel Flux Concentrated Stator Consequent-Pole Permanent Magnet Machine with Non-Uniform Stator Modulation Teeth.** *Y. Li*¹, *Q. Zhou*¹, *S. Ding*¹, *J. Hang*¹ and *W. Li*¹ *1. School of Electrical Engineering and Automation, Anhui University, Hefei, China*
- GPA-14. Space Vector Pulse Width Modulation for a Five-Leg Inverter to Control a Dual Three-Phase Electric Machine.** *W. Wang*^{1,2}, *Y. Chen*^{1,2}, *Y. Liu*^{1,2}, *R. Huang*^{1,2}, *B. Zhang*^{1,2}, *F. Yu*^{1,3} and *C. Liu*^{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; 3. School of Electrical Engineering, Nantong University, Nantong, China*

- GPA-15. A Novel Six-Phase Out Rotor Transverse Flux Reversal PM Motor for Aviation Propulsion System.** *B. Zhang*^{1,2}, *K. Feng*^{1,2}, *W. Wang*^{1,2}, *H. Wen*^{1,2}, *Y. Chen*^{1,2}, *T. Wang*^{1,2} and *C. Liu*^{1,2} *1. School of Energy and Environment, City University of Hong Kong, Hong Kong; 2. City University of Hong Kong Shenzhen Research Institute, Shen Zhen, China*
- GPA-16. A Low-Cost Segment Method to Reduce PM Eddy-Current Loss in Axial Flux PM Wheel Motor.** *C. Wang*¹, *Y. Liu*², *J. Huang*² and *Z. Zhang*³ *1. School of Electrical Engineering, Anhui Polytechnic University, Wuhu, China; 2. Anhui Polytechnic University, Wuhu, China; 3. Nanjing University of Aeronautics and Astronautics, Nanjing, China*
- GPA-17. A Novel Winding Connection Sequence of Dual Three-Phase Series-End Winding PMSM Drive for Speed Range Extension.** *Z. Dong*^{1,2}, *Y. Liu*^{1,2}, *H. Wen*^{1,2}, *K. Feng*^{1,2}, *F. Yu*^{1,3} and *C. Liu*^{1,2} *1. School of Energy and Environment, City University of Hong Kong, Hong Kong; 2. Shenzhen Research Institute, City University of Hong Kong, Shenzhen, China; 3. School of Electrical Engineering, Nantong University, Nantong, China*
- GPA-18. The Analytical Calculation and Measurements of the Magnetic Force Between Permanent Magnet and Rotor Yoke of a Large-Scale Permanent Magnet Synchronous Generator.** *H. Shin*¹, *M. Lim*² and *J. Choi*¹ *1. Chung Nam National University, Daejeon, The Republic of Korea; 2. Unison, Daejeon, The Republic of Korea*

POSTER SESSION

Session GPB

PERMANENT MAGNET MACHINES III (Poster Session)

Narayan Kar, Co-Chair

University of Windsor, Windsor, ON, Canada

Reza Nasirizarandi, Co-Chair

University of Windsor, Windsor, ON, Canada

- GPB-01. The Influence of Segmented Modular Stator on the Efficiency of Permanent Magnet Synchronous Motor.** *J. Lee*¹, *J. Choi*², *S. Sung*³, *H. Cho*² and *K. Shin*¹ *1. Chonnam National University, Yeosu, The Republic of Korea; 2. Chungnam National University, Daejeon, The Republic of Korea; 3. Korea Research Institute of Science and Ocean Engineering, Daejeon, The Republic of Korea*

- GPB-02. Dynamic Magnetic Network Modeling and Electromagnetic Analysis of an External Rotor PMSM for Electric Hub System.** L. Wang¹, F. Shen¹, F. Marignetti², Q. Li¹ and N. Bianchi³ *1. Department of Electrical and Electronic Engineering, Harbin University of Science and Technology, Harbin, China; 2. University of Cassino and South Lazio, Cassino, Italy; 3. Department of Industrial Engineering, University of Padova, Padova, Italy*
- GPB-03. A Study on the Shape of Axial Flux Motor for Collaborative Robot Joints to Improve Output.** J. Min¹, H. Pyo¹, N. Kang¹, M. Youn¹ and W. Kim¹ *1. Department of Electrical Engineering, Gachon University, Seongnam, The Republic of Korea*
- GPB-04. A study on Performance Improvement of Axial Flux Motor through Halbach Array and Same Direction Skew.** M. Hong¹, W. Kim¹, H. Pyo¹, N. Jo¹ and D. Jung² *1. Electrical Engineering, Gachon University, Seongnam-Si, The Republic of Korea; 2. Halla Univerisity, Seongnam-Si, The Republic of Korea*
- GPB-05. Experimental Verification and Characteristics Analysis of Permanent Magnet Synchronous Generator using Semi-Analytical Method.** H. Lee¹, J. Woo¹, K. Shin², K. Kim³, J. Park³ and J. Choi¹ *1. Chung Nam National University, Daejeon, The Republic of Korea; 2. Chonnam National University, Yeosu, The Republic of Korea; 3. Korea Research Institute of Ships and Ocean Engineering, Daejeon, The Republic of Korea*
- GPB-06. Torque Ripple Suppression Under Open-Circuit Fault for DTPPMSM Considering Phase Back EMF Harmonics.** C. Liu¹, J. Zou¹, Y. Xu¹ and Z. Liu¹ *1. School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China*
- GPB-07. Computationally Efficient Estimation of PWM-induced Iron Loss of PMSM using Deep Transfer Learning.** S. Park^{1,2}, K. Kim² and M. Lim² *1. R&D Division, Hyundai Motor Company, Hwaseong, The Republic of Korea; 2. Department of Automotive Engineering, Hanyang University, Seoul, The Republic of Korea*
- GPB-08. Comparative Study of Various Slot Pitch for 2-Pole 6-Slot Ultra-High Speed Permanent Magnet Synchronous Motor.** J. Kim¹, S. Im¹, S. An¹, K. Cha¹ and M. Lim¹ *1. Automotive Engineering, Hanyang University, Seoul, The Republic of Korea*
- GPB-09. Transfer Learning-Based Design Method for Cogging Torque Reduction in PMSMs with Step-Skew considering 3-D Leakage Flux.** Y. Won¹, J. Kim¹, S. Park¹, J. Lee¹, S. An¹ and M. Lim¹ *1. Hanyang University, Seoul, The Republic of Korea*

- GPB-10. Design of a Novel Double-Stator Transverse Flux Reversal Permanent Magnet Machine.** B. Zhang^{1,2}, R. Huang^{1,2}, Z. Song³, S. Liu^{1,2}, Z. Dong^{1,2}, Y. Liu^{1,2} and C. Liu^{1,2}
1. School of Energy and Environment, City University of Hong Kong, Hong Kong; 2. City University of Hong Kong Shenzhen Research Institute, Shen Zhen, China; 3. Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong
- GPB-11. Research and Analysis of Toroidal and Conventional Windings in Permanent Magnet Synchronous Machine.** X. Liang¹, M. Wang¹, P. Zheng¹, J. Gao¹ and W. Li¹ *1. Harbin Institute of Technology, Harbin, China*
- GPB-12. Harmonic Component Analysis of Radial and Tangential Electromagnetic Force of Permanent Magnet Synchronous Motor.** J. Zou¹, M. Liu¹, Y. Xu¹, H. Lan² and G. Yu¹ *1. Harbin Institute of Technology, Harbin City, China; 2. Huawei Technologies Co., Ltd., Shenzhen City, China*
- GPB-13. A Study on the Shape of a Small Wind Turbine with Fractional Slot Concentrated Winding to Realize Zero Cogging Level.** J. Kang¹, J. Kim¹, D. Jung², K. Kim², C. Kim³ and J. Lee¹ *1. Hanyang University, Seoul, The Republic of Korea; 2. Halla University, Wonju, The Republic of Korea; 3. Kangnam University, Yong-in, The Republic of Korea*
- GPB-14. Study on the Offline Inter-turn Fault Diagnosis Performance According to the Parameter of Interior Permanent Magnet Synchronous Motor.** H. Kim¹, J. Kang¹, J. Kim¹, S. Won² and J. Lee¹ *1. Hanyang University, Seoul, The Republic of Korea; 2. Dongyang Mirae University, Seoul, The Republic of Korea*
- GPB-15. Hybrid Rotor Multiple Magnet Design for Electric Vehicles.** C.I. Nlebedim¹ and A. Baghel¹ *1. Critical Materials Institute, Ames Laboratory, US Department of Energy, Ames, IA, United States*
- GPB-16. Study on the Electromagnetic Force and Vibration Noise of Different Current Harmonics on Generator Shell with Amorphous Alloy.** C. Hsu¹ *1. Department of Mechanical Engineering, Asia Eastern University of Science and Technology, New Taipei City, Taiwan*
- GPB-17. A Study on the 2D Demagnetization Analysis Error Caused by the 3D End Effect in an Interior Permanent Magnet Synchronous Motor.** S. Lee¹ and J. Bae²
1. Electrical Engineering, Dong-A University, Busan, The Republic of Korea; 2. Electrical Engineering, Dongyang University, Seoul, The Republic of Korea

Session HOA
MAGNETICALLY GEARED AND VERNIER
MACHINES I

Jonathan Bird, Co-Chair

Portland State University, Portland, OR, United States

Udochukwu Akuru, Co-Chair

Tshwane University of Technology, Pretoria, South Africa

- HOA-01. Enhanced Assemblability and Maximum Transmission Torque of Interior Permanent Magnet Magnetic-Geared Motor.** *J. Okamoto^{1,2}, N. Niguchi², H. Kometani¹, H. Suzuki¹, K. Okazaki¹ and K. Hirata²* *1. Mitsubishi Electric Corporation, Amagasaki, Japan; 2. Osaka University, Suita, Japan*
- HOA-02. A Novel Magnetic-Geared Motor Combining Magnetic Gear and SR Motor.** *K. Iwaki¹, K. Ito¹ and K. Nakamura¹* *1. Tohoku University, Sendai, Japan*
- HOA-03. Investigation of Maximum Torque of Interior Permanent Magnet Type Magnetic-Geared Generator Based on Magnetic Interaction.** *B. Dai¹, K. Ito¹ and K. Nakamura¹* *1. Graduate School of Engineering, Tohoku University, Sendai, Japan*
- HOA-04. Investigation on Inclination Angle of Inserted Permanent Magnets in Double-Stator Vernier Machines.** *Z. Cai¹, J. Yu¹, K. Yang¹, W. Mi¹, Z. Song² and Y. Luo³* *1. School of Mechanical Engineering and Automation, Harbin Institute of Technology (Shenzhen), Shenzhen, China; 2. Department of Industrial and Systems Engineering, the Hong Kong Polytechnic University, Hong Kong SAR, China; 3. School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China*
- HOA-05. An Integrated Axial-Flux Magnetic-Geared Double-Rotor Machine using Harmonic Current Injection Method for HEVs.** *J. Lang¹, C. Tong¹, J. Bai¹, J. Liu¹, G. Liu¹ and P. Zheng¹* *1. Electrical Engineering, Harbin Institute of Technology, Harbin, China*
- HOA-06. Design and Analysis of a Novel Double-Stator Hybrid Flux Machine for Direct-Drive Electric Traction.** *Z. Song¹, B. Zhang², W. Wang², Y. Liu² and D. Xiao³* *1. Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. School of Energy and Environment, City University of Hong Kong, Kowloon, Hong Kong; 3. Sustainable Energy and Environment Thrust, The Hong Kong University of Science and Technology (Guangzhou), Guangzhou, China*

HOA-07. Development of Ultra High Speed Magnetic Gear. *E. Asahina*¹, *K. Mitsuya*¹, *K. Nakamura*¹, *Y. Tachiya*², *Y. Suzuki*² and *K. Kuritani*² *1. Tohoku University, Sendai, Japan; 2. Prospine Co., Ltd., Osaka, Japan*

HOA-08. Experimental Verification of Increasing Torque Density by Magnetic Interaction in 500 Nm Class IPM-Type Magnetic-Geared Motor. *K. Iwaki*¹, *K. Ito*¹ and *K. Nakamura*¹ *1. Tohoku University, Sendai, Japan*

POSTER SESSION

Session HPA MAGNETICALLY GEARED AND VERNIER MACHINES II (Poster Session)

Abdelmounaim Tounzi, Co-Chair
Univ. Lille, Arts et Metiers Institute of Technology,
Villeneuve d'Ascq, France

Makoto Ito, Co-Chair
Hitachi, Ltd., Ibaraki, Japan

HPA-01. Improvement of Transmission Torque Characteristics of Strain Wave Gear with Magnets. *F. Kitayama*¹, *R. Kondo*¹ and *R. Endo*¹ *1. Graduate School of Science and Engineering, Ibaraki University, Hitachi-city, Japan*

HPA-02. Design of 20-MW Direct-Drive PM Vernier Generator with Minimal Volume. *A. Rehman*¹, *J. Lee*¹, *Y. Kim*¹ and *B. Kim*¹ *1. Electrical Engineering, Kunsan National University, Gunsan, The Republic of Korea*

HPA-03. Design and Analysis of High-Torque-Density Consequent-Pole Permanent Magnet Vernier Motor with Even-Order Harmonics Cancellation. *C. Chang*¹ and *M. Hsieh*¹ *1. National Cheng Kung University, Tainan, Taiwan*

HPA-04. Effects of the Rotor Mechanical Offset Angle on the Electromagnetic Performance of Dual Stator Wound-Field Flux Switching Machines. *U.B. Akuru*¹, *W. Ullah*², *F. Khan*² and *L. Masisi*³ *1. Department of Electrical Engineering, Tshwane University of Technology, Pretoria, South Africa; 2. Department of Electrical and Computer Engineering, COMSATS University Islamabad, Abbottabad, Pakistan; 3. School of Electrical and Information Engineering, University of the Witwatersrand, Johannesburg, South Africa*

- HPA-05. Prediction of Stress and Deformation Caused by Magnetic Attraction Force in Modulation Elements in A Magnetically Geared Machine Using Mathematical Modeling.** *M. Nguyen¹, J. Lee³, H. Shin¹, Y. Lee¹, H. Lee¹, K. Shin², A. Phung⁴ and J. Choi¹* 1. Chung Nam National University, Daejeon, The Republic of Korea; 2. Chonnam National University, Yeosu, The Republic of Korea; 3. Hyundai Transys, Hwaseong, The Republic of Korea; 4. Hanoi University of Science and Technology, Hanoi, Vietnam
- HPA-06. Analysis of Loss Characteristics of a Double Stator Magnetic Gear Motor Based on Thin Non-Oriented Electrical Steel.** *D. Li¹, Y. Li¹, X. Zhang¹ and R. Pei¹* 1. Department of Electrical Engineering, Shenyang University of Technology, Shenyang City, China
- HPA-07. A Novel S-Shape Offset Type of a Modulated Ferromagnetic Pole Piece Design for a Pseudo Direct Drive Motor.** *P. Huang¹, T. Chang¹, W. Yang¹, Y. Wu² and M. Tsai³* 1. Electric Motor Technology Research Center, National Cheng Kung University, Tainan, Taiwan; 2. Department of Mechanical Engineering, National Yunlin University of Science and Technology, Yunlin, Taiwan; 3. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan
- HPA-08. Robust Optimization and Design of Double-Stator Vernier Permanent Magnet Motors Considering Motor Punching Process.** *D. Fan¹, W. Shan¹, X. Zhu¹ and Z. Xiang¹* 1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China
- HPA-09. Dynamic Performance Analysis of The Variable Speed Ratio Magnetic Gear.** *Y. Xiao¹, M. Lu¹ and X. Liu¹* 1. College of Electrical and Information Engineering, Hunan University, Changsha 410082, China
- HPA-10. Comparison of Permanent Magnet Vernier Motors with Evenly and Unevenly Distributed Modulation Teeth.** *Z. He¹, F. Xiao¹, Y. Du¹ and X. Zhu¹* 1. Jiangsu University, Zhenjiang, China
- HPA-11. Design and Analysis of Magnetic Geared Permanent Magnet Machine to Improve Electromagnetic Performance.** *J. Lee¹, S. Sung², J. Choi³ and K. Shin¹* 1. Chonnam National University, Yeosu, The Republic of Korea; 2. Korea Research Institute of Science and Ocean Engineering, Daejeon, The Republic of Korea; 3. Chungnam National University, Daejeon, The Republic of Korea

- HPA-12. Design and Experimental Verification Considering the Electromagnetic-Mechanical Characteristics of a Coaxial Magnetic Gear for Permanent Magnet Wind Turbine.** J. Lee¹, K. Shin², H. Lee³, Y. Lee³, J. Woo³ and J. Choi³
1. Hyundai Transys, Hwaseong-si, The Republic of Korea; 2. Chonnam National University, Yeosu, The Republic of Korea; 3. Chung Nam National University, Daejeon, The Republic of Korea
- HPA-13. Additional Magneto Motive Force of Spoke-Type Vernier Permanent-Magnet Machines.** Y. Liu¹, B. Song¹ and X. Tang¹ *1. Huazhong University of Science and Technology, Wuhan, China*
- HPA-14. Analytical Modeling of a Spoke-type Double-stator Vernier Machine.** H. Zhao^{1,2} and J. Yu³ *1. Robotics and Autonomous Systems, The Hong Kong University of Science and Technology (Guangzhou), Guangzhou, China; 2. Department of Electronic & Computer Engineering, The Hong Kong University of Science and Technology, Hong Kong, China; 3. School of Mechanical Engineering and Automation, Harbin Institute of Technology (Shenzhen), Shenzhen, China*
- HPA-15. Design and Analysis of Magnetic Gear-Axial Flux Generator for Wave Power Generation Based on Halbach Magnetic Circuit.** Y. Li¹, L. Huang¹, M. Chen¹ and M. Hu¹
1. Department of Electrical Engineering, Southeast University, Nanjing, China
- HPA-16. Research on Linear-rotary Wave Energy Conversion with Axial Flux Modulation Generator.** L. Huang¹, Y. Li¹, Y. Li¹, M. Hu² and L. Wei¹ *1. Southeast University, Nanjing, China; 2. Nanjing Normal University, Nanjing, China*
- HPA-17. Quantitative Analysis and Comparison of In-Wheel Outer Rotor Consequent-Pole Flux-Switching Permanent Magnet Machines with Different Magnet Arrangements.** Y. Bi¹, W. Fu² and S. Niu¹ *1. Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China*
- HPA-18. Design and Analysis of Multiport Field Modulated Axial Flux Generator for Wave Power Generation.** Y. Li¹, L. Huang¹, M. Chen¹ and M. Hu¹ *1. Southeast University, Nanjing, China*
- HPA-19. High Torque Density Toroidal Winding Permanent Magnet Vernier Machine with Dual Rotor.** B. Wang¹, R. Wang¹, M. Cheng¹ and Z. Wang¹ *1. Southeast University, Nanjing, China*

- HPA-20. Influence of Electrical Steel Sheets Cutting on Dual-Winding Dual-Flux-Concentrated Magnetic-Field-Modulated Brushless Compound-Structure Machine.** *G. Liu¹, P. Zheng¹, J. Bai¹, Y. Wang¹ and X. Liang¹ 1. School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China*

ORAL SESSIONS

Session IOA SPECIAL MACHINES I

Cheng-Tsung Liu, Chair
National Sun Yat-Sen University, Kaohsiung, Taiwan

- IOA-01. Effects of the Partial Non-Magnetic Improvement Length and Position in the Bridge on the Flux of a Rotor Core for Obtaining a High Magnetic Flux.** *N. Hamada^{1,2}, A. Watarai¹, H. Mitarai^{1,2}, K. Oikawa² and S. Sugimoto² 1. Aichi Steel Corporation, Tokai, Japan; 2. Tohoku University, Sendai, Japan*
- IOA-02. Impact of Series and Parallel teeth on Performance of Counter Rotating Dual Rotor Permanent Magnet Flux Switching Machines.** *W. Ullah¹, F. Khan¹ and U.B. Akuru² 1. Electrical and Computer Engineering, COMSATS Institute of Information Technology, Abbottabad, Pakistan; 2. Department of Electrical Engineering, Tshwane University of Technology, Pretoria Campus, South Africa*
- IOA-03. Analysis of Three-Degree-of-Freedom Spherical Actuator Driven by Four-Phase.** *Y. Tamaki¹, A. Heya¹ and T. Inoue¹ 1. Department of Mechanical Systems Engineering, Nagoya University, Nagoya City, Japan*
- IOA-04. Dual-Axial Gap High-Speed Induction Motor using Wound Ultra-thin Laminated 3.5%Si-Steel Strip Core.** *M. Enokizono², D. Wakabayashi¹, M. Oka¹, N. Soda³, M. Takai⁴, T. Kajiya⁴, K. Okamoto⁶, K. Harmeyer⁵ and M. Nell⁵ 1. Mechanical Electric Engineering, Nippom Bunri University, Oita, Japan; 2. Vector Magnetic Characteristic Technical Laboratory, Usa, Japan; 3. Electrical Engineering, Ibaragi University, Hitachi, Japan; 4. Nippon Kinzoku Co, Ltd, Tokyo, Japan; 5. Institute of Electrical Machines, RWTH Aachen University, Aschen, Germany; 6. Tokuden, Co., Kyoto, Japan*
- IOA-05. Analysis of Operation Characteristics for a Novel Axial Field Hybrid Excitation Synchronous Generator.** *J. Yu¹, S. Zhu¹ and C. Liu¹ 1. Nanjing University of Aeronautics and Astronautics, Nanjing, China*

- IOA-06. Enhanced Tunneling Performance of Magnetic Helical Robots Utilizing Pecking Motion Generated by Alternating Rotating Magnetic Field.** *J. Kwon¹, J. Sa¹, D. Lee¹ and G. Jang¹* 1. *Hanyang University, Seoul, The Republic of Korea*
- IOA-07. A Novel High-Performance Flux Reversal Motor with Cross-Pole Shape Stator.** *Y. Yu¹ and K. Nakamura¹* 1. *Tohoku University, Sendai, Japan*
- IOA-08. Influence of air gaps between grain-oriented steel sheets on losses in the magnetic system.** *A. Giraud¹, Y. Serdyuk¹ and T. Thiringer¹* 1. *Chalmers University of Technology, Gothenburg, Sweden*
- IOA-09. Dynamic Modeling of Two-Coil Two-Degree-of-Freedom Voice Coil Actuator.** *Y. Ohashi¹, A. Heya¹ and T. Inoue¹* 1. *Mechanical Systems Engineering, Nagoya University, Nagoya, Japan*
- IOA-10. Analytical Approach for the Optimal Design of Line Start Permanent Magnet Synchronous Motor (LSPMSM).** *H. Farooq¹, N. Bracikowski², P. La Delfa³ and M. Hecquet¹* 1. *Centrale Lille, Lille, France; 2. University of Nantes, Nantes, France; 3. University of Lille, Lille, France*
- IOA-11. Bearingless Doubly Salient Electromagnetic Motor with Combined Suspension Winding for Reduction of Suspension Force Cross-Coupling.** *L. Yu¹, Q. Xu¹, W. Chen¹ and Z. Zhang¹* 1. *Nanjing University of Aeronautics and Astronautics, Nanjing, China*
- IOA-12. Axial Flux Switched Reluctance Machine Modelling by a Quasi-3D Reluctance Network.** *M. Hatoum¹, S. Asfirane¹, G. Barakat¹ and Y. Amara¹* 1. *Université Le Havre Normandie, Le Havre, France*

ORAL SESSIONS

Session IOB SPECIAL MACHINES II

Lei Xu, Chair
Jiangsu University, Zhenjiang, China

- IOB-01. Automatic MTPA Control Method for Magnetic-Geared Motor Using Sensorless Control Based on Extended Electromotive Force Model.** *N. Niguchi¹, K. Hirata¹ and J. Okamoto¹* 1. *Osaka University, Suita, Japan*

- IOB-02. Design and Comparative Analysis of Dual Rotor Wound Field Excited Flux Switching Generator for Wind Turbine Applications.** W. Ullah¹, F. Khan¹, A. Selema¹ and U.B. Akuru² 1. *Department of Electromechanical, Systems and Metal Engineering, Ghent University, Ghent, Belgium;* 2. *Department of Electrical Engineering, Tshwane University of Technology, Pretoria Campus, South Africa*
- IOB-03. Design of a Novel Modular Flux Switching Permanent Magnet Resolver.** W. Mi¹, J. Yu¹, Z. Song², K. Yang¹, Z. Cai¹ and H. Zhao³ 1. *School of Mechanical Engineering and Automation, Harbin Institute of Technology (Shenzhen), Shenzhen, China;* 2. *Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hongkong SAR, China;* 3. *Robotics and Autonomous Systems Thrust, The Hong Kong University of Science and Technology (Guangzhou), Guangzhou, China*
- IOB-04. Design and Analysis of a Six-Phase Axial Switched-Flux Permanent Magnet Machine with Different Winding Configuration.** J. Zhao¹, Z. Lu¹, Q. Han¹, L. Wang¹ and L. Wang¹ 1. *School of Electrical Engineering, Xi'an University of Technology, Xi'an, China*
- IOB-05. Surrogate-Based Modeling of Induction Machines to Reduce the Computational Burden of Robust Multi-Objective Optimization.** O. Taqavi¹, A. Fatima¹, A.J. Bourgault¹, Z. Li¹, G. Byczynski², J. Tjong¹ and N. Kar¹ 1. *Electrical and Computer Engineering, University of Windsor, Windsor, ON, Canada;* 2. *Nemak, Windsor, ON, Canada*
- IOB-06. Winding Magnetization Design of Single-Phase Capacitor-Run Induction Motor for Submersive Pump Application.** C. Liu¹, H. Chen¹, P. Wu¹ and P. Chao¹ 1. *Department of Electrical Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan*
- IOB-07. Multi-Mode Excitation Analysis and Design of a New Hybrid Excited Modular Stator Permanent Magnet Switched Reluctance Machine.** L. Xu¹, D. Xu¹, X. Zhu¹, C. Zhang¹ and X. zang¹ 1. *School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China*
- IOB-08. Parameter Identification for Large Synchronous Machine Using Standstill Time Response Test in Arbitrary Position.** Y. Ma¹, R. He¹, Z. Li¹ and D. Chen¹ 1. *CSG Power Generation Co. Ltd., Guangzhou, China*
- IOB-09. Nonlinear Force Model of a Double-Sided Linear Switched Reluctance Motor Using Intelligent Optimization Method.** S. Huang¹, P. He¹ and G. Cao¹ 1. *Guangdong Key Laboratory of Electromagnetic Control and Intelligent Robots, Shenzhen University, Shenzhen, China*

- IOB-10. Four-Axes Controlled Superconducting Magnetic Levitation System Using Persistent Current.** *M. Komori*¹, *K. Murakami*¹, *K. Nemoto*² and *K. Asami*¹ *1. Electrical and Electronic Engineering, Kyushu Institute of Technology, Kitakyushu, Japan; 2. Superconducting Division, Furukawa Electric Co., Chiyoda, Japan*
- IOB-11. Design Optimization of a Six-Degrees-of-Freedom Magnetically Levitated Planar Motor Using Response Surface Methodology.** *Y. Gan*¹, *S. Huang*¹ and *G. Cao*¹ *1. Guangdong Key Laboratory of Electromagnetic Control and Intelligent Robots, Shenzhen University, Shenzhen, China*
- IOB-12. Analysis of Efficiency Maps of Synchronous Machines.** *H. Diab*¹, *S. Asfirane*¹ and *Y. Amara*¹ *1. University of Le Havre, Le Havre, France*

POSTER SESSION

Session IPA SPECIAL MACHINES III (Poster Session)

Shuangxia Niu, Chair

The Hong Kong Polytechnic University, Kowloon, Hong Kong

- IPA-01. Magnetic Properties of Wound Laminated Cores for a Dual-Axial Gap Induction Motor under PWM Excitation.** *M. Oka*¹, *M. Enokizono*², *D. Wakabayashi*¹, *H. Kiyotake*³, *N. Soda*⁴, *M. Takai*⁵ and *T. Kajiya*⁵ *1. Mechanical and Electrical Engineering, Nippon Bunri University, Oita, Japan; 2. Vector Magnetic Characteristic Technical Laboratory, Oita, Japan; 3. Department of Electrical and Electronic Engineering, National Institute of Technology, Oita College, Oita, Japan; 4. Department of Electrical and Electronic Engineering, Ibaraki University, Hitachi, Japan; 5. Nippon Kinzoku Co. Ltd., Itabashi-ku, Japan*
- IPA-02. A Novel Speed-Sensorless Wireless Universal Motor with Bidirectional Movement.** *H. Wang*¹, *K. Chau*¹, *W. Liu*¹ and *S. Goetz*² *1. The University of Hong Kong, Hong Kong; 2. Duke University, Durham, NC, United States*
- IPA-03. Research on a Transverse-Dislocated Magnetic-Field Modulated Brushless Contra-Rotating Machine Adopting Different Core Material Combinations.** *Y. Wang*¹, *Y. Sui*¹, *G. Liu*¹, *X. Liang*¹ and *P. Zheng*¹ *1. Harbin Institute of Technology, Harbin, China*
- IPA-04. A Brushless Hybrid Excited Motor based on Field Modulation Theory.** *Y. Du*¹, *X. Wang*¹, *F. Xiao*¹, *Z. He*¹ and *X. Zhu*¹ *1. Jiangsu University, Zhenjiang, China*

- IPA-05. Programmable Behaviors of Magnetic Microrobots under the Fluidic Flow.** *M. Park¹ and J. Yoon¹ I. School of Integrated Technology, Gwangju Institute of Science and Technology, Gwangju, The Republic of Korea*
- IPA-06. Magnetic Performance Analysis of Axial Magnetic Flux Motor Stator Considering Laminating Thermal Stress.** *X. Zhang¹, J. Li¹, D. Li¹, J. Li¹ and R. Pei¹ I. Department of Electrical Engineering, Shenyang University of Technology, Shenyang City, China*
- IPA-07. Research on Magnetic Properties of Iron Core Based on Fe-Co Alloys under Multi-field Coupling.** *J. Li¹, S. Xu¹, L. Wang¹ and R. Pei¹ I. Department of Electrical Engineering, Shenyang University of Technology, Shenyang, China*
- IPA-08. Sub-Harmonic Synchronous Machine Using a Dual Inverter and a Unique Three-Layer Stator Winding.** *S. Rafin¹ and O.A. Mohammed¹ I. Electrical and Computer Engineering, Florida International University, Miami, FL, United States*
- IPA-09. Comparison of Torque Generation Capabilities of the Axial-Field Switched Reluctance Machine with Segmented Rotor for Four Winding Configurations under Sine Wave and Unipolar Current.** *S. Asfirane¹, G. Barakat¹, F. ChaBour¹ and Y. Amara¹ I. GREAH, Université Le Havre Normandie, Le Havre, France*
- IPA-10. A Novel Consequent-Pole Contra-Rotating Machine with Zero-Sequence Current Excitation.** *M. Jiang¹ and S. Niu¹ I. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*
- IPA-11. A Novel PM-Assisted Compound-Excited Brushless DC Motor.** *M. Jiang¹ and S. Niu¹ I. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*
- IPA-12. A Built-In Integrated Magnetorheological Fluid Brake Permanent Magnet Synchronous Motor.** *Y. Hu¹ and W. Xu¹ I. School of Electrical Engineering, Southeast University, Nanjing, China*

Session IPB
SPECIAL MACHINES AND RELUCTANCE
MACHINES
(Poster Session)

Thanh Anh Huynh, Chair
 National Cheng Kung University, Tainan, Taiwan

- IPB-01. Electromagnetic Design and Analysis of Low Speed High Torque Motor with Composite Rotor and Double Stator.** *S. Wang¹, S. Jin¹, S. Yu¹ and Z. Zhang¹ 1. Shenyang University of Technology, Shenyang, China*
- IPB-02. Design and Performance Analysis of a New Synchronous Reluctance Machine with Hybrid Cores.** *S. Zhang¹, C. Liu¹, G. Lei², Y. Wang¹ and J. Zhu² 1. Hebei University of Technology, Tianjin, China; 2. Sydney University of Science and Technology, Sydney, NSW, Australia*
- IPB-03. Design and Analysis of Wireless Stepper Motors Using Selective Wireless Power Transfer.** *S. Li¹, K. Chau¹, W. Liu¹ and C. Liu² 1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong; 2. School of Energy and Environment, City University of Hong Kong, Hong Kong*
- IPB-04. Effective Performance Improvement Designs of a Hybrid Permanent-Magnet-Assisted Synchronous Reluctance Motor.** *C. Liu¹, W. Chen¹, S. Yen², Y. Hsu², P. Shih² and T. Lo² 1. Department of Electrical Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan; 2. Research & Development Center, Nidec Taiwan Corporation, Tainan, Taiwan*
- IPB-05. Additive Manufacturing Axial Flux Variable Reluctance Resolve.** *T. Chang¹, P. Huang¹, W. Huang¹, C. Huang², C. Mo² and M. Tsai³ 1. Electric Motor Technology Research Center, National Cheng Kung University, Tainan, Taiwan; 2. Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan; 3. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*
- IPB-06. Analysis and Comparison of Novel Yokeless Double Rotor Mutually Coupled Switched Reluctance Motor.** *D. Fu¹, Z. Lv¹, H. Si¹, Y. Liu¹ and X. Wu¹ 1. School of Electrical Engineering, China University of Mining and Technology, Xuzhou, China*

- IPB-07. Novel Slot-Opening-PM Variable Reluctance Machine with High-Order-Harmonic Winding.** *F. Ni¹, S. Niu¹, Z. Li¹ and X. Zhao²* 1. *Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong;* 2. *School of Physics, Engineering and Technology, The University of York, York, United Kingdom*
- IPB-08. A Novel High-Order-Harmonic Winding Design in Hybrid-Excited Reluctance Machine for Electric Vehicle Application.** *J. Jiang¹ and S. Niu¹* 1. *Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong*
- IPB-09. Analysis and Magnetic Field Calculation Method for Motor with Saliency.** *X. Liang¹, M. Wang¹, P. Zheng¹, J. Gao¹ and W. Li¹* 1. *Harbin Institute of Technology, Harbin, China*
- IPB-10. Analysis of Aluminum Eddy Current Effect for Planar Switched Reluctance Motors.** *J. Sun¹, Z. He¹, G. Cao², S. Huang², J. He³ and Q. Qian¹* 1. *School of Electrical Engineering, Southwest Jiaotong University, Chengdu, China;* 2. *Shenzhen Key Laboratory of Electromagnetic Control, Shenzhen University, Shenzhen, China;* 3. *University of Kentucky, Lexington, KY, United States*
- IPB-11. Effect of cross-saturation on the performance of synchronous reluctance machine operating as autonomous generator.** *Y. Djouadi¹ and A. Tounzi¹* 1. *Université de Lille, Lille, France*
- IPB-12. Research on the Influence of Magnetic Barrier Distribution on the Magnetic Field of Synchronous Reluctance Machine.** *P. Zheng¹, X. Liang¹, M. Wang¹, J. Gao¹ and W. Li¹* 1. *Harbin Institute of Technology, Harbin, China*

ORAL SESSIONS

Session JOA

PERMANENT MAGNET MACHINES IV

Yacine Amara, Chair

Université Le Havre Normandie, Le Havre, France

- JOA-01. Evaluation of the Magneto-Elastic Effect on the High-Speed Capability of Rotors in Synchronous Machines with Buried Permanent Magnets.** *M. Lauerburg¹, B. Schauerte¹ and K. Hameyer¹* 1. *RWTH Aachen University, Institute of Electrical Machines (IEM), Aachen, Germany*

- JOA-02. Development of High Efficiency PMSG with Extremely Thin Stator Lamination Materials for Electric-Propulsion UAV.** L. Li^{1,2}, Z. Zhang^{1,2}, W. Bian^{1,2}, J. Li^{1,2} and Y. Li^{1,2}
1. Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. Center for More-Electric-Aircraft Power System College of Automation Engineering, Nanjing, China
- JOA-03. Design Optimization of Rotor Bridge and Fixing Hole for Spoke-Type PMSM.** Y. Liu¹, K. Ma¹ and J. Xu¹ 1. College of Electrical and Automation Engineering, Nanjing Normal University, Nanjing, China
- JOA-04. Heat magnetizing method for high-performance neodymium magnets for EV and HEV motors.** M. Hori¹, N. Tomita¹ and J. Hinata² 1. Nihon Denji Sokki Co., LTD., Tokyo, Japan; 2. Daido Steel Co., Ltd., Nakatsugawa-shi, Japan
- JOA-05. Effect of Radial and Axial Magnet Segmentation on PM Eddy Current Losses for Brushless Synchronous Motors.** Y. Demir¹, M. Onsal¹ and M. Aydin² 1. MDS Motor, Kocaeli, Turkey; 2. Kocaeli University, Kocaeli, Turkey
- JOA-06. Torque Pulsation Suppression of Permanent Magnet Machine Based on Pole-Pair Shift.** L. Dai¹, W. Zhang², J. Gao¹, C. Li¹ and S. Huang¹ 1. College of Electrical and Information Engineering, Hunan University, Changsha, China; 2. Changsha University, Changsha, China
- JOA-07. Reduction of Iron Loss on Motor Stator Cores by means of Secondary Current Heating Method.** Y. Tsuchida¹
1. Oita University, Oita, Japan
- JOA-08. Impact of Soft Magnetic Material on Electromagnetic Force and Vibration of Permanent Magnet Electrical Machines.** B. Li¹, J. Zhu², C. Liu¹, G. Lei³ and Y. Li¹ 1. Hebei University of Technology, Tianjin, China; 2. The University of Sydney, Sydney, NSW, Australia; 3. University of Technology Sydney, Sydney, NSW, Australia
- JOA-09. Influence of Harmonic Magnet Field on Radial Force of Fractional-Slot PM Machines with Consideration of Slot/Pole Combinations.** Y. Guo¹, K. Wang¹ and H. Sun²
1. Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. Nanjing Forestry University, Nanjing, China
- JOA-10. Study on Electromagnetic Vibration Characteristics in Fractional Slot Permanent Magnet Synchronous Motor.** L. Bai^{1,2}, W. Jiang^{1,2} and L. Li^{1,2} 1. Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. Center for More-Electric-Aircraft Power System College of Automation Engineering, Nanjing, China

JOA-11. **Withdrawn**

JOA-12. **A Novel Double Stator Hybrid-Excited Flux Reversal Permanent Magnet Machine with Halbach PM Arrays.** S. Ning¹, P. Seangwong¹, A. Siritaratiwat¹ and P. Khunkitti¹
1. Electrical Engineering, Khon Kaen University, Muang, Thailand

JOA-13. **3D-printed Magnetic Iron Material Modeling for High Speed Actuators.** M. Pechlivanidou¹ and A.G. Kladas¹
1. Electrical and Computer Engineering, National Technical University of Athens, Athens, Greece

JOA-14. **Thermal Management with Heat Pipes for PMSM with Dual Rotor and Yokeless Stator for Electrified Aircraft Propulsion.** Z. Wei¹, Y. Liu¹, H. Xue², Z. Zhang² and C. Chen¹ *1. Nanjing Normal University, Nanjing, China; 2. Nanjing University of Aeronautics and Astronautics, Nanjing, China*

POSTER SESSION

Session JPA PERMANENT MAGNET MACHINES V (Poster Session)

Daniele De Gaetano, Chair
The University of Sheffield, Sheffield, United Kingdom

JPA-01. **Analysis of A New Bidirectional Field Modulation Machine with Separated Type PM Excitation.** H. Wang¹, Y. Zhang¹, Y. Liu¹, C. He¹ and H. Zhu¹ *1. School of Electrical and Automation Engineering, Nanjing Normal University, Nanjing, China*

JPA-02. **Comparative Analysis of Dual-Stator Permanent Magnet Machines With Squirrel Stator Teeth Designed in Hypotenuse.** H. Wang¹, Y. Xu¹, Y. Liu¹, J. Yang¹ and D. Wang² *1. School of Electrical and Automation Engineering, Nanjing Normal University, Nanjing, China; 2. Jiangsu Maiji Yiwei Electric Technology Co., Ltd, Nanjing, China*

JPA-03. **Parameter Analysis and Multilevel Design Optimization of a Permanent Magnet Claw Pole Machine with Hybrid Cores.** H. Zhang¹, C. Liu¹, S. Zhang¹, G. Lei² and Y. Wang¹
1. Hebei University of Technology, Tianjin, China; 2. Sydney University of Science and Technology, Sydney, NSW, Australia

- JPA-04. Magnetic Properties Evaluation of a Compacted Soft Magnetic Composite Core for Permanent Magnet Claw Pole.** *H. Du¹, C. Liu¹, S. Wu¹, S. Zhang¹ and Y. Wang¹*
1. Hebei University of Technology, Tianjin, China
- JPA-05. Axis-Shifted Machines with Hybrid Rotors Considering Forward and Reverse Operations.** *S. Li¹, C. Di¹ and X. Bao¹*
1. Hefei University of Technology, Hefei, China
- JPA-06. Optimization of Halbach magnetic field applied response genetic algorithm.** *L. Yin¹, Y. Wang¹, R. Sun¹, L. Wu¹ and X. Xu²*
1. State Grid Lianyungang Power Supply Company, Lianyungang, China; 2. College of Automation, Nanjing University of Posts and Telecommunications, Nanjing, China
- JPA-07. Loss reduction method under multi-operation points based on response surface algorithm.** *L. Yin¹, Y. Wang¹, R. Sun¹, L. Wu¹ and X. Xu²*
1. State Grid Lianyungang Power Supply Company, Lianyungang, China; 2. College of Automation, Nanjing University of Posts and Telecommunications, Nanjing, China
- JPA-08. Design Optimization of an Interior Permanent Magnet Synchronous Machine with Asymmetric and Auxiliary Slot Structure.** *H. Zhang¹, C. Liu¹, S. Zhang¹, G. Lei² and Y. Wang¹*
1. Hebei University of Technology, Tianjin, China; 2. Sydney University of Science and Technology, Sydney, NSW, Australia
- JPA-09. Improvement Torque Ripple Characteristics of Dual-Winding Square Wave Brushless DC Motor with Phase Difference Drive.** *S. Noguchi¹*
1. Aviation Technology Directorate, Japan Aerospace Exploration Agency (JAXA), Mitaka, Japan
- JPA-10. Comparison Between Novel Pole-Changing and Conventional Flux Switching Permanent-Magnet Motors.** *Y. Mao¹, F. Xiao¹, Y. Du¹, Z. He¹, X. Zhu¹ and L. Quan¹*
1. Jiangsu University, Zhenjiang, China
- JPA-11. Rotor Position Estimation for PMSM Based on Hall Interval Angle Compensation and Phase-Tracking.** *K. Li¹, J. Gao¹, L. Dai¹, S. Huang¹ and Y. Feng¹*
1. College of Electrical and Information Engineering, Hunan University, Changsha, China
- JPA-12. Rotor Auxiliary Slot Design Optimization for Permanent Magnet Synchronous Motor with Double-Layer Rotor Structure for Electric Vehicle.** *H. Zhang¹, C. Liu¹, S. Zhang¹, G. Lei² and Y. Wang¹*
1. Hebei University of Technology, Tianjin, China; 2. Sydney University of Science and Technology, Sydney, NSW, Australia

- JPA-13. Performance Improvement of Rare-Earth Free High-Speed Multilayer IPMSM Using Dual-Phase Magnetic Material.** Y. Jung¹, K. Kim² and M. Lim² *1. Hyundai Motor Company, Hwaseong, The Republic of Korea; 2. Hanyang University, Seoul, The Republic of Korea*
- JPA-14. Investigation on Wide-Speed Operation of a New Five-Phase Fault-Tolerant Interior Permanent Magnet Motor from Perspective of Flux-Intensifying Effect.** S. Deng¹, L. Zhang¹ and D. Shen¹ *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang City, China*
- JPA-15. Influence of Additional Air Gaps Between Stator Tooth and Back-Iron on Acoustic Performance of Spoke-Type Permanent Magnet Synchronous Motor.** C. Liu¹, X. Qiu^{1,2}, K. Zhou¹ and J. Yang^{1,2} *1. School of Electric Engineering and Automation, Nanjing Normal University (NNU), Nanjing, China; 2. Nanjing Institute of Intelligent High-End Equipment Industry Co., Nanjing, China*
- JPA-16. Extended Virtual-Signal-Injection MTPA Control of New Five-Phase Flux-Intensifying Interior Permanent Magnet Motor with Compensation Factor.** X. Chen¹, L. Zhang¹, X. Zhao¹ and Y. Wang² *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China; 2. State Grid Zhenjiang Power Supply Company, Zhenjiang, China*
- JPA-17. Withdrawn**

POSTER SESSION

Session JPB PERMANENT MAGNET MACHINES VI (Poster Session)

Fei Zhao, Chair
Harbin Institute of Technology (Shenzhen), Shenzhen, China

- JPB-01. Influence of Phase Shift Angle on Performance of PMSM with Dual Three-Phase Star and Delta Connection.** J. Yu¹, J. Yang¹ and S. Huang¹ *1. Hunan University, Changsha, China*
- JPB-02. Analysis and Optimization of Dual Three-Phase PMSM for Integrated EMA with Harsh Space Constraint.** S. Zhu¹, J. Hu¹, K. Wang¹, Y. Guo¹, C. Liu¹ and Y. Bi¹ *1. Nanjing University of Aeronautics and Astronautics, Nanjing, China*

- JPB-03. Axial Flux Permanent Magnet Electrical Machine with High Torque Density: Research on the Influence of Combined-Halbach Array on YASA Machine.** *Y. Lu¹, Y. Kai¹, S. Songjun¹ and Y. Luo¹ 1. Huazhong University of Science and Technology, Wuhan, China*
- JPB-04. Thermal Characteristics and Cooling Methods of a Permanent Magnet Synchronous Motors with High Flux Density.** *J. Mao¹, Y. Pei¹ and T. Yoshida¹ 1. Electrical and Electrical Engineering, Kyushu University, Fukuoka, Japan*
- JPB-05. Investigation of a New Split Stator-Permanent-Magnet Machine With Mechanical Manufacturing Consideration.** *H. Wang¹, C. Zhang¹, Y. Liu¹ and J. Yang¹ 1. School of Electrical Engineering, Nanjing Normal University, Nanjing, China*
- JPB-06. A Dimension Reduction Transformation Method for the Hybrid Axial-Radial Machine.** *Z. Chen¹, S. Sun¹, B. Xu¹, Y. Wang¹, Y. Kai¹ and Y. Luo¹ 1. Electrical and Electronic Engineering, Hua Zhong University of Science and Technology, Wuhan, China*
- JPB-07. Conductor Design Method Considering AC Resistance for High Efficiency of PMSM Using High Fill Factor Winding.** *K. Cha¹ and M. Lim² 1. Advanced Mechatronics R&D Group, Korea Institute of Industrial Technology, Daegu, The Republic of Korea; 2. Department of Automotive Engineering, Hanyang University, Seoul, The Republic of Korea*
- JPB-08. Modeling and Analysis of Different Assembly Faults of a Dual-stator Low-speed High-torque Permanent Magnet Drive Machine.** *J. Liu¹, C. Di¹, L. Wang¹ and X. Bao¹ 1. Hefei University of Technology, Hefei, China*
- JPB-09. Comparative Study of Field Modulation Effects On Consequent-Pole PM Machines with Different Stator Slot Configurations.** *Y. Li^{1,2}, H. Lin¹, H. Yang¹ and Z. Zhao¹ 1. Jiangsu CRRC Electric Co., LTD, Yancheng, China; 2. School of Electrical Engineering and Automation, Anhui University, Hefei, China*
- JPB-10. Investigation on the Influence of Eccentricity on the AC Copper Loss of High Speed Slotless Permanent Magnet Motor.** *S. Dai¹, J. Yang¹ and S. Huang¹ 1. Hunan University, Changsha, China*
- JPB-11. Model Predictive Torque Control for a Flux-Modulated Permanent Magnet Motor With Torque Harmonic Injection.** *L. Quan¹, Y. Bai¹, L. Xu¹, X. Zhu¹ and L. Zhang¹ 1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China*

- JPB-12. Modeling of Wind Turbine Drive Trains for Finite Element Analysis.** *A. Swain*¹, *C. Liu*² and *P. Pong*¹
1. Electrical and Computer Engineering, New Jersey Institute of Technology, Newark, NJ, United States; 2. School of Energy and Environment, City University of Hong Kong, Kowloon Tong, Hong Kong
- JPB-13. Optimization and Design of U-Shaped In-Wheel Permanent Magnet Motor for High Torque and Low Weight.** *C. Han*¹, *X. Zhu*¹, *D. Fan*¹ and *Z. Xiang*¹ *1. Jiangsu University, Zhenjiang, China*
- JPB-14. High Torque Density and Lightweight Design of Permanent Magnet In-wheel Motor Based on Magnetic Field Modulation Effect.** *Z. Xiang*¹ and *S. Bi*¹ *1. Jiangsu University, Zhenjiang, China*
- JPB-15. High-Efficiency Region Analysis and Broadening Design of Permanent Magnet Motor Based on Variable Magnetic Field Effect.** *L. Quan*¹, *X. Yu*¹, *D. Fan*¹, *Z. Xiang*¹ and *X. Zhu*¹ *1. Jiangsu University, Zhenjiang, China*
- JPB-16. Scroll-Type Stator for Axial Field Electric Machines.** *C.U. Ubadigha*¹, *P. Huang*¹, *T. Chang*¹ and *M. Tsai*²
1. Electric Motor Technology Research Center, National Cheng Kung University, Tainan, Taiwan; 2. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan
- JPB-17. Torque Ripple Optimization of the Interior Permanent Magnet Motor for Electric Vehicles.** *Y. Chen*², *H. Chang*² and *G. Chen*¹ *1. Mechanical and Electro-Mechanical Engineering, Tamkang University, New Taipei, Taiwan; 2. Mechanical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan*
- JPB-18. Influence Studies of the Flux-Barriers and PM Arrangements on High-Speed Flux-Intensifying Interior Permanent Magnet Motor Performance.** *T. Huynh*¹, *M. Hsieh*¹, *M. Tsai*², *P. Huang*² and *Z. Lee*² *1. Electrical Engineering, National Cheng Kung University, Tainan, Taiwan; 2. Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*

Session KOA
LINEAR MOTORS / ACTUATORS

Metin Aydin, Co-Chair

Kocaeli University, Umuttepe, Izmit, Turkey

Johannes Paulides, Co-Chair

Advanced Electromagnetics Group, Waalwijk, Netherlands

- KOA-01. 3D Modeling of High-Temperature Superconducting Rotating Field Electrodynamic Maglev Motor.** *W. Qin¹*
1. EE, Beijing Jiaotong University, Beijing, China
- KOA-02. Design and Analysis of a Double Layer Coils Linear Motor with Series Magnetic Circuit Structure Using for Linear Dynamic Loading Platform.** *J. Mu¹, H. Zhang¹, Y. Lou¹ and Y. Zhao¹* *1. Harbin Institute of Technology, Harbin, China*
- KOA-03. Dynamic Modeling and Analysis of Six-Degree-of-Freedom Vibration Device using Multi-Degree-of-Freedom Electromagnetic Actuator.** *K. Nagano¹, A. Heya¹ and T. Inoue¹* *1. Mechanical Systems Engineering, Nagoya University, Nagoya, Japan*
- KOA-04. Design of Wrist Rehabilitation Exoskeleton Device with Magnetic Serial Elastic Actuator.** *L. Cheng¹, Z. Chen¹ and J. Chang^{1,2}* *1. Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Mechanical and Computer-Aided Engineering, National Formosa University, Huwei, Taiwan*
- KOA-05. Dual-Rotor Electrodynamic Wheel Force Analysis.** *C. Bruce¹, M. Grubbs¹ and J. Bird¹* *1. Portland State University, Portland, OR, United States*
- KOA-06. Design of a Reaction Wheel with MRF-encapsulated Magnetic Ball.** *C. Hong-Siang¹, K. Peng¹, K. Ho² and J. Chang^{1,3}* *1. Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. TECO Electric & Machinery Co., Taipei, Taiwan; 3. Mechanical and Computer-Aided Engineering, National Formosa University, Huwei, Taiwan*
- KOA-07. Force Generation Method of a Novel Three-Degree-of-Freedom Electromagnetic Actuator with Finger Ring Structure.** *Y. Dan¹, A. Heya¹ and T. Inoue¹* *1. Mechanical Systems Engineering, Nagoya University, Nagoya, Japan*
- KOA-08. A Rare-Earth-Free Linear Motor Replacing Coreless Linear Motors with Neodymium Sintered Magnets.** *T. Akiyama¹ and S. Imamori¹* *1. Fuji Electric Co., Ltd., Hino-city, Japan*

Session KPA
ENERGY HARVESTING AND LINEAR MACHINES
(Poster Session)

Jang-Young Choi, Co-Chair
 Chungnam National University, Daejeon, The Republic of Korea
 Johannes Paulides, Co-Chair
 Advanced Electromagnetics Group, Waalwijk, Netherlands

- KPA-01. Study on smoothing generated voltage in the vertical linear vibration generator.** *H. Kojima¹, T. Maruyama¹, Y. Koyanagi¹, E. Shirahama¹ and S. Ohashi¹ 1. Kansai University, Suita-shi, Japan*
- KPA-02. Effects of the External Disturbances on Rotational Stability of the HTS Magnetic Bearings.** *K. Yagi¹, R. Taniguchi¹, S. Ishida¹ and S. Ohashi¹ 1. Kansai University, Suita, Japan*
- KPA-03. Withdrawn**
- KPA-04. Design of magnetic levitation-based harvester for very low frequencies.** *I. Royo-Silvestre^{1,2}, J. Beato-Lopez^{1,2}, J. Algueta-Miguel^{3,4} and C. Gomez-Polo^{1,2} 1. Departamento de Ciencias, Universidad Publica de Navarra, Pamplona, Spain; 2. Institute for Advanced Materials and Mathematics INAMAT2, Universidad Publica de Navarra, Pamplona, Spain; 3. Departamento de Ingeniería de Electricidad, Electrónica y Comunicación, Universidad Publica de Navarra, Pamplona, Spain; 4. Institute for Smart Cities (ISC), Universidad Publica de Navarra, Pamplona, Spain*
- KPA-05. Study of a Cancellation Coil for Reducing Magnetic Field Leakage in Contactless Power Transfer in Motion.** *M. Yokosawa¹, S. Miyahara¹, F. Sato¹, H. Matsuki², K. Inada³, T. Abe³ and S. Sasaki⁴ 1. Graduate School of Engineering, Tohoku-Gakuin University, Tagajo, Japan; 2. Tohoku University, Sendai, Japan; 3. NITTOKU Co., Ltd, Saitama, Japan; 4. Hikari Denshi Co., Ltd, Osaki, Japan*
- KPA-06. Switchable Frequency Response Based on Electropermanent Magnet Actuator for Wide-Range Operation of Electromagnetic Devices.** *M. Kato¹ and F. Kitayama¹ 1. Ibaraki University, Hitachi, Japan*
- KPA-07. Design and Analysis of Wide-Bandwidth Actuator for Haptic Controller with Novel Magnetic Circuit.** *Z. Jiang¹, J. Park¹ and S. Hwang¹ 1. Pusan National University, Busan, The Republic of Korea*

- KPA-08. Magnetic Properties Evaluation on Cold-Rolled Steel Plates with Bending Process.** *T. Kai*^{1,2}, S. Yamaguchi¹ and Y. Tsuchida² *1. Mitsubishi Electric Corporation, 8-1-1 Tsukaguchi-honmachi, Amagasaki, Japan; 2. Oita University, 700 Dannoharu, Oita, Japan*
- KPA-09. A Study of Stable Levitation Conditions Considering Propulsion of a Carrier in the Magnetically Levitated Conveyance System Using the Linear Stepper Motor.** *S. Mitsui*¹, K. Taniguchi¹ and S. Ohashi¹ *1. Electrical, Electronic and Information Engineering, Kansai University, Suita, Japan*
- KPA-10. Development Acoustic Device Using Giant Magnetostrictive Material: Fundamental Consideration on Output Performance Due to Differences in Material Properties.** *T. Kato*⁶, H. Okazaki⁶, T. Kitamura¹, F. Maehara¹, I. Kobayashi¹, J. Kuroda², D. Uchino², K. Ogawa², K. Ikeda³, A. Endo⁴, H. Kato⁵, T. Narita⁵ and M. Furui⁶ *1. Course of Mechanical Engineering, Tokai University, Hiratsuka, Japan; 2. Course of Science and Technology, Tokai University, Hiratsuka, Japan; 3. Mechanical Engineering, Hokkaido University of Science, Sapporo, Japan; 4. Electrical Engineering, Fukuoka Institute of Technology, Fukuoka, Japan; 5. Prime Mover Engineering, Tokai University, Hiratsuka, Japan; 6. Mechanical Engineering, Tokyo University of Technology, Hachioji, Japan*
- KPA-11. Withdrawn**
- KPA-12. Placement of Electromagnets for Edge-Supported Maglev Systems: Fundamental Consideration on Tilting Angle of Electromagnets.** *S. Baba*¹, A. Endo¹, J. Kuroda², D. Uchino², K. Ogawa², K. Ikeda³, T. Kato⁴, T. Narita² and H. Kato² *1. Fukuoka Institute of Technology, Fukuoka, Japan; 2. Tokai University, Hiratsuka, Japan; 3. Hokkaido University of Science, Sapporo, Japan; 4. Tokyo University of Technology, Hachioji, Japan*
- KPA-13. 2-D FEA Based Iron Loss Calculation Method for Linear Oscillating Actuator Considering Equivalent Circumferential Stack Length of Segmented Outer Stator Structure.** *J. Lee*¹, S. Park¹, P. Kim¹, D. Park¹ and M. Lim¹ *1. Hanyang University, Seoul, The Republic of Korea*
- KPA-14. Analysis and Modeling of a Flux-Switching Transverse-Flux Permanent Magnet Tube Linear Motor.** *D. Fu*¹, K. Wu¹, X. Wang¹ and X. Wu¹ *1. School of Electrical Engineering, China University of Mining and Technology, Xuzhou, China*
- KPA-15. Experimental Verification of Torque Ripple Suppression Method Using Coriolis Force Generated by Electromagnetic Oscillatory Actuator.** *D. Naganuma*¹ and M. Kato¹ *1. Electrical and Electronics Systems, Ibaraki University, Ibaraki, Japan*

- KPA-16. Bending Levitation System for Flexible Steel Plate (Experimental Consideration on Dynamic Behavior of Levitated Steel Plate).** *Y. Uchida*¹, *R. Miyazaki*¹, *K. Ogawa*¹, *J. Kuroda*¹, *D. Uchino*¹, *K. Ikeda*², *T. Kato*³, *A. Endo*⁴, *T. Narita*¹ and *H. Kato*¹ *1. Tokai University, Hiratsuka, Japan; 2. Hokkaido University of Science, Sapporo, Japan; 3. Tokyo University of Technology, Hachioji, Japan; 4. Fukuoka Institute of Technology, Fukuoka, Japan*
- KPA-17. An Evolutionary Computation Approach for the Electromagnetic Field Assessment of Eddy Current Motion Dampers.** *A. Adly*^{2,1} and *S. Abd-El-Hafiz*³ *1. Electric Power Engineering Department, Cairo University, Giza, Egypt; 2. Egypt-Japan University of Science and Technology (E-JUST), Alexandria, Egypt; 3. Engineering Mathematics Department, Cairo University, Giza, Egypt*
- KPA-18. An Examination of the Damping and Stiffness Terms Needed to Model the Dynamics of an Eddy Current-based Maglev Vehicle.** *J. Bird*¹ and *C. Bruce*¹ *1. Electrical and Computer Engineering, Portland State University, Portland, OR, United States*
- KPA-19. Simple design for magnetic field energy harvesting.** *K. Tashiro*¹ *1. Faculty of Engineering, Shinshu University, Nagano, Japan*
- KPA-20. Analysis and Optimization of Novel Series-SLSPC Compensation Network for PT-Symmetric WPT systems.** *Y. Gu*¹, *Q. Zhu*¹, *J. Wang*¹, *L. Jia*², *G. Li*², *J. Chen*¹ and *Z. Zhang*^{1,3} *1. School of Electrical and Information Engineering, Tianjin University, Tianjin, China; 2. Beijing Aerospace Automatic Control Institute, Beijing, China; 3. International Institute for Innovative Design and Intelligent Manufacturing of Tianjin University, Shaoxing, China*
- KPA-21. An Integrated Rotary Transformer and 3-Phase Dual-Active-Bridge Converter for High Power Transfer in Novel X-rotor Wind Turbines.** *R. Yazdanpanah*¹, *S. Mortazavizadeh*¹, *Y. Teng*¹, *O. Anaya-Lara*¹ and *D. Campos-Gaona*¹ *1. Electronic and Electrical Engineering, University of Strathclyde, Glasgow, United Kingdom*
- KPA-22. Anisotropic magnetostriction for low-frequency energy harvesting applications.** *Y. Liu*¹, *L. Daniel*², *B. Ducharne*^{4,3}, *G. Sebald*⁴, *M. Lallart*³ and *K. Makiyara*¹ *1. Department of Aerospace Engineering, Tohoku University, Sendai, Japan; 2. Université Paris-Saclay, CentraleSupélec, CNRS, Laboratoire de Génie Electrique et Electronique de Paris, Saclay, France; 3. Univ. Lyon, INSA Lyon, LGEF EA682, Lyon, France; 4. ELyTMaX IRL3757, CNRS, Univ Lyon, INSA Lyon, Centrale Lyon, Université Claude Bernard Lyon 1, Tohoku University, Sendai, Japan*

- KPA-23. Design Consideration of Magnetic Energy Harvesting System: Comparison with Design of Current Transformer.** *S. Huh³, J. Koo¹, O. Jeong² and S. Ahn³ 1. Ferraris Inc., Las Vegas, NV, United States; 2. Electronic Engineering, Sogang University, Seoul, The Republic of Korea; 3. CCS Graduate School of Mobility, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea*

ORAL SESSIONS

Session LOA SPECIAL MACHINES IV

Yacine Amara, Co-Chair

University of Le Havre, Le Havre, France

Elena Lomonova, Co-Chair

Technische Universiteit Eindhoven, Eindhoven, Netherlands

- LOA-01. Permanent-Magnet-Free Variable Flux Reluctance Machines: Towards a Nonlinear Magnetodynamic Modeling Framework for Heavy-Duty Applications.** *(Invited) D. Ceylan¹ 1. Eindhoven University of Technology, Eindhoven, Netherlands*
- LOA-02. Investigation of Ferrofluid Cooling in Modular Permanent Magnet Machines.** *W. Zhang¹, G. Li¹, Z. Zhu¹, B. Ren², Y. Chong² and M. Michon² 1. The University of Sheffield, Sheffield, United Kingdom; 2. Motor Design Ltd, Wrexham, United Kingdom*
- LOA-03. Analysis and Optimization of Asymmetric Multi-Layer Barrier Permanent Magnet Motor for Electric Vehicles.** *F. Li¹, L. Shi¹, D. Xiao¹, Z. Qiao¹, X. Zhao¹ and H. Ding² 1. Shandong University of Technology, Zibo, China; 2. Jiangsu Haopeng Machinery Co., Ltd., Xinghua, China*
- LOA-04. Open-Delta Flux-Modulating Consequent Pole Motors.** *H. Mitsuda^{1,2}, T. Fukami¹, M. Koyama¹ and T. Tanaka² 1. Kanazawa Institute of Technology, Ishikawa, Japan; 2. Mitsubishi Electric Corporation, Hyogo, Japan*
- LOA-05. Inductance Map Regression of Doubly Excited Electrical Machines Considering Cross-Saturation.** *G. Bayazit¹, E. İlhan Caarls¹ and E. Lomonova¹ 1. Eindhoven University of Technology, Eindhoven, Netherlands*
- LOA-06. Model for Angular Dependency of the Intrinsic Coercivity Force of Ferrite Permanent Magnets.** *M. Silva¹, E. Lind¹, A. Ibrayeva¹, S. Ghorai² and S. Eriksson¹ 1. Department of Electrical Engineering, Uppsala University, Uppsala, Sweden; 2. Department of Materials Science and Engineering, Uppsala University, Uppsala, Sweden*

- LOA-07. Design and Evaluation of a Linear Permanent Magnet Flux Switching Machine for Use in Dry Gravity Energy Storage.** *M. Mugyema¹, M.J. Kamper¹ and R. Wang¹*
1. Electrical and Electronic Engineering, Stellenbosch University, Stellenbosch, South Africa
- LOA-08. Iron Loss Analytical Prediction of IPMSMs Considering Multi-factor Effects Over the Drive Cycle of Electric Vehicles.** *L. Liu¹, Y. Guo¹, G. Lei¹, W. Yin² and J. Zhu²*
1. School of Electrical and Data Engineering, University of Technology Sydney, Sydney, NSW, Australia; 2. School of Electrical and Information Engineering, The University of Sydney, Sydney, NSW, Australia
- LOA-09. A Novel Counter-Rotating Axial-Flux Hybrid-Excitation Permanent Magnet Machine with Dual-rotor.** *C. Xia¹, Y. Feng¹, M. Jia¹, Y. Gao¹ and S. Huang¹* *1. College of Electrical and Information Engineering, Hunan University, Changsha, China*
- LOA-10. Comparison between Conical and Axial Flux Geometries of High-Speed Permanent Magnets Synchronous Machines.** *H. Taha¹, G. Barakat¹, Y. Amara¹ and M. Hatoum¹*
1. Université Le Havre Normandie, Groupe de Recherche en Electrotechnique et Automatique du Havre (GREAH), Le Havre, France
- LOA-11. Analysis of a Five-Phase Hybrid Excited Axial Switched-Flux Permanent Magnet Machine for HEV/EV Applications.** *J. Zhao¹, Z. Lu¹, Q. Han¹, L. Wang¹ and L. Wang¹* *1. School of Electrical Engineering, Xi'an University of Technology, Xi'an, China*
- LOA-12. Comparative Analysis of Noise and Vibration for Dual Three-Phase IPMSM under Healthy and Multi-Phase Open-circuit Fault Operations.** *P. Song¹, W. Li¹, Z. Li¹ and N. Kar¹* *1. Department of Electrical & Computer Engineering, University of Windsor, Windsor, ON, Canada*

Session LPA
SPECIAL MACHINES V
(Poster Session)

Mi-Ching Tsai, Co-Chair

National Cheng Kung University, Tainan, Taiwan

Chinweze Ubadigha, Co-Chair

National Cheng Kung University, Tainan, Taiwan

- LPA-01. Hybrid-Excitation Variable Flux Memory Motor for Enhancing Output Power Density in Traction Applications in Six-Step Operation Mode.** *R. Tsunata¹, K. Yokomichi¹, M. Takemoto¹ and J. Imai¹ 1. Okayama University, Okayama, Japan*
- LPA-02. Initial Rotor Position Estimation for an Ultra-low Inductive Saliency Machine Based on Eddy Current Loss.** *H. Wang¹, W. Xu¹ and Z. Jin¹ 1. School of Electrical Engineering, Southeast University, Nanjing, China*
- LPA-03. Toroidal Field Excitation for Axial-Field Double-Rotor Flux-Reversal DC Motors with Magnetic Differential.** *T. Yang¹, K. Chau¹, Z. Hua¹ and H. Pang¹ 1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong*
- LPA-04. Torque Performance Enhancement for Hybrid PM Motor Considering Magnet Characteristic Difference and Variation.** *Y. Chen¹, X. Zhou¹, Z. Li¹ and X. Zhu² 1. Yangzhou University, Yangzhou, China; 2. Jiangsu University, Zhenjiang, China*
- LPA-05. Novel Electrically Excited Doubly Salient Variable Reluctance Machine with High-Order-Harmonic Winding.** *F. Ni¹, S. Niu¹, Z. Li¹ and X. Zhao² 1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. School of Physics, Engineering and Technology, The University of York, York, United Kingdom*
- LPA-06. Principle and Analysis of Structure of Low-Speed High-Torque Gear Meshing Motor Driven by Radial Force.** *G. Yu¹, S. Sun¹, L. Xiao¹, W. Zhang¹, X. Bai¹ and Y. Xu¹ 1. School of Electrical Engineering and Automa, Harbin Institute of Technology, Harbin, China*
- LPA-07. Power Factor Improvement of Variable Leakage Flux PM Motor Under Different Operation Conditions.** *X. Zhou¹, X. Zhu¹, Z. Xiang¹, L. Xu¹, D. Fan¹ and T. Wang¹ 1. Jiangsu University, Zhenjiang, China*

- LPA-08. Experimental verification for electromagnetic and thermal characteristics of a high-speed permanent magnet motor with two different rotors.** *J. Woo¹, H. Lee¹, J. Shin² and J. Choi¹* 1. *Electrical Engineering, Chungnam National University, Daejeon, The Republic of Korea;* 2. *TNE Korea, Cheongju-si, The Republic of Korea*
- LPA-09. Novel Stator Multi-Tooth Hybrid Permanent Magnet Memory Motor.** *L. Wang¹ and W. Xu¹* 1. *Southeast University, Nanjing, China*
- LPA-10. Influence of Split Ratio on Field Modulation Effect in Consequent-Pole Permanent Magnet Machine.** *Y. Li^{1,2}, H. Lin¹, H. Yang¹ and Z. Zhao³* 1. *School of Electrical Engineering, Southeast University, Nanjing, China;* 2. *School of Electrical Engineering and Automation, Anhui University, Hefei, China;* 3. *Jiangsu CRRC Electric Co., LTD, Yancheng, China*
- LPA-11. Investigation on the Influence of Various Sensitivity Analysis Methods on the Performance of PMSMs.** *F. Li¹, H. Zhao^{1,2} and Z. Yin¹* 1. *Robotics and Autonomous Systems Thrust, The Hong Kong University of Science and Technology(Guangzhou), Guangzhou, China;* 2. *Department of Electronic & Computer Engineering, The Hong Kong University of Science and Technology, Hong Kong, China*
- LPA-12. Research on Motor Performance Based on Hybrid Lamination of Silicon Steel and Amorphous Alloy.** *W. Li^{1,2}, H. Hu¹, Z. Li¹, J. Wang¹, D. Ma¹ and R. Pei¹* 1. *Department of Electrical Engineering, Shenyang University of Technology, Shenyang City, China;* 2. *School of Electrical and Mechanical Engineering (Engineering Training Centre), XuChang University, Xuchang City, China*
- LPA-13. Study on the Properties of High Strength Silicon Steel on High-Speed Rotor under High-Frequency External-stress Extreme-Speed and Frequent-Temperature-change.** *M. Cheng¹, Y. Li¹ and R. Pei¹* 1. *Department of Electrical Engineering, Shenyang University of Technology, Shenyang, China*
- LPA-14. Research on High-Efficiency Motor Based on Ultra Low Resistance Graphene-Copper Wire.** *S. Xu¹, J. Li¹ and R. Pei¹* 1. *Department of Electrical Engineering, Shenyang University of Technology, Shenyang, China*
- LPA-15. Equivalent Magnetic Network Modeling of Grain-Oriented Silicon Steel Sheets Permanent Magnet Linear Synchronous Motors.** *T. Dong¹, Z. Gao¹, B. Zhang¹ and R. Fu¹* 1. *Shenyang University of Technology, ShenYang, China*

- LPA-16. Design and Analysis of Low-Cost Double Rotor Axial Flux Permanent Magnet Synchronous Motor.** *C. Diao¹, W. Zhao¹, H. Ding¹ and X. Wang¹ 1. Shandong University, Jinan, China*
- LPA-17. Investigation of a Novel Partitioned Stator Hybrid Excitation Spoke-Type Vernier Machine.** *D. Liu¹, L. Wei¹, X. Tan¹, H. Zhou² and J. Yuan² 1. School of Intelligent Systems Engineering, Sun Yat-Sen University, Guangzhou, China; 2. School of Electrical Engineering and Automation, Wuhan University, Wuhan, China*
- LPA-18. Loss Model of Interior Permanent Magnet Synchronous Machine with Series Iron-Loss Resistance.** *Y. Ma^{1,2}, H. Yuan^{1,2}, W. Yin^{1,2}, Y. Huan^{1,2} and R. Zhao^{1,2} 1. Zhejiang University, Hangzhou, China; 2. Zhejiang Provincial Key Laboratory of Electrical Machine Systems, Hangzhou, China*
- LPA-19. Comparison of Simulation Methods for Angular Dependency when Modeling Demagnetization.** *S. Eriksson¹ and M. Silva¹ 1. Electrical Engineering, Uppsala University, Uppsala, Sweden*
- LPA-20. Multi-Objective Design Optimization of an IPMSM Drive System Based on Loss Minimization Control Strategy.** *L. Liu¹, Y. Guo¹, G. Lei¹, W. Yin² and J. Zhu² 1. School of Electrical and Data Engineering, University of Technology Sydney, Sydney, NSW, Australia; 2. School of Electrical and Information Engineering, The University of Sydney, Sydney, NSW, Australia*

ORAL SESSIONS

Session MOA

HIGH FREQUENCY DEVICES & WIRELESS POWER TRANSMISSION I

Yacine Amara, Co-Chair

Université Le Havre Normandie, Le Havre, France

Shuangxia Niu, Co-Chair

The Hong Kong Polytechnic University, Kowloon, Hong Kong

- MOA-01. Semi-Analytical Non-Linear Physical Model of the Core Losses in Ferrite Ring Cores.** *T. Dimier¹ and J. Biela¹ 1. D-ITET / HPE, ETH Zurich, Zürich, Switzerland*
- MOA-02. Iron loss characteristics for various magnetic materials under PWM inverter excitation.** *T. Yamaguchi¹, H. Matsumori¹ and T. Kosaka¹ 1. Department of Electrical and Mechanical Engineering, Nagoya Institute of Technology, Nagoya-shi, Japan*

- MOA-03. Toroidal Nanocrystalline Powder Core with Trapezoidal Cross Section.** *X. Li¹, Z. Luo¹, L. Shillaber¹, B. Hu¹, C. Jiang² and T. Long¹* *1. Department of Engineering, University of Cambridge, Cambridge, United Kingdom; 2. Department of Electrical Engineering, City University of Hong Kong, Hong Kong*
- MOA-04. Optimum Air Gap Selection in Powder Core Inductors.** *L. Solimene¹, D. Cittanti¹, F. Mandrile¹, C. Ragusa¹ and R. Bojoi¹* *1. DENERG, Politecnico di Torino, Torino, Italy*
- MOA-05. Fabrication of CoFeB-SiO₂ films with large uniaxial anisotropic by facing target sputtering and its application to high frequency planar type spiral inductors.** *Y. Takamura¹, H. Nitta¹, K. Kawahara¹, T. Kaneko¹, R. Ishido², T. Miyazaki², N. Hosoda³, K. Fujisaki³ and S. Nakagawa¹* *1. Tokyo Institute of Technology, Meguro-ku, Japan; 2. ROHM Co., Ltd, Kyoto, Japan; 3. Toyota Technological Institute, Nagoya, Japan*
- MOA-06. Semi-Lumped Model for U- or E-Cores for the Calculation of Frequency Dependent Complex Permeance.** *T. Dimier¹ and J. Biela¹* *1. D-ITET / HPE, ETH Zurich, Zürich, Switzerland*
- MOA-07. Hysteresis Effect Induced Inductance Change and Power Loss for Boost Converter during the Voltage Conversion.** *J. Lee¹, C. Li², C. Liao³, T. Liao³, K. Nidhi³ and K. Chen²* *1. Device Engineering, Vanguard International Semiconductor, Hsinchu, Taiwan; 2. Department of Electrical and Computer Eng., National Yang Ming Chiao Tung University, Hsinchu, Taiwan; 3. ESD, Richtek Technology Corp., Chupei, Taiwan*
- MOA-08. Minor Loop Position and Area Measurement of Inductors for DC-DC converter Considering Excitation Process.** *K. Oda¹, K. Takano¹ and K. Wada¹* *1. System Design, Tokyo Metropolitan University, Hachioji, Japan*
- MOA-09. Optimal Inductor Design for Power Electronic Converter.** *M. Haji Mohammadi¹, I. Askarian², H. Abiane¹ and A. Knight²* *1. Amirkabir University of Technology, Tehran, The Islamic Republic of Iran; 2. University of Calgary, Calgary, AB, Canada*

- MOA-10. Inductive heating based on VHF-ISM radio band frequencies as technology platform for efficient heating of metallic micro-scaled bonding layers in MEMS packaging.** C. Hofmann¹, M. Kroll², S. Panhale², M. Wiemer¹, A. Kunke², K. Hiller³ and H. Kuhn^{4,3} *1. System Packaging, Fraunhofer Institute for Electronic Nano Systems ENAS, Chemnitz, Germany; 2. Institute for Machine Tools and Production Processes, Chemnitz University of Technology, Chemnitz, Germany; 3. Center for Microtechnologies, Chemnitz University of Technology, Chemnitz, Germany; 4. Fraunhofer Institute for Electronic Nano Systems ENAS, Chemnitz, Germany*
- MOA-11. A Novel Planar Magnetic Flux Concentrator and Its Application in Wireless Power Transfer.** J. Lu¹ and X. Li¹ *1. School of EBE, Griffith University, Brisbane, QLD, Australia*
- MOA-12. Optimized High-Order Compensation Topology for PT-WPT Systems with Expanded Constant Power Region.** Y. Gu¹, J. Wang¹, Q. Zhu¹, Z. Liang¹, J. Chen¹ and Z. Zhang^{1,2} *1. School of Electrical and Information Engineering, Tianjin University, Tianjin, China; 2. International Institute for Innovative Design and Intelligent Manufacturing of Tianjin University, Shaoxing, China*
- MOA-13. Analysis of Cross-Coupling Effect for Multi-Objective Wireless Power Transfer.** H. Pang¹, K. Chau¹, Z. Hua¹ and T. Yang¹ *1. Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong*
- MOA-14. Downsizing of High-Power Open-End Coil with Pure Water.** I. Masuda¹, M. Fukuoka¹ and M. Ishitobi¹ *1. National Institute of Technology, Nara College, Yamatokoriyama, Japan*
- MOA-15. Withdrawn**
- MOA-16. Constant Power Control against M/R with Expanded PT-Symmetric Range for Wireless In-Flight Charging of Drones.** Y. Gu¹, Q. Zhu¹, J. Wang¹, L. Jia², G. Li², J. Chen¹ and Z. Zhang^{1,3} *1. School of Electrical and Information Engineering, Tianjin University, Tianjin, China; 2. Beijing Aerospace Automatic Control Institute, Beijing, China; 3. International Institute for Innovative Design and Intelligent Manufacturing of Tianjin University, Shaoxing, China*
- MOA-17. Dynamic Wireless Charging for Electric Vehicles with Autonomous Frequency Control.** Z. Hua¹, K. Chau¹, H. Pang¹ and T. Yang¹ *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China*

Session MOB

POWER APPARATUSES I

Hamed Hamzeshbahmani, Chair
Durham University, Durham, United Kingdom

- MOB-01. Stray Loss Evaluation of Power Transformers Using Simplified Air-core Model with Tank and Frame. (Invited)**
B. Liu¹, T. Yasuhito¹, K. Fujiwara¹ and S. Imamori²
1. Doshisha University, KYOTO, Japan; 2. Advanced Technology Laboratory, Fuji Electric Co., Ltd., TOKYO, Japan
- MOB-02. Noninvasive sensor patch for internal magnetic core characterization.** S. Nguedjang¹, A. Solignac², R. Sabariego³, L. Morel⁴, M. Raulet⁴, B. Toutsop¹, P. Tsafack¹ and B. Ducharne⁵
1. Faculty of Engineering and Technology, University of Buea, Buea, Cameroon; 2. SPEC, CEA, CNRS, Université Paris-Saclay, CEA Saclay, Saclay, France; 3. Dept. of Electrical Engineering (ESAT), KU Leuven, Campus EnergyVille, Leuven, Belgium; 4. Laboratoire Ampère, Université de Lyon, Lyon, France; 5. ELyTMax IRL3757, CNRS, Univ Lyon, INSA Lyon, Centrale Lyon, Université Claude Bernard Lyon 1, Tohoku University, Sendai, Japan
- MOB-03. Investigation of the Magnetic Indicators Affected by Residual Strain when Testing Electrical Steel Sheets.**
S. Zhang^{1,2}, B. Ducharne², S. Takeda¹, G. Sebald¹ and T. Uchimoto¹
1. Tohoku University, Sendai, Japan; 2. INSA Lyon, Lyon, France
- MOB-04. An Experimental-Analytical Approach for Condition Monitoring of Magnetic Cores with Predominant Focus on Axial Off-Set Between the Short Circuit Points.**
H. Hamzeshbahmani¹, R. Sabariego² and B. Ducharne³
1. Engineering, Durham University, Durham, United Kingdom; 2. KU Leuven, Genk, Belgium; 3. Univ Lyon, Lyon, France
- MOB-05. Influence of Thickness on Eddy Current Losses in Materials Used as Clamping Structures in High-Power Electrical Machines.** *W.M. Mohand Oussaid^{1,2}, A. Tounzi⁴, R. Romary³, A. Benabou⁴, D. Laloy¹ and W. Boughanmi¹*
1. R&D, Jeumont Electric, Jeumont, France; 2. L2EP/LSEE, FRANCE, France; 3. Université d'Artois, Béthune, France; 4. Université de Lille, Lille, France
- MOB-06. Air-Core Power Inductor with Structure of High Energy Density and Low Copper Loss.** E. Asahina¹, M. Fukuoka², I. Masuda², A. Nagai², K. Maeda³ and M. Ishitobi²
1. Tohoku University, Sendai, Japan; 2. National Institute of Technology, Nara College, Nara, Japan; 3. DAIHEN Corporation, Osaka, Japan

- MOB-07. Basic Characteristics of Orthogonal-Core-Type Variable Inductor with Permanent Magnets.** *S. Aizu*¹, *K. Nakamura*¹, *T. Ohinata*² and *K. Arimatsu*² *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Tohoku Electric Power Co., Inc., Sendai, Japan*
- MOB-08. Coupled Field–Circuit Modeling and Analysis for Interturn Short-Circuit Faults in an Onboard Traction Transformer.** *C. Yan*¹, *W. Wang*¹, *P. Zhang*¹, *Z. Liu*¹, *J. Shu*² and *B. Zhang*¹ *1. Xi'an Jiaotong University, Xi'an, China; 2. Xi'an Thermal Power Research Institute Co., Ltd., Xi'an, China*
- MOB-09. Electromagnetic Vibration Analysis of High Frequency Transformer under Inter-Turn Short Circuits.** *H. Ding*¹, *W. Zhao*¹, *C. Diao*¹ and *H. Zhao*² *1. School of Electrical Engineering, Shandong University, Jinan, China; 2. School of Electrical and Electronic Engineering, North China Electric Power University, Beijing, China*
- MOB-10. A Structure Determination Method Based on High Frequency Skin Effect for Distribution Transformer Windings.** *B. Zhang*¹, *Z. Gong*¹ and *T. Dong*¹ *1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China*
- MOB-11. A Topological Design Optimization Approach for Winding Oil Flow Paths in ONAN Transformers Based on a Fluidic-Thermal Coupled Model.** *L. Li*¹, *G. Zhu*^{1,3}, *Z. Wang*¹ and *S. Yang*² *1. School of Electrical Engineering, Tiangong University, Tianjin, China; 2. College of Electrical Engineering, Zhejiang University, Hangzhou, China; 3. Power Electronics, Machines and Control Group, University of Nottingham, Nottingham, United Kingdom*

POSTER SESSION

Session MPA

HIGH FREQUENCY DEVICES & WIRELESS POWER TRANSMISSION II (Poster Session)

Hiroaki Matsumori, Chair
Nagoya Institute of Technology, Aichi, Japan

- MPA-01. Modeling and Experimental Validation of Voltage Distribution in MFTs with Foil Windings.** *K. Iwai*¹, *S. Pourkeivannour*², *M. Curti*² and *E. Lomonova*² *1. Department of Electrical and Electronic Systems Engineering, Osaka Institute of Technology, Osaka, Japan; 2. Department of Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands*

- MPA-02. Micro-patterned wire wound chip inductor for GHz applications.** *R. Lamouri*¹, B. Nam¹, D. Kim¹, T. Song³, W. Kim² and K. Kim¹ *1. Physics, Yeungnam University, Gyeongsan, The Republic of Korea; 2. Smart Lighting Research Center, Korea Photonics Technology Institute, Gwangju, The Republic of Korea; 3. R&D Center, Point Engineering Inc., Hwaseong, The Republic of Korea*
- MPA-03. Fundamental Study of Magnetic Particle Composite Core Made by Fused Deposition Modeling Method.** *S. Ikeda*¹, A. Honda¹ and N. Kita¹ *1. Department of Production Systems Engineering and Sciences, Komatsu University, Komatsu, Japan*
- MPA-04. Study on Magnetic Properties of Toroidal Cores Composed by Electrolytic Iron Powder with Different Shapes.** *Y. Kodama*¹, M. Nguyen¹, T. Miyazaki² and Y. Endo^{1,3} *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Faculty of Engineering, Tohoku University, Sendai, Japan; 3. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan*
- MPA-05. Application of Magnetic Composite Materials in Windings to Reduce Alternating-Current Resistance in Leakage Transformers.** *K. Shimura*¹, S. Kobayashi¹, M. Sato¹ and T. Mizuno¹ *1. Shinshu University Faculty of Engineering, Nagano, Japan*
- MPA-06. Fabrication of Planar Power Inductor for beyond 10 MHz Using Fe-based Composite Magnetic Core.** *R. Miyata*¹, S. Kimura¹, N. Kawada¹, T. Minamisawa¹, M. Sonehara¹, K. Miyaji¹ and T. Sato¹ *1. Electrical and Computer Engineering, Shinshu University, Nagano, Japan*
- MPA-07. Impact of the Capacitance Cancellation on Attenuation Characteristic of Common-Mode Inductors Based on MnZn Ferrites.** *S. Takahashi*¹ and K. Wada² *1. Seikei University, Musashino, Japan; 2. Tokyo Metropolitan University, Hachioji, Japan*
- MPA-08. A Data-Driven Inductor Modeling Technique Using Parametric Circuit Simulation and Deep Learning.** *T. Motomatsu*⁴, T. Koga¹, N. Shigei⁴, M. Yamaguchi², A. Itagaki³ and Y. Ishizuka¹ *1. Nagasaki University, Nagasaki, Japan; 2. Tohoku University, Sendai, Japan; 3. Ryowa Electronics Co., LTD, Sendai, Japan; 4. Kagoshima University, Kagoshima, Japan*
- MPA-09. 3D Wireless Power Transfer System with Three-Phase Skewed Cylindrical Coil.** *H. Taga*¹, F. Tanaka¹, Y. Sato¹ and H. Matsumoto¹ *1. Aoyama Gakuin University, Sagami-hara, Japan*

- MPA-10. Metal Influence Suppression Method for Rotating Wireless Power Transfer System Based on Toroidal Double-D Coil.** L. Sha¹, W. Yuan¹ and X. Zhang^{2,3}
1. Tiangong University, Tianjin, China; 2. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 3. Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability of Hebei Province, Hebei University of Technology, Tianjin, China
- MPA-11. Ferrite Pads Gap Thermal-Magnetic Evaluation and Mitigation for 11.1-kW Wireless Power Transfer.** X. Zhang^{1,4}, C. Hao^{1,4}, R. Dou^{1,3}, P. Zhang^{2,4}, Z. Yuan^{1,4} and Q. Yang^{1,4} *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 2. Electrical Engineering, Tsinghua University, Beijing, China; 3. Electrical, Computer and Software Engineering, University of Auckland, Auckland, New Zealand; 4. Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability of Hebei Province, Hebei University of Technology, Tianjin, China*
- MPA-12. Propulsion and Control of Microrobot Using a Multiple Wireless Power Transfer Coil.** D. Kim¹ *1. Department of Automotive Engineering, Yeungnam University, Gyeongsan, The Republic of Korea*
- MPA-13. Magnetic Analysis and Control of Three-Phase Wireless EV Charging System Based on Quasi Z-source NPC Inverter.** Y. Liu¹, Z. Dong¹, S. Liu¹, B. Zhang¹, H. Wen¹ and C. Liu¹ *1. School of Energy and Environment, City University of Hong Kong, Hong Kong SAR, China*
- MPA-14. A Novel Hybrid Shielding Method with Single-Source Active Topology and Efficiency Stability for Wireless Power Transfer.** X. Zhang^{1,2}, S. Liu^{1,2}, R. Dou^{1,3}, F. Wang^{1,2}, P. Zhang⁴, Z. Yuan^{1,2} and Q. Yang^{1,2} *1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 2. Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability of Hebei Province, Hebei University of Technology, Tianjin, China; 3. Electrical, Computer and Software Engineering, University of Auckland, Auckland, New Zealand; 4. Electrical Engineering, Tsinghua University, Beijing, China*

Session MPB
POWER APPARATUSES II
(Poster Session)

Yoshiki Hane, Chair
Tohoku University, Sendai, Japan

- MPB-01. Electromagnetic Guideway System for Continuous Steel Plates (Fundamental Consideration on Vibration Characteristics from Damping Factor of Steel Plate).** R. Kano¹, T. Okubo¹, J. Kuroda¹, D. Uchino¹, K. Ogawa¹, K. Ikeda², T. Kato⁴, A. Endo³, H. Kato¹ and T. Narita¹
1. Engineering, Tokai University, Chofu-shi, Japan; 2. Mechanical Engineering, Hokkaido University of Science, Sapporo, Japan; 3. Electrical Engineering, Fukuoka Institute of Technology, Fukuoka, Japan; 4. Mechanical Engineering, Tokyo University of Technology, Hachioji, Japan
- MPB-02. Modeling of Frequency-Dependent Magnetic Properties of Silicon Steel Sheet Considering the Effect of Magnetic Saturation.** S. He¹ and J. Li² *1. School of Electrical Engineering, Northeast Electric Power University, Jilin, China; 2. School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China*
- MPB-03. Magnetic Characteristics of Thread-Type Cores with Round Steel Wires.** E. Jung¹, K. Seo² and I. Park¹
1. Sungkyunkwan University, Suwon-si, The Republic of Korea; 2. Seoul National University, Seoul, The Republic of Korea
- MPB-04. Numerical Computation of Three-phase Enclosed GIL's Dynamic Electromagnetic Force Based on Field-Circuit Coupling Method.** S. Cheng¹, Y. Zhao¹, X. Yang¹ and J. Zhang² *1. Wuhan University, Wuhan, China; 2. University of Connecticut, Storrs, CT, United States*
- MPB-05. Study on the Influence of Thermal Radiation on Temperature Characteristics of Current Transformer.** J. Yang¹, C. Liao¹, T. Li¹, K. Li¹, Z. Qiu¹ and Z. Huang¹
1. Nanchang University, Nanchang, China
- MPB-06. Soft-Landing Mechanism Design Driven by Electromagnetic Repulsion Force with Application to Bypass Switch.** W. Yang¹, F. Meng¹, X. Huang¹ and G. Zhai¹
1. Harbin Institute of Technology, Harbin, China
- MPB-07. Eddy-Current Reduction Structure of Copper Foil Winding for Medium-Frequency Transformer in DC-grid Applications.** N. Kurita¹ and Y. Tanaka² *1. Research & Development Group, Hitachi Ltd., Hitachi, Japan; 2. Energy Business Unit, Hitachi Ltd., Hitachi, Japan*

- MPB-08. Topology Design of Multi-Port Fault Current Limiter in Shipboard MVDC System.** *H. Zhou¹, J. Yuan¹, J. Liu¹, L. Wei², Y. Gao³ and K. Muramatsu⁴* *1. Wuhan University, Wuhan, China; 2. Sun Yat-Sen University, Guangzhou, China; 3. Oita University, Oita, Japan; 4. Saga University, Saga, Japan*
- MPB-09. Mechanical Vibration Analysis of Dry-Type Iron-Core Reactor Under Magnetostrictive, Maxwell and Lorentz Forces.** *C. Liao¹, K. Li¹, Z. Qiu¹, J. Yang¹, T. Li¹ and Z. Jiang¹* *1. Department of Energy and Electrical Engineering, Nanchang University, Nanchang, China*
- MPB-10. A novel analytic method of zero-sequence leakage flux under DC bias.** *M. Zou¹ and Z. Wang¹* *1. School of Automation, Chongqing University of Posts and Telecommunications, Chongqing, China*
- MPB-11. Electromagnetic Shield Design of 120 kA Pulse Inductor in Artificial Zero Crossing Circuit.** *Z. Li¹, X. Bao¹, G. Gao² and H. Li²* *1. Hefei University of Technology, Hefei, China; 2. Hefei Institutes of Physical Science, Hefei, China*

ORAL SESSIONS

Session NOA

MAGNETIC LOGIC, DOMAIN WALL DEVICES, ENERGY-ASSISTED RECORDING

Taichi Goto, Co-Chair

Tohoku University, Sendai, Japan

Peng Li, Co-Chair

University of Science and Technology of China, Hefei, China

- NOA-01. Towards the geometrical control of domain wall dynamics in complex 3D nanostructures. (Invited)** *S. Ruiz Gómez¹, P. Morales Fernandez¹, C. Fernandez Gonzalez¹, M. Foerster⁵, M. Angel⁵, A. Mandziak⁶, D. Wilgocka-Slezak⁶, E. Mlynczak⁶, M. Koenig¹, S. Seifert¹, L. Danesi⁴, C. Abert⁴, A. Hierro-Rodriguez³, A. Pacheco² and C. Donnelly¹* *1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Instituto de Nanociencia y Materiales de Aragón, Zaragoza, Spain; 3. Universidad de Oviedo, Oviedo, Spain; 4. University of Vienna, Wien, Austria; 5. Alba Synchrotron, Barcelona, Spain; 6. National Centre for Synchrotron Radiation Solaris, Cracow, Poland*
- NOA-02. Electric-field controlled spin logic device.** *J. Hong^{1,2}, X. Li³, B. Yi³, L. You³, S. Zhang³ and H. Singh^{1,2}* *1. University of California, Berkeley, Berkeley, CA, United States; 2. Hubei University of Technology, Wuhan, China; 3. Huazhong University of Science & Technology, Wuhan, China*

- NOA-03. A complete optomagnonic logic set.** *A. Kolosvetov*^{1,2} and *A. Chernov*^{1,2} *1. Moscow Institute of Physics and Technology (National Research University), Dolgoprudny, Russian Federation; 2. Russian Quantum Center, Moscow, Russian Federation*
- NOA-04. Manipulating Excitations in Magnetic Complex Oxides. (Invited)** *L.M. Caretta*¹, *S. Kim*², *J. Analytis*³, *K. Lee*², *C. Ross*⁴, *G. Beach*⁴ and *R. Ramesh*³ *1. Brown University, Providence, RI, United States; 2. Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 3. Physics, University of California, Berkeley, Berkeley, CA, United States; 4. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States*
- NOA-05. Targets and Challenges of Scaled Boolean Spintronic Circuits Based on Magnetic Tunnel Junction Transducers.** *F. Meng*^{1,2}, *S. Lee*³, *O. Zografos*¹, *M. Gupta*¹, *V. Nguyen*¹, *G. De Micheli*³, *S. Cotozana*⁴, *I. Asselberghs*¹, *C. Adelman*¹, *G. Kar*¹, *S. Couet*¹ and *F. Ciubotaru*¹ *1. Imec, Leuven, Belgium; 2. KU Leuven, Leuven, Belgium; 3. Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 4. Delft University of Technology, Delft, Netherlands*
- NOA-06. Energy-efficient optoelectronic domain-wall motion for logic computing.** *Z. Boyu*¹, *Y. Xu*¹, *D. Zhu*¹, *X.L. Lin*¹, *M. Hehn*², *G. Malinowski*², *W. Zhao*¹ and *S. Mangan*² *1. Beihang University, Beijing, China; 2. Institut Jean Lamour, Nancy, France*
- NOA-07. Simultaneous determination of the Heisenberg exchange, thickness and saturation magnetization from the spin wave dispersion. (Invited)** *H. Nembach*^{1,2} *1. National Institute of Standards and Technology, Boulder, CO, United States; 2. University of Colorado, Boulder, CO, United States*
- NOA-08. Impact of Curie Temperature Distribution and Anisotropy Field Distribution on the User Density of HAMR under Modest Thermal Gradient.** *K. Hosen*¹ and *R. Victora*¹ *1. Department of Electrical and Computer Engineering, University of Minnesota Twin Cities, Minneapolis, MN, United States*
- NOA-09. Effect of film thickness on microwave assisted switching behavior.** *N. Kikuchi*¹, *K. Sato*¹, *M. Hatayama*¹, *T. Shimatsu*¹ and *S. Okamoto*¹ *1. Tohoku University, Sendai, Japan*
- NOA-10. Ferrimagnet-ferromagnet phase transition in $\text{Mn}_{4-x}\text{Ga}_x\text{N}$ epitaxial films by X-ray magnetic circular dichroism.** *A. Hatate*¹, *T. Komori*¹, *T. Yasuda*¹, *T. Horiuchi*¹, *K. Amemiya*², *K. Toko*¹ and *T. Suemasu*¹ *1. University of Tsukuba, Tsukuba, Japan; 2. KEK, Tsukuba, Japan*

Session NOB
NEUROMORPHIC AND UNCONVENTIONAL
COMPUTING

Shunsuke Fukami, Co-Chair
 Tohoku University, Sendai, Japan

Carl Boone, Co-Chair
 Aerospace Corporation, Los Angeles, CA, United States

- NOB-01. Spintronic integrate-fire-reset neuron with stochasticity for neuromorphic computing. (Invited)** *R. Mishra^{1,2}, Q. Yang², Y. Cen², G. Shi², R. Sharma², X. Fong² and H. Yang²* *1. Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, Delhi, India; 2. Electrical and Computer Engineering, National University of Singapore, Singapore*
- NOB-02. A single magnetic tunnel junction for the implementation of a spiking neuron.** *D. Rodrigues¹, R. Moukhader², A. Pontlevy², A. Hamadeh³, Z. Zeng⁴, M. Carpentieri¹ and G. Finocchio²* *1. Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy; 2. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy; 3. Fachbereich Physik, TU Kaiserslautern, Kaiserslautern, Germany; 4. Key Laboratory of Multifunctional Nanomaterials and Smart Systems, Suzhou Institute of Nano-Tech and Nano-Bionics, Jiangsu, China*
- NOB-03. Weighted Spin Torque Nano-Oscillator System for Neuromorphic Computing.** *T. Boehnert¹, Y. Rezaeiyan², M. Claro¹, L. Benetti¹, A. Jenkins¹, H. Farkhani², F. Moradi² and R. Ferreira¹* *1. Spintronics, International Iberian Nanotechnology Laboratory, Braga, Portugal; 2. Integrated Circuits and Electronics Laboratory, Aarhus University, Aarhus, Denmark*
- NOB-04. Magnetization dynamics of dual free layer p-MTJ.** *L. Farcis¹, B. Teixeira¹, P. Talatchian¹, D. Salomoni¹, U. Ebels¹, S. Auffret¹, B. Dieny¹, A. Mizrahi², J. Grollier², R. Sousa¹ and L.D. Buda-Prejbeanu¹* *1. CEA-SPINTEC, Grenoble, France; 2. Université Paris-Sud, CNRS/Thales, Palaiseau, France*
- NOB-05. A semi-analytical model to simulate the spin-diode effect and accelerate its use in neuromorphic computing.** *C. Chopin¹, L. Martins², L. Benetti², S. de Wergifosse¹, A. Jenkins², R. Ferreira² and F. Abreu Araujo¹* *1. UCLouvain, Louvain la Neuve, Belgium; 2. INL, Braga, Portugal*

- NOB-06. A Spin Wave Time-Multiplexed Ising Machine. (Invited)** A. Litvinenko¹, R. Khymyn¹, V. Gonzalez¹, A. Awad¹, V. Tyberkevych², A.N. Slavin² and J. Åkerman¹
1. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 2. Department of Physics, Oakland University, Rochester, MI, United States
- NOB-07. Physical reservoir computing utilizing voltage controlled magnetic anisotropy effect.** T. Taniguchi¹, S. Tsunegi^{1,2} and Y. Utsumi³ 1. Research Center for Emerging Computing Technologies, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. JST-PRESTO, Saitama, Japan; 3. Mie University, Tsu, Japan
- NOB-08. Using magnetic tunnel junctions as unconventional computing devices.** A. Grimaldi¹, L. Mazza², P. Tullio², D. Rodrigues², V. Crupi¹, M. Carpentieri², V. Puliafito² and G. Finocchio¹ 1. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy; 2. Department of Electrical and Information Engineering, Polytechnic of Bari, Bari, Italy
- NOB-09. Bipolar Coupling of Perpendicular Superparamagnetic Tunnel Junctions for Stochastic Unconventional Computing.** N. Phan¹, L. Soumah¹, A. Sidi El Valli¹, L. Anghel¹, M. Daniels², R. Sousa¹, J. Langer³, J. Wrona³, A. Madhavan^{2,4}, M.D. Stiles², U. Ebels¹ and P. Talatchian¹
1. SPINTEC, Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, Grenoble, France; 2. Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Singulus Technologies AG, Kahl am Main, Germany; 4. Institute for Research in Electronics and Applied Physics, University of Maryland, College Park, MD, United States
- NOB-10. Demonstration of Synaptic Behaviour in a Spintronic Device for On-Chip Learning in Long Short Term Memory (LSTM) Networks.** R. Yadav¹, P. Gupta¹, A. Sadashiva², P.K. Muduli¹ and D. Bhowmik² 1. Physics, Indian Institute of Technology Delhi, New Delhi, India; 2. Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, India
- NOB-11. Magnetic tunnel junction-based crossbars: improving neural network performance by reducing the impact of non-idealities.** W. Borders¹, N. Prasad^{1,2}, B.D. Hoskins¹, A. Madhavan³, M. Daniels¹, V. Georgiou⁴, T. Santos⁴, P.M. Braganca⁴, M.D. Stiles¹ and J.J. McClelland¹ 1. Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, United States; 3. Institute for Research in Electronics and Applied Physics, University of Maryland, College Park, MD, United States; 4. Western Digital Research Center, Western Digital, San Jose, CA, United States

- NOB-12. A Stochastic Computing Scheme Using Computational Random Access Memory (SC-CRAM).** *B. Zink¹, Y. Lv¹, M. Zabihi¹, H. Cilasun¹, S. Sapatnekar¹, U. Karpuzcu¹, M. Riedel¹ and J. Wang¹* *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States*
- NOB-13. Power-Aware Quantization Circuits in Analog In-Memory Computing with STT-MRAM Macro.** *M. Zhou¹, Y. Guo¹, J. Fu¹ and H. Cai¹* *1. Southeast University, Nanjing, China*
- NOB-14. Physically Unclonable Function by Magneto-Optical Kerr Effect.** *J. Lee¹, J. Lee¹, S. Yoon¹, M. Lee¹, J. Lee², D. Kim³, S. Choe³, Y. Jang⁴, J. Park⁴ and Y. Kim¹* *1. Materials Science and Engineering, Korea University, Seoul, The Republic of Korea; 2. Semiconductor Systems Engineering, Korea University, Seoul, The Republic of Korea; 3. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 4. Electrical Engineering, Korea University, Seoul, The Republic of Korea*

POSTER SESSION

Session NPA

ENERGY-ASSISTED RECORDING, DOMAIN WALL DEVICES, NEUROMORPHIC AND UNCONVENTIONAL COMPUTING (Poster Session)

Akinobu Yamaguchi, Co-Chair
University of Hyogo, Ako-gun, Japan

Michelle Jamer, Co-Chair
United States Naval Academy, Sterling, VA, United States

- NPA-01. Blocking phenomenon of hard/soft bilayer FePt grains in granular film.** *D. Isurugi¹, T. Saito¹, K. Tham³, T. Ogawa¹, Y. Tanaka², S. Greaves² and S. Saito¹* *1. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Tanaka Kikinzoku Kogyo K. K., Tsukuba, Japan*
- NPA-02. Effect of C replacement on magnetic properties and nanostructure of FePt-nitride granular film for HAMR media.** *K. Tham¹, R. Kushibiki¹ and S. Saito²* *1. Tanaka Kikinzoku Kogyo, Tsukuba, Japan; 2. Electronic Engineering, Tohoku University, Sendai, Japan*
- NPA-03. Control of Information Flow in Arrays of Spin-Torque Oscillators.** *T. Ise¹, S. Greaves¹ and Y. Tanaka¹* *1. RIEC, Tohoku University, Sendai, Japan*

- NPA-04. Atomistic Simulations on the Effects of Grain Size in HAMR.** *D.R. Papp¹, R.F. Evans¹ and R.W. Chantrell¹
1. School of Physics, Engineering and Technology, University of York, York, United Kingdom*
- NPA-05. A multi-state memory device based on the manipulation of a single skyrmion using spin-polarized current.** *W.Z. Al Saidi¹ 1. Physics, Sultan Qaboos University, Muscat, Oman*
- NPA-06. Development of Ultra-Thin CoPt Films with Electrodeposition for Three-Dimensional Domain Wall Motion Memory.** *T. Huang¹, Y. Takamura¹, M. Saito², M.M. Hasan², S. Kasai³, Y. Sonobe² and S. Nakagawa¹
1. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Meguro, Japan; 2. Research Organization for Nano and Life Innovation, Waseda University, Shinjuku, Japan; 3. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan*
- NPA-07. Withdrawn**
- NPA-08. Investigations of Domain Wall Dynamics in Ladder Domain Wall Devices for Neuromorphic Computing.** *H. Rahaman¹, D. Kumar¹, M. Ramu¹, H.J. Chung², S. Lim² and S. Piramanayagam¹ 1. Nanyang Technological University, Singapore, Singapore; 2. Institute of Materials Research and Engineering, A*STAR, Singapore, Singapore*
- NPA-09. Discrete Anomalous Hall Resistance-Based Quantized Convolutional Neural Network.** *A.H. Lone¹, X. Zou¹, H. Li¹, N. El-Atab¹ and H. Fariborzi¹ 1. CEMSE (Integrated Circuits and Systems Group), King Abdullah University of Science and Technology, Jeddah, Saudi Arabia*
- NPA-10. Demonstration of Pavlov associative memory by implementation of rate coding using magnetic tunnel junction neurons.** *J. Jang¹ and W. Park¹ 1. Hanyang University, Seoul, The Republic of Korea*
- NPA-11. Modelling in-device inference and classification of binary digits using nonlinear dynamics of spin Hall oscillator.** *J.R. Mohan¹, C. Yamanaka¹, R. Feng¹, A. Mathew¹, Y. Nakamura¹, R. Medwal², S. Gupta³, R. Rawat³ and Y. Fukuma^{1,4} 1. Department of Physics and Information Technology, Kyushu Institute of Technology, Iizuka, Japan; 2. Department of Physics, Indian Institute of Technology, Kanpur, India; 3. Natural Sciences and Science Education, National Institute of Education, Nanyang Technological University, Singapore, Singapore; 4. Research Center for Neuromorphic AI hardware, Kyushu Institute of Technology, Kitakyushu, Japan*

- NPA-12. Antiferromagnetic Artificial Neuron Modeling of Biological Neural Networks.** *H. Bradley¹, L. Quach², S. Louis³ and V. Tyberkevych¹* *1. Physics, Oakland University, Rochester, MI, United States; 2. Oakland University William Beaumont School of Medicine, Rochester, MI, United States; 3. Electrical and Computer Engineering, Oakland University, Rochester, MI, United States*
- NPA-13. Stochastic Spin-Orbit Torque Switching in Magnetic Trilayers for True Random Number Generation.** *D. Han¹, G. Lee², J. Ryu¹, M. Kohda³, J. Nitta³, K. Kim² and B. Park¹* *1. Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 3. Spintronics Research Network, Tohoku University, Sendai, Japan*
- NPA-14. Computing-in-Memory with Enhanced STT-MRAM Readout Margin.** *S. Wang¹ and H. Cai¹* *1. Southeast University, Nanjing, China*
- NPA-15. Resistance-Sum Architecture for Voltage-Controlled SOT-MRAM Based Computing-in-Memory with Hybrid References.** *C. Xiao¹, Y. Ma¹, D. Jiang¹, G. Ji¹, H. Gu¹, Y. Zhang¹, J. Tang¹, H. Wu¹ and T. Nan¹* *1. School of Integrated Circuits, Tsinghua University, Beijing, China*
- NPA-16. A 4T2MTJ Bit-Cell Supporting Ultra-Low Power Read Operation and In-Situ 1-bit Multiplication.** *Z. Qiu¹ and H. Cai¹* *1. Southeast University, Nanjing, China*

ORAL SESSIONS

Session 00A

MAGNETIC RECORDING: MEDIA, HEADS & MODELS I

Simon Greaves, Chair
Tohoku University, Sendai, Japan

- OOA-01. Bias sputtering of granular L10-FePt film with hexagonal boron nitride grain boundaries.** *C. Xu^{1,2}, V. Bollapragada^{1,2}, D.E. Laughlin^{1,3} and J. Zhu^{1,2}* *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 3. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, United States*

- OOA-02. Data-driven optimization of FePt heat-assisted magnetic recording media accelerated by deep learning TEM image segmentation.** *N. Kulesh*¹, *A. Bolyachkin*², *I. Suzuki*¹, *Y. Takahashi*¹ and *H. Sepehri-Amin*¹ *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan; 2. International Center for Young Scientists, National Institute for Materials Science, Tsukuba, Japan*
- OOA-03. SNR Impact of Magnetic Capping Layer in Granular FePt-L10 Media.** *J. Zhu*¹, *L. Zhang*² and *K. Shimizu*² *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Resonac, Minato-ku, Japan*
- OOA-04. Identification of Nonlinear Reader Distortion in Magnetic Recording.** *B. Valcu*¹, *R. Wood*² and *S. Granz*³ *1. Headway Technologies, Milpitas, CA, United States; 2. Washington State University, Pullman, WA, United States; 3. Seagate Technology, Bloomington, MN, United States*
- OOA-05. An Adaptive Minimum-Frame-Error-Rate BCJR Detector for Magnetic Recording.** *Y. Zhang*¹, *S. Shi*² and *J.R. Barry*¹ *1. School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, United States; 2. Western Digital, San Jose, CA, United States*
- OOA-06. Flying Height Increase Problems on Heat Assisted Magnetic Recording.** *Y. Taniguchi*¹ and *Y. Aoki*¹ *1. Western Digital Technologies GK, Fujisawa, Japan*
- OOA-07. A Hybrid Simulation for Smear Growth on HAMR Heads.** *R. Tom*¹, *Q. Cheng*¹ and *D.B. Bogy*¹ *1. Mechanical Engineering, University of California, Berkeley, Berkeley, CA, United States*
- OOA-08. Mode hopping impact on NFT protrusion measurement in HAMR.** *A. Sakoguchi*¹, *M. Furukawa*¹, *S. Nishida*¹, *R. Nishikura*¹ and *K. Tasaka*¹ *1. Western Digital Technologies GK, Fujisawa, Japan*

Session OOB

MRAM & RELATED DEVICES I

Randall Victora, Co-Chair

University of Minnesota, Minneapolis, MN, United States

Seiji Mitani, Co-Chair

National Institute for Materials Science, Tsukuba, Japan

- OOB-01. Perpendicular Magnetization Switching in Heusler Alloy Films.** *L. Ren¹, C. Zhou², L. Liu³, J. Chen² and K. Teo¹*
1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore; 3. School of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai, China
- OOB-02. Integration of BiSb topological insulator and CoFeB/MgO with perpendicular magnetic anisotropy using an oxide interfacial layer for ultralow power spin-orbit torque magnetic memory.** *H. Ho¹, R. Zhang¹, T. Shirokura¹, S. Takahashi², Y. Hirayama² and H.N. Pham¹*
1. Electrical and Electric Engineering, Tokyo Institute of Technology, Tokyo, Japan; 2. Samsung Device Solutions R&D Japan, Samsung Japan Corporation, Yokohama, Japan
- OOB-03. FePd Single Layer and Synthetic Antiferromagnet with Low Damping and Crystalline Perpendicular Magnetic Anisotropy on Amorphous Si/SiO₂ Wafers.** *D. Lyu¹, J.E. Shoup², D. Huang¹, X. Wang¹, D.B. Gopman² and J. Wang¹*
1. University of Minnesota, Minneapolis, MN, United States; 2. National Institute of Standards and Technology, Gaithersburg, MD, United States
- OOB-04. Achieving Uniaxial In-Plane Magnetocrystalline Anisotropy to Enable Scalable SOT-MRAM Devices.** *S. Nallan¹ and J. Zhu¹*
1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States
- OOB-05. High-performance Type-y Spin-Orbit Torque MRAM Devices.** *H. Zhang¹, S. Lu¹, K. Cao¹, H. Liu² and W. Zhao¹*
1. Beihang University, Beijing, China; 2. Truth Memory Tech. Corporation, Beijing, China
- OOB-06. Spacer-Less Free-Layer for High-TMR Double Magnetic Tunnel Junction MRAM.** *R. Carpenter¹, S. Rao¹, M. Gama Monteiro¹, S. Van Beek¹, N. Jossart¹, S. Kundu¹, S. Houshmand Sharifi¹ and S. Couet¹*
1. Imec, Leuven, Belgium

- OOB-07. Magnetic Random Access Memory: From Uniaxial to Unidirectional.** *D. Zhu¹, Z. Guo¹, A. Du¹, D. Xiong¹, R. Xiao¹, W. Cai¹, K. Shi¹, S. Peng¹, K. Cao¹, S. Lu¹, D. Zhu¹, G. Wang², H. Liu², Q. Leng¹ and W. Zhao¹* *1. Beihang University, Beijing, China; 2. Truth Memory Tech. Corporation, Beijing, China*
- OOB-08. Impact of SOT & STT stress on MTJ degradation in SOT-MRAM.** *S. Van Beek¹, V. Kateel¹, K. Cai¹, N. Jossart¹, S. Rao¹ and S. Couet¹* *1. Imec, Heverlee, Belgium*
- OOB-09. Importance of SAF Stability against Temperature and Magnetic Field in Automotive-Grade-1 STT-MRAM Wafer Electrical Testing.** *M. Hindenberg¹, J. Müller², C.A. Durner¹, T. Gurieva¹, H. Yoon², A. Titova², G. Wolf², Y. Otani² and M. Wagner-Reetz¹* *1. Fraunhofer Institute for Photonic Microsystems, Dresden, Germany; 2. GlobalFoundries, Dresden, Germany*
- OOB-10. Dipolar core-shell cells with enhanced write speed and reduced cross-talk of perpendicular shape anisotropy MRAM.** *N. Caçoilo¹, R. Sousa¹, B. Dieny¹, L.D. Buda-Prejbeanu¹, O. Fruchart¹ and I. Prejbeanu¹* *1. CEA, CNRS, Grenoble-INP, SPINTEC, Université Grenoble Alpes, Grenoble, France*
- OOB-11. Reduced Switching Current with a Light Metal in a Tri-Layer Spin-orbit Torque Device.** *Y. Wu¹, C. Cheng¹, Y. Lin¹, M. Chen² and Y. Tseng¹* *1. Materials Science & Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan; 2. Powerchip Semiconductor Manufacturing Corporation, Hsinchu, Taiwan*
- OOB-12. Switching Field Distributions in MRAM Elements.** *W.J. Frost¹, G. Vallejo Fernandez¹, R. Carpenter², S. Couet² and K. O'Grady¹* *1. School of Physics, Engineering and Technology, University of York, York, United Kingdom; 2. Imec, Leuven, Belgium*
- OOB-13. Pulse Shaping Strategies for Efficient Spin-Orbit Torque Switching of Magnetic Tunnel Junctions.** *M. Hoffmann¹, V. Krizakova¹, V. Kateel², K. Cai², S. Couet² and P. Gambardella¹* *1. Department of Materials, ETH Zurich, Zurich, Switzerland; 2. Imec, Leuven, Belgium*
- OOB-14. Automated Characterization of Time-Resolved Switching Dynamics in MRAM Magnetic Tunnel Junctions Writing Operation.** *Q. Stainer¹, S. Lequeux¹, A. Bussiere¹, K. Garelo² and S. Salimy¹* *1. Hprobe, Eybens, France; 2. CEA-SPINTEC, Grenoble, France*

- OOB-15. Picosecond optical information storage in molecular-metal oxide interfaces.** *M. Habib*^{1,2}, *M. Rogers*¹, *G. Teobaldi*³, *T. Moorsom*¹, *O. Johansson*⁴, *P.S. Keatley*⁵, *R. Hicken*⁵, *M. Valvidares*⁶, *P. Gargiani*⁶, *N. Alosaimi*¹, *E. Poli*³, *M. Ali*¹, *G. Burnell*¹, *B.J. Hickey*¹ and *O. Cespedes*¹ *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Science, Engineering & Technology School, Khulna University, Khulna, Bangladesh; 3. Scientific Computing Department, Science & Technology Facilities Council UKRI, Didcot, United Kingdom; 4. EaStCHEM School of Chemistry, University of Edinburgh, Edinburgh, United Kingdom; 5. School of Physics, University of Exeter, Exeter, United Kingdom; 6. ALBA Synchrotron Light Source, Barcelona, Spain*
- OOB-16. Deep Learning-Based Adaptive Error-Correction Decoding for Spin-Torque Transfer Magnetic Random Access Memory (STT-MRAM).** *X. Zhong*¹, *K. Cai*¹, *P. Kang*¹, *S. Guanghui*² and *B. Dai*³ *1. Science, Mathematics and Technology Cluster, Singapore University of Technology and Design, Singapore, Singapore; 2. State Key Lab of Integrated Services Networks, Xidian University, Xi'an, China; 3. School of Internet of Things, Nanjing University of Posts and Telecommunications, Nanjing, China*

POSTER SESSION

Session OPA MAGNETIC RECORDING: MEDIA, HEADS & MODELS II (Poster Session)

Takehiko Hamaguchi, Chair
Western Digital Technologies, San Jose, CA, United States

- OPA-01. Challenge of Media Noise Suppression with Oxygen Control in Granular Structure for CoPtCr-Based Sputtered Tape towards 400 Gb/in².** *J. Tachibana*¹, *H. Kobayashi*¹, *T. Sai*¹, *S. Kodama*¹, *T. Aizawa*¹, *A. Yamaguchi*¹ and *S. Saito*² *1. Tape Media Dept., Sony Storage Media Solutions Corporation, Tagajyo, Japan; 2. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan*
- OPA-02. Simulation Analysis of Thermal Decay and Read-Write Characteristics Depending on the Structure of Sputtered Tape Media.** *I. Tagawa*¹, *S. Kodama*², *J. Tachibana*², *T. Aizawa*² and *M. Yamaga*² *1. Tohoku Institute of Technology, Sendai, Japan; 2. Sony Storage Media Solutions Corporation, Tagajyo, Japan*

- OPA-03. A Study on Coding of Noise Model for Storage Channel Systems.** Y. Kurihara¹, M.Z. Ahmed², K. Urabe¹, M. Shirai¹ and R. Murakami¹ *1. National Institute of Technology (KOSEN), Niihama College, Niihama, Japan; 2. University of Plymouth, Plymouth, United Kingdom*
- OPA-04. Multitrack Recording and Two-Stage Decoding Schemes for Heated Dot Magnetic Recording with Double-Layered Bit Patterned Media.** H. Saito¹ *1. School of Engineering, Kogakuin University, Tokyo, Japan*
- OPA-05. Design of Non-Isolated Modulation Code with Minimum Hamming Distance of 3 for Bit-Patterned Media Recording Systems.** T.A. Nguyen¹ and J. Lee¹ *1. Soongsil University, Seoul, The Republic of Korea*
- OPA-06. A Study on Accelerating SP Decoding by Neural Network in SMR System.** M. Nishikawa¹, Y. Nakamura¹, Y. Kanai² and Y. Okamoto¹ *1. Ehime University, Matsuyama, Japan; 2. Niigata Institute of Technology, Kashiwazaki, Japan*
- OPA-07. Effect of Humidity on Head Smear Generation in Head-Assisted Magnetic Recording.** H. Tani¹, H. Kurafuji², N. Tagawa¹, S. Kawada¹, R. Lu¹ and S. Koganezawa¹ *1. Mechanical Engineering, Kansai University, Suita-shi, Japan; 2. Graduate School of Kansai University, Suita-shi, Japan*
- OPA-08. Optical Traps: a Hidden Factor in HAMR Head-Disk Interface.** R. Tom¹, R. Smith², O. Ruiz² and Q. Dai² *1. Mechanical Engineering, University of California, Berkeley, Berkeley, CA, United States; 2. The CTO Office, Western Digital Technologies, San Jose, CA, United States*
- OPA-09. Feasibility study of reduction in sound-pressure induced vibration in hard disk drives using an adaptive feed-forward control.** S. Koganezawa¹, K. Funai¹, H. Tani¹, R. Lu¹ and S. Kawada¹ *1. Kansai University, Suita, Japan*

POSTER SESSION

Session OPB MRAM & RELATED DEVICES II (Poster Session)

Hiroaki Yoda, Chair
YODA-S, Inc., Tsukuba, Japan

- OPB-01. Withdrawn**

- OPB-02. Field-free spin-orbit torque switching in sub-100nm magnetic tunnel junctions based on IrMn/CoFeB structures.** *W. Li¹, Z. Liu¹, S. Peng¹, J. Lu¹, L. Jiahao¹, A. Du¹ and W. Zhao¹* *1. Beihang University, Beijing, China*
- OPB-03. Current Induced Switching of Co/Pd Memory Layer in CPP-GMR with Perpendicularly Magnetized SAF Pinned Layer.** *D. Pan¹, D. Oshima¹ and T. Kato^{1,2}* *1. Electronics, Nagoya University, Nagoya, Japan; 2. Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, Japan*
- OPB-04. Toward Low Soft Error Sensitivity and Latency Near Memory Computing with EB MRAM.** *Y.Y. Li¹, D. Zhu¹, W.S. Zhao¹, J.K. Wang¹ and Y. Zhang¹* *1. Beihang University, Beijing, China*
- OPB-05. Dynamical switching properties and downsize scalability in perpendicular shape anisotropy MTJ.** *N. Caçoilo¹, B. Teixeira¹, R. Sousa¹, B. Dieny¹, L.D. Buda-Prejbeanu¹, O. Fruchart¹ and I. Prejbeanu¹* *1. CEA, CNRS, Grenoble-INP, SPINTEC, Université Grenoble Alpes, Grenoble, France*
- OPB-06. A Novel Radiation Hardened Design of Magnetic Random Access Memory for Multi-Node Upset Tolerance.** *Z. Wang¹, Y. Wang² and H. Cai¹* *1. Southeast University, Nanjing, China; 2. Nanjing University of Aeronautics and Astronautics, Nanjing, China*
- OPB-07. A Differential STT-MRAM Sensing Scheme with Magnetoresistance Boosted 4T-2M Bit-Cell.** *T. Shi¹ and H. Cai¹* *1. Southeast University, Nanjing, China*
- OPB-08. Energy-Efficient STT-MRAM with Build-in-Self-Trimming After Test Writing Strategy.** *S. Liu¹ and H. Cai¹* *1. Southeast University, Nanjing, China*
- OPB-09. MRAM-based spintronic physical unclonable function.** *J. Kang¹, D. Han¹, D. Koh¹, S. Ko¹, K. Lee⁴, J. Lee³, C. Park², J. Ahn², M. Yu², M. Pakala², S. Lee¹, J. Park⁴, K. Kim¹ and B. Park¹* *1. KAIST, Daejeon, The Republic of Korea; 2. Applied Materials, Santa Clara, CA, United States; 3. Hyundai Motor Company, Hwaseong, The Republic of Korea; 4. Korea University, Seoul, The Republic of Korea*
- OPB-10. PAC Code Construction for Spin-Torque Transfer Magnetic Random Access Memory.** *B. Dai¹, Z. Mei², K. Cai³, L. Kong⁴ and X. Zhong³* *1. Nanjing University of Posts and Telecommunications, Nanjing, China; 2. Nanjing University of Science and Technology, Nanjing, China; 3. Singapore University of Technology and Design, Singapore, Singapore; 4. Jinling Institute of Technology, Nanjing, China*

- OPB-11. Ultrathin free-standing spintronic device based on spin-orbit torque.** *M. Li¹, X. Xu¹, C. Li¹, Z. Zhu¹, K. Meng¹ and Y. Jiang²* *1. University of Science and Technology Beijing, Beijing, China; 2. Tiangong University, Tianjin, China*
- OPB-12. Nanoprobe based information processing: nanoprobe-electronics.** *J. Hong^{1,3}, B. Yi², X. Li², R. Li² and L. You²* *1. UC Berkeley, Berkeley, CA, United States; 2. Huazhong University of Science & Technology, Wuhan, China; 3. Hubei University of Technology, Wuhan, China*

ORAL SESSIONS

Session POA

HIGH FREQUENCY, MICROWAVE AND MILLIMETER WAVE MATERIALS AND DEVICES I

Nian Sun, Chair

Northeastern University, Boston, MA, United States

- POA-01. Angular Dependent Auto-Oscillations by Spin-Transfer and Spin-Orbit Torques in Magnetic Tunnel Junctions.** *W. Cai¹, A. Kumar², A. Du¹, K. Shi¹, R. Xiao¹, K. Cao¹, J. Yin¹, J. Åkerman² and W. Zhao¹* *1. Fert Beijing Institute, MIIT Key Laboratory of Spintronics, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 2. Department of Physics, University of Gothenburg, Gothenburg, Sweden*
- POA-02. Mutual Synchronization in Large Spin Hall Nano-Oscillator Chains.** *A. Kumar¹, H. Fulara², R. Khymyn¹, M. Rajabali¹, X. Zhao¹, N. Behera¹, A. Awad¹ and J. Åkerman¹* *1. Physics Department, University of Gothenburg, Gothenburg, Sweden; 2. Physics, Indian Institute of Technology Roorkee, Roorkee, India*
- POA-03. Ultra-Fast Spectrum Analysis Using a Mutually Synchronized Chain of Spin Hall Nano-Oscillators.** *P. Gupta¹, A. Litvinenko², A. Kumar², P.K. Muduli¹ and J. Åkerman²* *1. Department of Physics, IIT Delhi, New Delhi, India; 2. Physics, University of Gothenburg, Gothenburg, Sweden*
- POA-04. A Compact and Integrated Magnetic Coupler Design with Crosscoupling Elimination Utilizing LCC-LCC/S Compensation Network for Building Attached Photovoltaic Systems.** *H. Wang¹, J. Sun¹ and K. Cheng¹* *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

- POA-05. Sub-harmonic resonance in spintronic diodes.** A. Grimaldi¹, E. Raimondo¹, A. Giordano², R. Tomasello³, M. Carpentieri³ and G. Finocchio¹ *1. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy; 2. Department of Engineering, University of Messina, Messina, Italy; 3. Department of Electrical and Information Engineering, Polytechnic of Bari, Bari, Italy*
- POA-06. Higher frequency permeability measurement by harmonic resonance cavity perturbation method.** M. Yamaguchi¹, Y. Miyazawa¹ and T. Miura² *1. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan; 2. The Müller Consultant, Sugunami, Japan*
- POA-07. Optimization of Magnetic Coating for Improved Electromagnetic Wave Absorption in Bi-Layered Nano-Hollow Spheres.** A. Gorai¹ and K. Mandal¹ *1. Condensed Matter Physics and Material Sciences, Satyendra Nath Bose National Centre for Basic Sciences, Kolkata, India*
- POA-08. Evaluation of Noise Suppression Sheet Embedded in Printed Circuit Boards.** K. Chata'ni¹, T. Igarashi¹ and M. Ikeda¹ *1. TOKIN Corporation, Sendai, Japan*
- POA-09. Magnetic Properties of Soft Magnetic Powder/Epoxy Composite Sheet.** H. Ooyama^{1,2}, N. Kawada² and T. Sato² *1. Ajinomoto Fine-Techno Co., Inc., Kawasaki, Japan; 2. Shinshu University, Nagano, Japan*
- POA-10. Estimation of Material Characteristics of Film-Type Noise Suppressor Using Equivalent Circuit Modeling and Genetic Algorithm.** T. Mikami¹, S. Muroga¹ and M. Tanaka¹ *1. Akita University, Akita city, Japan*
- POA-11. High-Frequency Magnetic Properties of Nd₂Fe₁₇N₃ Magnetic Powders with Nano- α -Fe Phase-Separated Surface Layers.** J. Akamatsu¹, S. Abe¹ and N. Imaoka¹ *1. Magnet Material Development, Nichia Corporation, Anan, Japan*
- POA-12. High-Frequency Magnetic Properties of Novel Sm–Mo–Fe Phosphate-Coated Fe–X (X = Ni and Mn) Magnetic Powder Cores.** R. Okazaki¹, J. Nishitsuji¹, S. Abe¹, J. Akamatsu¹, N. Imaoka¹, M. Kume¹, Y. Kawakami², H. Hosokawa² and K. Ozaki² *1. Magnet Material Development, Nichia Corporation, Anan, Japan; 2. Magnetic Powder Metallurgy Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan*

- POA-13. Microwave absorption properties of Fe/Fe₁₆N₂ nanoparticles prepared from iron oxide.** *S. Ajia*¹, M. Sato¹, M. Matsuura¹ and S. Sugimoto¹ *1. Tohoku University, Sendai, Japan*
- POA-14. Electromagnetic Field Analysis on Ringing Phenomenon of Inductor Driven by Inverter Considering Stray Capacitance.** *X. Hou*¹, K. Kawai¹, H. Dozono¹, K. Muramatsu¹, N. Ogishima², N. Thao², K. Fujisaki², Y. Gao³, W. Guan⁴, C. Tian⁴, J. Yuan⁴ and B. Chen⁴
1. Department of Electrical and Electronic Engineering, Saga University, Saga, Japan; 2. Electromagnetic Energy System Laboratory, Toyota Technological Institute, Nagoya, Japan; 3. Division of Mechatronics, Oita University, Oita, Japan; 4. School of Electrical Engineering and Automation, Wuhan University, Wuhan, China
- POA-15. Development of Millimeter-Wave Absorber Based on ε-Iron Oxide.** *A. Namai*¹, R. Kinugawa¹, M. Yoshikiyo¹ and S. Ohkoshi¹ *1. The University of Tokyo, Tokyo, Japan*

ORAL SESSIONS

Session POB

MAGNETIC FIELD SENSORS (NON-RECORDING) I

Benjamin Spetzler, Chair

Technische Universität Ilmenau, Ilmenau, Germany

- POB-01. Development of Optically Pumped Magnetometers towards Next Generation Biomagnetic Neuroimaging. (Invited)** *T. Kobayashi*¹ *1. Open Innovation Institute, Kyoto University, Kyoto, Japan*
- POB-02. Spin-Dependent Photocarrier Generation Dynamics in Electrically Detected Nitrogen-Vacancy-Based Quantum Sensor.** *H. Morishita*^{1,2}, N. Morioka^{3,4}, T. Nishikawa³, H. Yao³, S. Onoda⁵, H. Abe⁵, T. Ohshima⁵ and N. Mizuochi^{3,4}
1. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan; 2. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Institute for Chemical Research, Kyoto University, Uji, Japan; 4. Center for Spintronics Research Network, Institute for Chemical Research, Kyoto University, Uji, Japan; 5. National Institutes for Quantum Science and Technology, Takasaki, Japan
- POB-03. Magnetic tunnel junction sensors for linear positioning systems with nanoscale resolution.** *A. Talantsev*¹, E. Paz¹, T. Boehnert¹ and R. Ferreira¹ *1. Spintronics, International Iberian Nanotechnology Laboratory, Braga, Portugal*

- POB-04. Pulse Width Modulation Type Magnetoimpedance Sensor With Sub-mW Power Consumption.** *T. Uchiyama*¹
1. Graduate School of Engineering, Nagoya University, Nagoya, Japan
- POB-05. Symmetric resistance-field response and flux concentrator in tunnel magnetoresistance sensors for space applications.** S. Manceau^{1,2}, T. Brun^{1,2}, J. Fischer¹, C. Ducruet³, P. Sabon¹, C. Cavoit², G. Jannet², I. Prejbeanu¹, M. Kretzschmar² and C. Baraduc¹ 1. CEA-SPINTEC, Grenoble, France; 2. LPC2E, Orléans, France; 3. Crocus Technology, Grenoble, France
- POB-06. A Variable-Reluctance Based Wireless Sensing Module for Intraoral Pressure Measurement.** M. Kohli¹, C. Chen¹, L. Hsu^{2,3}, C.J. Yao³ and T. Chung^{1,4} 1. Department of Mechanical Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan; 2. Department of Dentistry, National Taiwan University Hospital Hsinchu Branch, Hsinchu, Taiwan; 3. Division of Orthodontics and Dentofacial Orthopedics, Dental Department, National Taiwan University Hospital, Taipei, Taipei, Taiwan; 4. International College of Semiconductor Technology, National Yang Ming Chiao Tung University, Hsinchu, Taiwan
- POB-07. High Resolution Enlarged Open-Bore Narrow-Band Magnetic Particle Imaging Based on Double-Layer Linear Scanning Structure.** S. Bai¹, T. Li¹, K. Li¹, P. Huang¹, Z. Du³, T. Yoshida² and M. Zhang⁴ 1. Shenyang University of Technology, Shenyang, China; 2. Kyushu University, Fukuoka, Japan; 3. Zhengzhou University of Light Industry, Zhengzhou, China; 4. China Medical University, Shenyang, China
- POB-08. Monotone Signal Localization Using Magnetoresistive Sensor Array for Low-Field Magnetic Particle Imaging.** S. Trisnanto¹, T. Kasajima², T. Shibuya² and Y. Takemura¹ 1. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 2. Technology and Intellectual Property HQ, TDK Corporation, Tokyo, Japan
- POB-09. Feasibility Investigation on Sinusoidal-Reluctance Rotor Contour in Variable Reluctance Resolver.** W. Mi¹, J. Yu¹, Z. Cai¹, H. Zhao², F. Zhao¹ and Y. Luo³ 1. School of Mechanical Engineering and Automation, Harbin Institute of Technology (Shenzhen), Shenzhen, China; 2. Robotics and Autonomous Systems Thrust, The Hong Kong University of Science and Technology (Guangzhou), Guangzhou, China; 3. School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China
- POB-10. Comparison of Fractional and Integral Slot Winding Configurations on the Position Error for a Conventional Wound-Rotor Resolver.** M. Onsalp², Y. Demir² and M. Aydin¹ 1. Kocaeli University, Kocaeli, Turkey; 2. MDS Motor Ltd., Kocaeli, Turkey

- POB-11. Analysis of eddy current testing signals' frequency responses for conductivity-invariant crack sizing.** *W. Cheng^{1,2} 1. NDE Center, Japan Power Engineering and Inspection Corporation, Yokohama, Japan; 2. Department of Quantum Science and Energy Engineering, Tohoku University, Sendai, Japan*

ORAL SESSIONS

Session POC

MAGNETIC FIELD SENSORS (NON-RECORDING) II

Lior Klein, Chair

Bar Ilan Institute of Nanotechnology and Advanced Materials,
Ramat Gan, Israel

- POC-01. Magnetic Noise Theory for Magnetoelastic Magnetic Field Sensors.** *E. Spetzler¹, B. Spetzler² and J. McCord¹ 1. Institute for Material Science, Kiel University, Kiel, Germany; 2. Department of Electrical Engineering and Information Technology, Technical University Ilmenau, Ilmenau, Germany*
- POC-02. Millimeter-Sized, Ultra-Sensitive Planar Hall Effect Gradiometer.** *H. Nhalil¹, M. Schultz¹, S. Amrusi², A. Grosz² and L. Klein¹ 1. Department of Physics, Institute of Nanotechnology and Advanced Materials, Bar Ilan University, Ramatgan, Israel; 2. Department of Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
- POC-03. Fabrication of GMR Sensors with Antiphase Magnetization Modulation and Closed-Loop Operation.** *K. Komuro¹, D. Oshima¹ and T. Kato² 1. Electronics, Nagoya University, Nagoya, Japan; 2. Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, Japan*
- POC-04. Low-Coercivity Perpendicular Spin Transfer Torque Magnetic Tunnel Junctions as Nanoscale Magnetic Sensors.** *H. Nicolas¹, R. Sousa², A. Mora-Hernández², I. Prejbeanu², L. Hebrard¹, J. Kammerer¹ and J. Pascal^{3,4} 1. University of Strasbourg, Strasbourg, France; 2. French Atomic Energy and Alternative Energies Commission, Grenoble, France; 3. University of Applied Sciences, Muttentz, Switzerland; 4. Swiss Nanoscience Institute, Basel, Switzerland*

- POC-05. Optimization of Synthetic Antiferromagnetic Structures for Angular Sensors Operating in Saturation.** *P. Araujo*^{1,2}, *E. Paz*³, *S. Cardoso*^{1,2}, *D. Leitao*⁴ and *P. Freitas*^{1,3} *1. Instituto de Engenharia de Sistemas E Computadores – Microsistemas e Nanotecnologias (INESC MN), Lisboa, Portugal; 2. Instituto Superior Técnico, Universidade de Lisboa, Lisbon, Portugal; 3. International Iberian Nanotechnology Laboratory, Braga, Portugal; 4. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*
- POC-06. Improved Detectivity in Tunnel Magnetoresistance Sensors by Controlling Free Layer Thickness and Annealing Process.** *M. Manikketh*¹, *P.D. Kulkarni*¹, *T. Nakatani*¹, *H. Iwasaki*¹, *H. Suto*¹ and *Y. Sakuraba*¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- POC-07. Optimisation of Exchange Bias for Automotive Sensors.** *A. Carter*¹, *S. Jaiswal*², *P. Campiglio*², *G. Vallejo Fernandez*¹ and *K. O’Grady*¹ *1. School of Physics, Engineering and Technology, University of York, York, United Kingdom; 2. Allegro MicroSystems, Chavanod, France*
- POC-08. Spatial Resolution and Sensitivity of GMR Sensors with Magnetic Flux Concentrators Used for Magnetic Field Microscopes.** *A. Kikitsu*¹, *Y. Higashi*¹, *Y. Kurosaki*¹, *S. Shirotori*¹, *K. Suzuki*² and *Y. Terui*² *1. Toshiba Corporation, Kawasaki, Japan; 2. Toshiba Nanoanalysis, Yokohama, Japan*
- POC-09. A novel comb-shaped magnetoresistive sensor with magnetic flux concentrators for improved sensitivity.** *P.D. Kulkarni*¹, *H. Iwasaki*¹ and *T. Nakatani*¹ *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan*
- POC-10. AC Magnetic Field Modulation on Tunnel Magnetoresistance Sensors with Even-Function Resistance-Field Response.** *T. Nakatani*¹, *H. Suto*¹, *P.D. Kulkarni*¹, *H. Iwasaki*¹ and *Y. Sakuraba*¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- POC-11. Experimental assessment of the performances of an anisotropic magnetoresistive sensor after exposure to strong magnetic fields.** *C. Vergne*^{2,1*}, *H. Nicolas*^{2,3}, *M. Madec*³, *S. Hemm*², *R. Guzman*¹ and *J. Pascal*² *1. Biomedical Engineering, University of Basel, Basel, Switzerland; 2. Medical Engineering and Medical Informatics, University of Applied Sciences and Arts Northwestern, Muttentz, Switzerland; 3. ICube-CNRS, University of Strasbourg, Strasbourg, France*

- POC-12. Magnetic Hammer Testing with Tunnel Magnetoresistive Sensors.** *J. Ito*¹, *M. Al-Mahdawi*² and *M. Oogane*¹ *1. Applied Physics, Tohoku University, Sendai, Japan; 2. CSIS, Tohoku University, Sendai, Japan*

POSTER SESSION

Session PPA **APPLICATIONS TO “INTERNET OF THINGS” (IOT)** **(Poster Session)**

Jeff McCord, Chair
Kiel University, Kiel, Germany

- PPA-01. Multiband Periodic Metamaterial Antenna Design for Radar Sensor Application.** *A. Eroglu*¹ and *B. Chowdhury*¹
1. ECE, North Carolina A&T State U, Greensboro, NC, United States
- PPA-02. An Inductive Power Transfer System with Multiple Receivers Utilizing Diverted Magnetic Field and Two Transmitters for IoT-level Automatic Catering Vehicles.** *H. Wang*¹, *J. Sun*¹ and *K. Cheng*¹ *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*
- PPA-03. Unbiased Random Number Generation Using Injection-Locked Spin-Torque Nano-Oscillators.** *N. Phan*¹, *A. Sidi El Valli*¹, *N. Prasad*^{2,3}, *L. Anghel*¹, *A. Hakam*¹, *L. Benetti*⁴, *A. Madhavan*^{2,5}, *A. Jenkins*⁴, *R. Ferreira*⁴, *M.D. Stiles*², *U. Ebels*¹ and *P. Talatchian*¹ *1. SPINTEC, Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, Grenoble, France; 2. Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, United States; 4. International Iberian Nanotechnology Laboratory, Braga, Portugal; 5. Institute for Research in Electronics and Applied Physics, University of Maryland, College Park, MD, United States*
- PPA-04. Vehicle Detection Using 2-axis MI Sensors Based on Moving Vehicle Magnetic Field Simulation.** *R. Yao*¹ and *T. Uchiyama*¹ *1. Graduate School of Engineering, Nagoya University, Nagoya, Japan*

Session PPB

**HIGH FREQUENCY, MICROWAVE AND MILLIMETER
WAVE MATERIALS AND DEVICES II**

(Poster Session)

Parisa Andalib, Chair

Northeastern University, Boston, MA, United States

- PPB-01. Geometry Optimization of Split Ring Resonator for Terahertz Photon-Magnon Coupling.** *G. Baek¹, J. Park¹ and K. Kim¹* *1. Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea*
- PPB-02. Design of a Fully Printed Implantable Rectenna.** *Ú.d. Resende¹, J.L. Soares¹, S.T. Gonçalves¹ and I.V. Soares²* *1. Electrical Engineering, CEFET-MG, Belo Horizonte, Brazil; 2. Institut d'Electronique et des Technologies du Numérique, Université de Rennes 1, Rennes, France*
- PPB-03. Application of Fe-based Alloy Powder to Noise Suppression Sheet for GHz-band.** *T. Igarashi¹, A. Urata¹ and M. Chiba¹* *1. Advanced Materials R&D, TOKIN Corporation, Sendai, Japan*
- PPB-04. Magnetodielectric Material for VHF Antenna Devices Tunable by a Low DC Magnetic Field.** *A. Chevalier¹, H. Breiss¹, A. Hoes¹ and J. Mattei¹* *1. Université de Bretagne Occidentale, Lab-STICC, UMR 6285, CNRS, Brest, France*
- PPB-05. Development of a Measurement System for AC Magnetization Process in Several MHz.** *H. Tanaka¹, K. Mori¹, Y. Kanai¹, T. Mannen¹, T. Isobe¹, E. Kita¹ and H. Yanagihara¹* *1. University of Tsukuba, Tsukuba, Japan*
- PPB-06. Electromagnetic wave shielding with low reflection of FeCoNi coated on cellulose paper in GHz frequency range.** *R. Lamouri¹, M. Gu¹, X. Su¹ and K. Kim¹* *1. Physics, Yeungnam University, Gyeongsan, The Republic of Korea*
- PPB-07. An estimation method of magnetic coupling coefficient between two microstrip lines using machine learning of near field information.** *Y. Sato¹, S. Muroga¹, H. Kamozaawa¹ and M. Tanaka¹* *1. Graduate School of Engineering Science, Akita University, Akita, Japan*
- PPB-08. Graphene-Based Micro-Rectenna.** *Ú.d. Resende¹, T.H. Mello¹, G. Almeida¹ and S.T. Gonçalves¹* *1. Electric Engineering Department, Centro Federal de Educação Tecnológica de Minas Gerais, Belo Horizonte, Brazil*

- PPB-09. A study on high frequency characteristic and magnetic properties of various hexaferrites.** *M. Kim¹, K. Park¹ and J. Kim¹* 1. *Material Science and Chemical Engineering, Hanyang University, Ansan, The Republic of Korea*
- PPB-10. Millimeter Wave EMI Absorbing Materials Using Magnetic Loss of M-type Ferrites and Conductive Grid.** *H. Lee¹, B. Park¹, S. Kwon¹, J. Choi¹, S. Lee¹, K. Kim², J. Kim³ and S. Lee¹* 1. *Korea Institute of Materials Science, Changwon, The Republic of Korea*; 2. *Yeungnam University, Gyeongsan, The Republic of Korea*; 3. *Hanyang University, Ansan, The Republic of Korea*
- PPB-11. Preparation of Fe-B/epoxy composite films by the LbL-assisted composite plating method using epoxy-coated Fe-B fine particles.** *C. Masumoto¹, Y. Kumauchi¹, A. Yokoi², W.K. Tan², H. Muto^{2,1}, Y. Endo³ and N. Fujita^{1,2}* 1. *National Institute of Technology, Nara College, Yamatokoriyama, Japan*; 2. *Toyohashi University of Technology, Toyohashi, Japan*; 3. *Tohoku University, Sendai, Japan*
- PPB-12. Microstructure of Nd₂Fe₁₇N₃ Magnetic Powder Surface with Nano- α -Fe Phases Separated Surface Layer.** *S. Abe¹, J. Akamatsu¹ and N. Imaoka¹* 1. *Magnet Material Development, Nichia Corporation, Anan, Japan*
- PPB-13. Conformally Conical Coil Design in Wireless Power Transfer for Emerging Unmanned Electric Vessels.** *H. Wang¹ and K. Cheng¹* 1. *Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*
- PPB-14. Analysis on New Electromagnetic Shielding Structure and Shielding Effectiveness of Electric Vehicle Wireless Charging System.** *L. Zhu¹, Z. Tian², L. Zhu², X. Zhang³ and Q. Yang¹* 1. *School of Electrical Engineering and Automation, Tianjin University of Technology, Tianjin, China*; 2. *Department of Electrical Engineering, Tiangong University, Tianjin, China*; 3. *State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China*

Session PPC
MAGNETIC FIELD SENSORS (NON-RECORDING) III
(Poster Session)

Suko Bagus Trisnanto, Chair
 Yokohama National University, Yokohama, Japan

- PPC-01. Wireless Inductive Displacement Sensor 3D Printed Using Additive Technology.** *M.G. Kisić¹, K. Babković¹ and M. Damnjanović¹* *1. Department of Power, Electronic and Telecommunication Engineering, Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia*
- PPC-02. Detection of Metal Surface and Back Surface by Rectangular Wave Eddy Current Testing with Magneto Resistive Sensor.** *Z. Guo¹ and T. Sasayama¹* *1. Department of Electrical and Electrical Engineering, Kyushu University, Fukuoka, Japan*
- PPC-03. Thickness Measurement of Nickel Plating on the Back Side Using a Combined Magnetic Field with AC of Two Different Frequencies.** *K. Kawada¹, S. Mio² and Y. Gotoh²* *1. Graduate School of Engineering, Oita University, Oita, Japan; 2. Department of Innovative Engineering, Faculty of Science and Technology, Oita University, Oita, Japan*
- PPC-04. Variable cross-section FeGa/quartz composite magnetic field sensor.** *D. Chen¹, Y. Wen¹, X. Yang¹, P. Li¹ and Y. Wang¹* *1. Shanghai Jiaotong University, Shanghai, China*
- PPC-05. Dual Induction Eddy Current Probe for Vibration Noise Reduction.** *D. Kosaka¹, Y. Kumakura² and F. Kojima³* *1. Department of Electrical Engineering, Polytechnic University, Tokyo, Japan; 2. Tex Riken Co., Ltd., Nishinomiya-shi, Japan; 3. Kobe University, Kobe, Japan*
- PPC-06. Circumferential localization of a crack in cylindrical ferromagnetic rods based on the Fourier coefficients of the radial directional magnetic flux leakage.** *K. Shiku¹, T. Nara¹ and Y. Gotoh²* *1. Graduate School of Information Science and Technology, The University of Tokyo, Bunkyo-ku, Japan; 2. Innovative Engineering, Faculty of Science and Technology, Oita University, Oita, Japan*
- PPC-07. Examination of Thinning Inspection Method for Ferromagnetic Steel Tubes Using Velocity Effect of Static Magnetic Field.** *M. Tohara¹ and Y. Gotoh²* *1. Technical, Toa Non-Destructive Inspection Co., Ltd, Kitakyushu, Japan; 2. Oita University, Oita, Japan*

- PPC-08. An Analytical Model of an Eddy-Current Coil near the Edge of a Right-Angled Steel Wedge.** *X. Yang¹, Y. Luo¹ and Y. Xiang¹ 1. Wuhan University, Wuhan, China*
- PPC-09. Realization of Different Anisotropy Direction for Each Thin-film Magnetoimpedance Elements on the Same Substrate.** *H. Kikuchi¹, A. Ueno¹ and M. Tani¹ 1. Iwate University, Morioka, Japan*
- PPC-10. Development of a flexible sensor focusing on the excitation and search characteristics of planar coils.** *S. Yoshioka¹ and S. Yamamura¹ 1. National Institute of Technology (KOSEN), Toba College, Mie, Japan*
- PPC-11. Frequency Characteristics Analysis of Remote Field Eddy Current Testing on Ferromagnetic Pipes.** *K. Komatsubara¹, Y. Gao¹, Y. Gotoh¹, W. Guan² and K. Muramatsu³ 1. Division of Mechatronics, Oita University, Oita, Japan; 2. Wuhan University, Wuhan, China; 3. Department of Electrical and Electronic Engineering, Saga University, Saga, Japan*
- PPC-12. Estimation of Anomalous Portion in Gray Cast Iron Using Non-Contacting Electromagnetic Sensor.** *S. Mio¹, K. Kawada², Y. Okumura³ and Y. Gotoh¹ 1. Department of Innovative Engineering, Faculty of Science and Technology, Oita University, Oita, Japan; 2. Graduate School of Engineering, Oita University, Oita, Japan; 3. Research & Development Headquarters Materials & Castings Center Materials Analysis & Evaluation Team, KUBOTA Corporation, Sakai, Japan*
- PPC-13. Non-contact measurement method for shrinkage cavity in spheroidal graphite cast iron using electromagnetic force vibration.** *S. Niwa¹, S. Shiota¹, K. Fujimoto², Y. Gao² and Y. Gotoh² 1. Graduate School of Engineering, Oita University, Oita City, Japan; 2. Faculty of Science and Technology, Oita University, Oita City, Japan*
- PPC-14. A Contactless Eddy Current Inductive Position Sensor with 4-Phase Rotor for Angular Displacement Detection.** *G. Ma¹, S. Fang¹, F. Zeng² and D. Xu¹ 1. Shanghai University, Shanghai, China; 2. Shanghai Zhiqu Technology Co., LTD, Shanghai, China*
- PPC-15. Magnetic Field Detection of Coplanar Line Type Thin Film Magnetic Field Sensor with Optimized Narrow Slits.** *R. Suzuki¹, M. Sakamoto¹, T. Ishihara¹, J. Honda¹ and S. Yabukami¹ 1. Engineering, Tohoku University, Sendai, Japan*

Session PPD
SENSORS (NOT OF MAGNETIC FIELDS)
(Poster Session)

Tomoya Nakatani, Chair
 National Institute for Materials Science, Tsukuba, Japan

- PPD-01. Detection of a high frequency magnetic field using frequency mixing technique in the FM-OFG.** *I. Sasada*¹
1. Sasada Magnetics and Sensors Laboratory, Fukuoka, Japan
- PPD-02. Magnetic Relaxation Effects on Magnetoelastic Resonance Sensors.** *B. Sisniega Soriano*¹, *J. Gutiérrez*^{1,2}, *J. Barandiaran*¹ and *A. García-Arribas*^{1,2} *1. Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain;*
2. BCMaterials, Leioa, Spain
- PPD-03. A sub-micrometric spintronic-based accelerometer.**
*A. Meo*¹, *F. Garesci*², *D. Rodrigues*¹, *E. Raimondo*³,
*V. Puliafito*¹, *V. Lopez-Dominguez*⁴, *P. Khalili*⁴,
*M. Carpentieri*¹ and *G. Finocchio*³ *1. Department of Electrical and Information Engineering, Politecnico of Bari, Bari, Italy; 2. Department of Engineering, University of Messina, Messina, Italy; 3. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy; 4. Department of Electrical and Computer Engineering, Northwestern University, Evanston, IL, United States*
- PPD-04. Design of micro-defect detection system for lithium battery lug welding seam.** *M.T. Li*¹, *B. Shi*¹, *X. Yue*¹,
*P. Huang*¹, *X. Zhang*¹ and *Z. Liu*¹ *1. School of Information Science and Engineering, Shenyang University of Technology, Shenyang, China*
- PPD-05. Vibration-Based Heartbeat Detection Using a Magnetic Sensor.** *H. Shen*^{1,2}, *X. Gu*¹ and *Y. Wu*¹ *1. Electrical and Computer Engineering, National University of Singapore, Singapore; 2. National University of Singapore (Chong Qing) Research Institute, Chongqing, China*
- PPD-06. Resonance-Based Detection of Magnetic Nanoparticles Using Microfluidic Devices with Ferromagnetic Nanostructures.** *R.L. Dowling*¹, *R. Narkowicz*², *K. Lenz*²,
*T. Schefer*¹, *J. Lindner*² and *M. Kostylev*¹ *1. Physics, University of Western Australia, Crawley, WA, Australia;*
2. Institute for Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

- PPD-07. Magnetization State and Magnetic Structure of Wiegand Wire Evaluated by External Magnetic Field Measurement.** *G. Sha*^{1,2}, *Y. Kita*¹, *H. Shigeta*¹, *T. Nakamura*¹, *C. Yang*², *Z. Song*² and *Y. Takemura*¹ *1. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 2. School of Transportation Engineering, Nanjing Vocational University of Industry Technology, Nanjing, China*
- PPD-08. Long Base-Line Axial Gradiometer Based on the Fundamental Mode Orthogonal Fluxgate.** *I. Sasada*¹
1. Sasada Magnetics and Sensors Laboratory, Fukuoka, Japan
- PPD-09. Evaluation of Electrical Conduction Property at Conductive Shield Layer to Improve Performance of Magnetically Shielded Rooms.** *S. Odawara*¹, *M. Sakakibara*¹, *K. Yoshimura*² and *Y. Gotoh*² *1. Ohtama Co., Ltd., Inagi Tokyo, Japan; 2. Innovative Engineering, Faculty of Science and Technology, Oita University, Oita, Japan*

ORAL SESSIONS

Session QOA

MAGNETO-OPTIC, MAGNETOELASTIC AND MAGNETOCALORIC MATERIALS I

Lei Bi, Chair

University of Electronic Science and Technology of China,
Chengdu, China

- QOA-01. RF Signal Processing with Magneto-Acoustic Devices.** *(Invited) P. Dhagat*¹, *V. Gokhale*², *A. Jander*¹, *B. Downey*², *C. Rivard*¹, *S. Mack*², *D. Katzer*², *J. Roussos*² and *D. Meyer*²
1. School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR, United States; 2. Electronics Science and Technology Division, US Naval Research Laboratory, Washington, DC, United States
- QOA-02. Magnetoelastic transducers for spin-wave generation.** *D. Narducci*^{1,2}, *F. Ciubotaru*¹, *M. Geilen*³, *J. Balliet*³, *G. Talmelli*^{1,4}, *F. Vanderveken*^{1,4}, *B. Heinz*³, *B. Hillebrands*³, *J. De Boeck*^{1,2}, *I. Asselberghs*¹, *G. Kar*¹, *P. Pirro*³, *S. Couet*¹ and *C. Adelmann*¹ *1. Imec, Leuven, Belgium; 2. Department of Electrical Engineering, ESAT, KU Leuven, Leuven, Belgium; 3. TU Kaiserslautern, Kaiserslautern, Germany; 4. Department of Material Engineering, MTM, KU Leuven, Leuven, Belgium*
- QOA-03. Magnetic tunable SAW based piezo-resonator for low magnetic field sensing application.** *P. Kumar*¹ and *P. Kaur*¹
1. Physics, Indian Institute of Technology, Roorkee, India

- QOA-04. Machine-learning-accelerated design of high-efficiency corrosion inhibitor for magnetic refrigeration.** Q. Zhao¹, K. Yan¹, K. Qiao¹, D. Zhang¹, H. Luo¹, X. Zheng¹ and H. Zhang¹ *1. University of Science and Technology Beijing, Beijing, China*
- QOA-05. Modifying magnetic interactions and hysteresis by introducing Mn in La(Fe,Si)₁₃.** B. Eggert¹, J. Lill¹, C. Pillich¹, A. Terwey¹, K. Skokov², F. Wilhelm³, A. Rogalev³, K. Ollefs¹, O. Gutfleisch², M. Gruner¹ and H. Wende¹ *1. Faculty of Physics and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Duisburg, Germany; 2. Functional Materials, Department of Material Science, TU Darmstadt, Darmstadt, Germany; 3. European Synchrotron Radiation Facility, Grenoble, France*
- QOA-06. Development of Magnetic Refrigeration Materials for Hydrogen Liquefaction Applications.** H. Sepehri-Amin¹, X. Tang¹, A. Bolyachkin¹, J. Lai¹, E. Dengina¹, N. Terada¹, T. Ohkubo¹ and K. Hono¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- QOA-07. Giant magnetocaloric effects of 2nd order phase transition utilized for liquefaction of hydrogen near 20 K.** W. Liu¹, K. Skokov¹, T. Gottschall², A. Aubert¹, F. Scheibel¹ and O. Gutfleisch¹ *1. Materials Science, TU Darmstadt, Darmstadt, Germany; 2. Dresden High Magnetic Field Laboratory, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*
- QOA-08. Novel magnetocaloric composites with outstanding thermal conductivity and mechanical properties boosted by continuous Cu networks.** X. Miao¹, C. Wang¹, T. Liao², S. Ju², J. Zha¹, W. Wang¹, F. Xu¹ and L. Caron³ *1. Nanjing University of Science and Technology, Nanjing, China; 2. Shanghai Jiao Tong University, Shanghai, China; 3. Bielefeld University, Bielefeld, Germany*
- QOA-09. Dissipation losses limiting first-order phase transition materials in cryogenic caloric cooling: A case study on all-d-metal Ni(-Co)-Mn-Ti Heusler alloys.** B. Beckmann^{1*}, D. Koch¹, L. Pfeuffer¹, T. Gottschall², A. Taubel¹, E. Adabifiroozjaei¹, O. Miroshkina³, S. Riegg¹, T. Niehoff², N. Kani¹, M. Gruner³, L. Molina-Luna¹, K. Skokov¹ and O. Gutfleisch¹ *1. Institute of Materials Science, Technical University of Darmstadt, Darmstadt, Germany; 2. Dresden High Magnetic Field Laboratory, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Faculty of Physics and Center for Nanointegration Duisburg-Essen, University of Duisburg-Essen, Duisburg, Germany*

- QOA-10. Magnetic Properties of Co₂MnSi-Based Heusler Alloy Glass-Coated Microwires.** M. Salaheldeen^{1,2}, V. Zhukova^{1,3}, P. Corte-Leon^{1,3}, M. Ipatov^{4,5} and A. Zhukov^{6,3} 1. *Dept. Polym. and Advanced Mater. and Dept. Appl. Phys., Universidad del Pais Vasco, San Sebastian, Spain;* 2. *Physics Department, Faculty of Science, Sohag University, Sohag, Egypt;* 3. *EHU Quantum Center, Universidad del Pais Vasco, San Sebastian, Spain;* 4. *Dept. Polym. and Advanced Mater, Universidad del Pais Vasco, San Sebastian, Spain;* 5. *Dept. Appl. Phys., Universidad del Pais Vasco, San Sebastian, Spain;* 6. *Dept. Polym. and Advanced Mater. and Dept. Appl. Phys., Universidad del Pais Vasco and Ikerbasque, San Sebastian, Spain*
- QOA-11. Giant Magnetocaloric Effect by Low Magnetic Field Metamagnetic Transition in Eu₄Ga₈Ge₁₆ Compound.** S. Cha¹, P. Rawat¹, J. Kim¹, J. Yun¹ and J. Rhyee¹ 1. *Physics, Kyung Hee University, Yongin-si, The Republic of Korea*
- QOA-12. Large low field magnetocaloric effect in Laves phase intermetallic compounds R'_{0.33}Ho_{0.33}Er_{0.33}Al₂ (R' = Gd, Tb and Dy) and Gd_{0.33}Dy_{0.33}Ho_{0.33}Al₂.** P. Jesla¹, A. Chelvane² and R. Nirmala¹ 1. *Physics, Indian Institute of Technology Madras, Chennai, India;* 2. *Defence Metallurgical Research Laboratory, Hyderabad, India*

ORAL SESSIONS

Session QOB

MAGNETO-OPTIC, MAGNETOELASTIC AND MAGNETOCALORIC MATERIALS II

Lei Bi, Chair

University of Electronic Science and Technology of China,
Chengdu, China

- QOB-01. Under pressure: probing the magnetoelastic coupling in magnetocaloric materials. (Invited)** L. Caron^{1,2} 1. *Faculty of Physics, Bielefeld University, Bielefeld, Germany;* 2. *Helmholtz-Zentrum Berlin, Berlin, Germany*
- QOB-02. Magneto-optics of higher order in magnetization. (Invited)** J. Hamrle¹ 1. *Institute of Physics, Charles University in Prague, Prague, Czechia*
- QOB-03. NV Center-Coupled Magnetoelastic Waves: Modelling and Experiment.** A. Jung¹, S. Margueron², A. Bartaszyte^{2,3} and S. Salahuddin¹ 1. *EECS, University of California, Berkeley, Berkeley, CA, United States;* 2. *FEMTO-ST Institute, University of Bourgogne Franche-Comte, Besancon, France;* 3. *Institut Universitaire de France, Bescanon, France*
- QOB-04. Withdrawn**

- QOB-05. Design of Microscale Magnetic Controls for Magnetic-Field Driven Actuation.** *L. Cestarollo*^{1*}, *R. Cantu*², *K. Srinivasan*³ and *A. El-Ghazaly*³ *1. Materials Science and Engineering, Cornell University, Ithaca, NY, United States; 2. Mechanical Engineering, The University of Texas at Austin, Austin, TX, United States; 3. Electrical and Computer Engineering, Cornell University, Ithaca, NY, United States*
- QOB-06. Efficient Modeling of Magneto-Elastic Media Using the Feedback Preisach Model.** *A.A. Adly*^{1,2} *1. Elect. Power Engineering Dept., Cairo University, Giza, Egypt; 2. Egypt-Japan University of Science and Technology (E-JUST), New Borg El-Arab, Egypt*
- QOB-07. Temperature Dependence of Magnetic Anisotropy and Domain Wall Width Tuning in a BaTiO₃(111)/CoFeB Heterostructure.** *R. Hunt*¹, *K.J. Franke*¹, *P.S. Keatley*², *P. Shepley*¹ and *T.A. Moore*¹ *1. University of Leeds, Leeds, United Kingdom; 2. University of Exeter, Exeter, United Kingdom*
- QOB-08. Magnetostrictive Properties of Fe-Based Nanocrystalline Soft Magnetic Alloys with Ga Addition.** *K. Sano*¹, *T. Yamazaki*², *C. Oka*¹, *J. Sakurai*¹ and *S. Hata*¹ *1. Department of Micro-Nano Systems Engineering, Nagoya University, Chikusa-ku, Nagoya, Japan; 2. Department of Materials Science and Technology, Tokyo University of Science, Katsushika-ku, Japan*
- QOB-09. Characterization and multiscale modeling of the magneto-elastic behavior of Galfenol.** *M. Domenjoud*², *A. Pecheux*^{2,3} and *L. Daniel*¹ *1. GeePs, Centralesupelec, Gif-sur-Yvette, France; 2. GeePs, University Paris-Saclay, Gif-sur-Yvette, France; 3. SATIE, ENS Paris-Saclay, Gif-sur-Yvette, France*
- QOB-10. Development of Magneto-Optical Diffractive Deep Neural Network.** *H. Sakaguchi*¹, *T. Fujita*¹, *J. Zhang*¹, *S. Sumi*², *H. Awano*², *H. Nonaka*³ and *T. Ishibashi*¹ *1. Nagaoka University of Technology, Nagaoka, Japan; 2. Toyota Technological Institute, Toyota, Japan; 3. Aichi Institute of Technology, Toyota, Japan*
- QOB-11. Faraday effects of magneto-dielectric nanogranular films with various particle shape.** *H. Kijima-Aoki*^{1,2}, *K. Ikeda*³, *N. Kobayashi*³, *M. Ohnuma*⁴, *Y. Honda*⁴ and *H. Masumoto*² *1. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 3. Research Institute for Electromagnetic Materials, Tomiya, Japan; 4. Faculty of Engineering, Hokkaido University, Sapporo, Japan*

- QOB-12. Broadband Integrated Magneto-Optical Isolators on Silicon Nitride Platforms.** *W. Yan*¹, *D. Wu*¹, *Y. Yang*¹, *Z. Wei*¹, *J. Qin*¹, *L. Deng*¹ and *L. Bi*¹ *1. University of Electronic Science and Technology of China, Chengdu, China*
- QOB-13. Magneto-optical properties of Ce:YIG annealed by laser in a vacuum.** *H. Miyashita*^{1,2}, *Y. Yoshihara*^{1,2}, *T. Koguchi*^{1,2}, *K. Mori*¹, *P. Lim*², *M. Inoue*¹, *K. Ishiyama*¹ and *T. Goto*¹ *1. Tohoku University, Sendai, Japan; 2. Toyohashi University of Technology, Toyohashi, Japan*

POSTER SESSION

Session QPA MAGNETOCALORIC MATERIALS (Poster Session)

Nicola Morley, Chair
University of Sheffield, Sheffield, United Kingdom

- QPA-01. Magnetic and magnetocaloric properties of arc-melted and melt-spun Laves phase intermetallic compound $\text{TbNi}_{1.5}\text{Fe}_{0.5}$.** *M.M. Prusty*¹, *K. Tejaswi*¹, *A. Chelvane*² and *R. Nirmala*¹ *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Defence Metallurgical Research Laboratory, Hyderabad, India*
- QPA-02. Withdrawn**
- QPA-03. Method of measuring thermal conductivity in a thin Co film.** *K. Tanabe*¹, *A. Yagmur*^{1,2} and *H. Awano*¹ *1. Toyota Technological Institute, Nagoya, Japan; 2. University of Leeds, Leeds, United Kingdom*
- QPA-04. First Order Magnetic Transition and Magnetocaloric Properties of $\text{Pr}_{0.48}\text{Sr}_{0.52}\text{MnO}_3$: A Charge Ordered Perovskite.** *A.K. Saw*¹, *J.P. Nunez*², *R.L. Hadimani*² and *V. Dayal*¹ *1. Department of Physics, Maharaja Institute of Technology-Mysore, Mandya, India; 2. Department of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States*
- QPA-05. Reactive single-step hot-pressing and magnetocaloric performance of polycrystalline $\text{Fe}_2\text{Al}_{1.15-x}\text{B}_2\text{Ge}_x\text{Ga}_x$ ($x = 0, 0.05$) MAB phases.** *B. Beckmann*¹, *T. El-Melegy*², *D. Koch*¹, *U. Wiedwald*³, *M. Farle*³, *F. Maccari*¹, *J. Snyder*², *K. Skokov*¹, *M. Barsoum*² and *O. Gutfleisch*¹ *1. Institute of Materials Science, Technical University of Darmstadt, Darmstadt, Germany; 2. Department of Materials Science & Engineering, Drexel University, Philadelphia, PA, United States; 3. Faculty of Physics and Center for Nanointegration Duisburg-Essen, University Duisburg-Essen, Duisburg, Germany*

- QPA-06. Fabrication and magneto-structural characterization of $\text{Ni}_{41.7}\text{Mn}_{47.8}\text{Sn}_{10.6}$ glass-coated microwires.** *M.d. Arreguin Hernandez*^{1,2}, M. Varga^{2,3}, A. Dzubinska², M. Reiffers⁴, T. Ryba⁵, J.L. Sanchez Llamazares^{1,6} and R. Varga^{2,5}
1. Instituto Potosino de Investigación Científica y Tecnológica, San Luis Potosí, Mexico; 2. CPM-TIP, Kosice, Slovakia; 3. UPJS, Kosice, Slovakia; 4. University of Presov, Presov, Slovakia; 5. RVmagnetic, Kosice, Slovakia; 6. Universidad de Oviedo, Oviedo, Spain
- QPA-07. Large Magnetocaloric Effect of PrNi Compound at Liquid-hydrogen Temperatures.** Y. Gao¹, X. Zheng¹, H. Zhang¹, D. Wang^{1,2}, B. Jin¹, H. Liu¹, S. Zhen¹, J. Gao¹, Y. Pan¹, L. Xi³, S. Wang^{1,3} and B. Shen² 1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences and University of Chinese Academy of Sciences, Beijing, China; 3. School of Materials Science and Engineering, Anhui University, Hefei, China
- QPA-08. Electronic Structure and Interatomic Exchange Interactions in Magnetocaloric $\text{LaFe}_{13-x}\text{Si}_x$ Alloys.** A.P. Kamantsev¹, A.V. Golovchan^{1,2} and O.E. Kovalev^{1,2}
1. Kotelnikov IRE RAS, Moscow, Russian Federation; 2. Galkin DonIPE, Donetsk, Russian Federation
- QPA-09. Entropy change and the magnetocaloric effect in $\text{R}_2\text{Cu}_2\text{Cd}$.** J. Caro Patiño¹ and N. Antunes de Oliveira¹
1. Instituto de Física, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil
- QPA-10. Withdrawn**
- QPA-11. Martensite transition and room temperature magnetocaloric effect in Ag doped $\text{Ni}_{50}\text{Mn}_{37}\text{In}_{13}$ alloy.** S. Sakthivel¹, K. Arun¹, U. Remya¹, S. Athul¹, A. Dzubinska², M. Reiffers³ and R. Nagalakshmi¹ 1. Physics, National Institute of Technology Tiruchirappalli, Tiruchirappalli, India; 2. Center for Progressive Materials-Technology and Innovation Park, University Pavol Josef Safarik, Kosice, Slovakia; 3. Faculty of Humanities and Natural Sciences, Presov University, Presov, Slovakia
- QPA-12. Tailoring thermal hysteresis and microstructure of Ni-Mn-based Heusler alloys for multicaloric cooling applications.** A. Taubel¹, L. Pfeuffer¹, F. Scheibel¹, N. Shayanfar¹, B. Beckmann¹, T. Gottschall², K. Skokov¹ and O. Gutfleisch¹ 1. Material Science, Technical University of Darmstadt, Darmstadt, Germany; 2. Dresden High Magnetic Field Laboratory, Helmholtz-Zentrum Dresden Rossendorf, Dresden, Germany
- QPA-13. Withdrawn**

- QPA-14. Study the Optimal Duty Cycle of a Coaxial Magnet for a Rotary Type Magnetic Refrigerator.** *C. Lee¹, P. Cheng¹, K. Leou¹, C. Hsieh¹ and Y. Su¹* *1. Department of Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan*
- QPA-15. Electronic Structure and Curie Temperature Change in Ti or Al Doped GdFeSi Compound.** *R.D. Mukhachev¹, A. Lukoyanov^{1,2}, S. Platonov¹, A. Kuchin¹, A. Volegov^{2,1}, V. Gaviko^{1,2} and M. Yakovleva¹* *1. M.N. Miheev Institute of Metal Physics UB of RAS, Yekaterinburg, Russian Federation; 2. Ural Federal University named after B.N. Yeltsin, Yekaterinburg, Russian Federation*

POSTER SESSION

Session QPB MAGNETO-OPTIC, MAGNETOELASTIC AND MAGNETOCALORIC MATERIALS III (Poster Session)

Taichi Goto, Co-Chair
Tohoku University, Sendai, Japan
Chen Zhang, Co-Chair
Wuhan University, Wuhan, China

- QPB-01. Crystal and Magneto-optical Properties of 2 μm Thick Ce:YIG Grown on GGG substrate.** *Y. Yoshihara^{1,2}, T. Koguchi^{1,2}, K. Mori¹, H. Miyashita^{1,2}, P. Lim², M. Inoue¹, K. Ishiyama¹ and T. Goto¹* *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Toyohashi University of Technology, Toyohashi, Japan*
- QPB-02. Realization of large magneto-optical effect by diagonal permittivity change in epsilon-near-zero materials.** *K. Ikeda¹, T. Liu², Y. Ota³, S. Iwamoto^{4,5} and N. Kobayashi¹* *1. Research Institute for Electromagnetic Materials, Tomiya, Japan; 2. Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, Jilin, China; 3. Department of Applied Physics and Physico-Informatics, Keio University, Yokohama, Japan; 4. Research Center for Advanced Science and Technology, The University of Tokyo, Tokyo, Japan; 5. Institute for Nano Quantum Information Electronics and Institute of Industrial Science, The University of Tokyo, Tokyo, Japan*
- QPB-03. Development of an Optical Probe Current Sensor for Local and Narrow Area Measurement Using Magnetic Domain Reversal in Bi-Substituted Rare-Earth Iron Garnet Crystal.** *S. Sue^{1,2}, M. Miyamoto¹, T. Kubo¹, M. Sonehara² and T. Sato²* *1. Research and Development Department, CITIZEN FINEDEVICE, Mityota, Japan; 2. Spin Device Technology Center, Shinshu University, Nagano, Japan*

- QPB-04. Boron-induced magneto-optical Kerr spectra and dielectric tensors in ferrimagnetic antiperovskite thin films.** H. Sakaguchi¹, S. Isogami², M. Niimi¹ and T. Ishibashi²
1. Nagaoka University of Technology, Nagaoka, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan
- QPB-05. Withdrawn**
- QPB-06. Evaluation of magnetic flux density change for vibration energy harvesting: comparison between direct and indirect measurements.** T. Okada¹, S. Fujieda¹, S. Seino¹ and T. Nakagawa¹ *1. Graduate School of Engineering, Osaka University, Suita, Japan*
- QPB-07. Characterization of the Magnetostrictive and Elastic Properties of Polycrystalline Co₇₀Fe₃₀ Alloy.** M. Watanabe¹, K. Urakawa¹, T. Kida¹, M. Kasuya², M. Chiba³, K. Kanie³, T. Tanno⁴, M. Abe⁴, S. Hashi⁵, K. Ishiyama⁴ and S. Suzuki⁶
1. Tohoku Steel Co., Ltd., Murata-machi, Japan; 2. Faculty of Production Systems Engineering and Sciences, Komatsu University, Komatsu, Japan; 3. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 4. Research Institute for Electrical Communication, Tohoku University, Sendai, Japan; 5. Faculty of Engineering, Tohoku Gakuin University, Sendai, Japan; 6. Micro System Integration Center, Tohoku University, Sendai, Japan
- QPB-08. Toward quantitative evaluation of coupling between Kittel mode and surface acoustic wave resonator mode.** H. Komiya¹, K. Taga¹, R. Hisatomi¹, Y. Shiota¹, T. Moriyama¹ and T. Ono¹ *1. Kyoto University, Uji, Japan*
- QPB-09. Application of various materials with negative saturation magnetostriction to vibration power generation.** T. Sugiyama¹, T. Okada¹, S. Fujieda¹, S. Seino¹, T. Nakagawa¹, Y. Ohishi¹ and H. Muta¹ *1. Osaka University, Suita, Japan*
- QPB-10. Study on Magnetic Properties of La-doped Fe-Ga Polycrystalline Films.** R. Nishina¹, T. Miyazaki¹ and Y. Endo^{2,3} *1. Faculty of Engineering, 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*

- QPB-11. Thermo-elastic Martensitic transformation in off-stoichiometric $\text{Co}_2\text{Fe}_{0.5}\text{Ti}_{0.5}\text{Si}$ quaternary Heusler alloy thin films.** *M. Rahaman*¹, *L.A. Longchar*¹, *R. Joshi*², *R. Rawat*², *M. Raja*³, *S.N. Kaul*¹ and *S. S*¹ *1. School of Physics, University of Hyderabad, Hyderabad, India; 2. UGC - DAE Consortium for Scientific Research, Indore, India; 3. Advanced Magnetics Group, Defence Metallurgical Research Laboratory, Hyderabad, India*
- QPB-12. Chemical order, unit cell volume, and spontaneous magnetization in vapor-quenched single crystalline $\text{Fe}_{0.6}\text{Al}_{0.4}$ alloy thin film.** *K. Toyoki*¹, *D. Kitaguchi*¹, *Y. Shiratsuchi*¹ and *R. Nakatani*¹ *1. Osaka University, Suita, Japan*
- QPB-13. Origin of Griffiths phase in nanocrystalline $\text{La}_{0.4}(\text{Ca}_{0.5}\text{Sr}_{0.5})_{0.6}\text{MnO}_3$.** *S. Saha*¹, *S. Bandyopadhyay*² and *I. Das*¹ *1. Condensed Matter Physics, Saha Institute of Nuclear Physics, Kolkata, India; 2. Department of Physics, University of Calcutta, Kolkata, India*
- QPB-14. Giant magnetocaloric effect in 2D transition-metal hydroxide nanosheets.** *P. Joshi*¹, *J. Mohapatra*¹ and *P. Liu*¹ *1. Department of Physics, University of Texas at Arlington, Arlington, TX, United States*
- QPB-15. The Role of Heat Capacity Anomaly on the Magnetocaloric Effect.** *A. Kosogor*^{1,2} and *V.A. L'vov*^{1,3} *1. Institute of Magnetism NASU and MESU, Kyiv, Ukraine; 2. Faculty of Physics, University of Vienna, Vienna, Austria; 3. Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*

ORAL SESSIONS

Session ROA MAGNETOELECTRONIC MATERIALS AND PHENOMENA I

Oleksandr Pylypovskyi, Chair
Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

- ROA-01. Spin pumping with heavy metals, topological insulators and antiferromagnets. (Invited)** *S. Bedanta*¹ *1. Physics, National Institute of Science Education and Research, Jatni, India*
- ROA-02. Microscopic origin behind the magnetic anisotropy modulation in the multiferroic composites.** *A.M. Yatmeidhy*¹ and *Y. Gohda*¹ *1. Tokyo Institute of Technology, Yokohama, Japan*

- ROA-03. Control of Exchange Bias in HfO_2/Co via Magneto-ionic Motion.** E. Niapos¹, J.A. Arregi¹, L. Čelko¹, V. Uhler¹, E. Menéndez² and J. Sort^{2,3} *1. CEITEC BUT Brno University of Technology, Brno, Czechia; 2. Department of Physics, Universitat Autònoma de Barcelona, Barcelona, Spain; 3. Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain*
- ROA-04. Magnetic Properties of Magnetoelectric Nanoparticles with Varying Core-Shell Ratios and Their Effects on In Vitro Neuron Stimulation.** S. Chen¹, E. Zhang², B. Navarrete², Y. Akin², M. Abdel-Mottaleb³, M. Alberteris Campos², I. Smith³, P. Liang⁴ and S. Khizroev² *1. Chemical, Environmental, and Materials Engineering, University of Miami, Coral Gables, FL, United States; 2. Electrical and Computer Engineering, University of Miami, Coral Gables, FL, United States; 3. Biomedical Engineering, University of Miami, Coral Gables, FL, United States; 4. Cellular Nanomed Inc, Irvine, CA, United States*
- ROA-05. Operando XMCD and EXAFS spectroscopies for orbital control by reversible strain at $\text{Co}_2\text{FeSi}/\text{PMN-PT}$ interface.** J. Okabayashi¹, T. Usami², A.M. Yatmeidhy³, Y. Gohda³ and K. Hamaya² *1. UTokyo, Tokyo, Japan; 2. Osaka University, Osaka, Japan; 3. Tokyo Institute of Technology, Yokohama, Japan*
- ROA-06. Growth and magnetoelectric effect of epitaxial Co_3Mn films on piezoelectric $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-PbTiO}_3(001)$.** Y. Murakami¹, T. Usami², Y. Shiratsuchi^{3,2}, Y. Sanada¹, S. Yamada^{2,4}, R. Nakatani^{3,2} and K. Hamaya^{2,4} *1. Department of Systems Innovation, Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Center for Spintronics Research Network, Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 3. Division of Materials and Manufacturing Science, Graduate School of Engineering, Osaka University, Suita, Japan; 4. Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Suita, Japan*
- ROA-07. Mechanical, electrical and optical control of magnetization reversals and spin dynamics in extrinsic multiferroics.** M. Liparo^{1,2}, J. Jay¹, M. Dubreuil¹, A. Fessant¹, W. Jahjah¹, Y. Le Grand¹, C. Sheppard², A. Prinsloo², B. Warot-Fonrose³, G. Simon⁴, V. Vlamincx⁵, V.M. Castel⁵, L. Temdie-Kom⁵, G. Bourcin⁵, D. Spenato¹ and D.T. Dekadjevi^{1,2} *1. Physics, Laboratoire OPTIMAG - Université de Bretagne Occidentale, Brest, France; 2. Cr Research Group, Physics, University of Johannesburg, Johannesburg, South Africa; 3. CEMES CNRS-UPR 8011 Université de Toulouse, Toulouse, France; 4. Univ. of Brest, Service Général des Plateformes Technologiques, Service RMN-RPE, Brest, France; 5. IMT-Atlantique, Campus de Brest, Département Micro-Ondes, Technopole Brest-Iroise, Brest, France*

Session ROB
MAGNETOELECTRONIC MATERIALS AND
PHENOMENA II

Subhankar Bedanta, Chair
 NISER, Bhubaneswar, Jatani, India

- ROB-01. Magnetic domains and flexomagnetism in Cr_2O_3 . (Invited)** O. Pylypovskyi^{1,2} 1. Helmholtz-Zentrum Dresden-Rossendorf e.V., Dresden, Germany; 2. Kyiv Academic University, Kyiv, Ukraine
- ROB-02. Enhancement of multiferroic properties for BiFeO_3 films with Tb substitution.** T. Lin¹, H.W. Chang², C. Wang³, D. Wei¹, C. Tu^{4,5} and P. Chen⁵ 1. National Taipei University of Technology, Taichung, Taiwan; 2. National Chung Cheng University, Chia-Yi, Taiwan; 3. Tunghai University, Taichung, Taiwan; 4. Fu Jen Catholic University, Taipei, Taiwan; 5. Ming Chi University of Technology, New Taipei City, Taiwan
- ROB-03. Development of BiFeO_3 -Based Multiferroic Thin Films with Excellent Magnetic Properties and Investigation of Their Etching Resistance for Magnetic Nano Device Applications.** S. Ratha¹, R. Suzuki¹, D. Yamamoto¹, K. Takeda¹, M. Kuppan¹, G. Egawa¹ and S. Yoshimura¹ 1. Graduate School of Engineering Science, Akita University, Akita, Japan
- ROB-04. Effect of B-site Substitution Element and Substitution Amount on Magnetic Properties in $(\text{Bi,L a})(\text{Fe}_{1-y}\text{M}_y)\text{O}_3$ ($\text{M} = \text{Co, Ni}$) Ferromagnetic and Ferroelectric Thin Films.** Y. Suzuki¹, T. Ozeki¹, G. Egawa¹ and S. Yoshimura¹ 1. Graduate School of Engineering Science, Akita University, Akita, Japan
- ROB-05. Multiferroic skyrmions in BiFeO_3 .** Z. Li¹, T. Chirac^{1,2}, J. Tranchida³, V. Garcia⁴, S. Fusil⁴, J. Chaudhary¹ and M. Viret¹ 1. SPEC, CEA Saclay, Gif-sur-Yvette, France; 2. Laboratoire Charles Coulomb, Université de Montpellier and CNRS, Montpellier, France; 3. CEA, St Paul Les Durance, France; 4. Unité Mixte de Physique CNRS, Palaiseau, France
- ROB-06. Electron spin resonance in microwave synthesized $\text{Bi}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$.** M. Marimuthu¹, Y. Lee¹ and R. Mahendiran¹ 1. Physics Department, National University of Singapore, Singapore
- ROB-07. Inductance and capacitance emerged from topological electromagnetism.** Y. Araki¹ and J. Ieda¹ 1. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan
- ROB-08. Withdrawn**

Session RPA
MAGNETOELECTRONIC MATERIALS AND
PHENOMENA III
(Poster Session)

Lucas Caretta, Chair
 Brown University, Providence, RI, United States

- RPA-01. Enhanced tunneling electroresistance effect by interface engineering.** *L. Jiang*¹, *Y. Zhu*¹, *B. Chi*¹ and *X. Han*¹
 1. *Institute of Physics, Chinese Academy of Sciences, Beijing, China*
- RPA-02. Nonlinear Optical and Multiferroic Properties of GFO-xAg with Magnetic Field.** *T. Hsu*¹, *T. Han*², *S. Huang*¹ and *T. Su*¹ 1. *National Pingtung University, Pingtung, Taiwan;* 2. *National University of Kaohsiung, Kaohsiung, Taiwan*
- RPA-03. Electric field modulation of spin-flop behaviors in Co/Ru/Co/PMN-PT(011) artificial multiferroic heterostructures.** *Y. Hisada*¹, *S. Komori*¹, *K. Imura*¹ and *T. Taniyama*¹
 1. *Department of Physics, Nagoya University, Nagoya, Japan*
- RPA-04. Tunnel-type magneto-electric effect in Co-SrF₂ nanogranular thin films influence of metal additives and theory.** *C. Wang*¹, *N. Kobayashi*², *S. Ohnuma*^{1,2} and *H. Masumoto*¹ 1. *Frontier Research Institute for Interdisciplinary Sciences, Sendai, Japan;* 2. *Research Institute for Electromagnetic Materials, Tomiya, Japan*
- RPA-05. Effect of Ar-N₂ sputtering gas on structure and TMD effect in Co-(Si-N) nanogranular films.** *T. Uchiyama*¹, *Y. Cao*¹, *H. Kijima-Aoki*³, *K. Ikeda*², *N. Kobayashi*², *S. Ohnuma*^{1,2} and *H. Masumoto*¹ 1. *Frontier Research Institute for Interdisciplinary Science, Tohoku University, Sendai, Japan;* 2. *Research Institute for Electromagnetic Materials, Tomiya, Japan;* 3. *Department of Electrical Engineering, Tohoku University, Sendai, Japan*
- RPA-06. Enhanced Multiferroic and Nonlinear Optical Properties of GaFeO₃ Incorporated in GaFeO₃-CoFe₂O₄ Nanocomposite.** *T. Han*¹, *T. Hsu*², *Y. Wang*¹, *Y. Shih*¹ and *W. Zhuang*¹ 1. *Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan;* 2. *Department of Applied Physics, National Pingtung University, Pingtung County, Taiwan*
- RPA-07. Switching Magnetic Strip Orientation Using Electric Fields.** *A. Chen*¹ 1. *King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia*

Session SOA
ALL OPTICAL SWITCHING AND ULTRAFAST
MAGNETISM

Clemens von Korff Schmising, Chair
 Max Born Institut, Berlin, Germany

- SOA-01. Engineering materials for single pulse all-optical switching. (Invited)** Y. Xu¹, M. Hehn², G. Malinowski², J. Hohlfeld², J. Gorchon², L.D. Buda-Prejbeanu³, I. Prejbeanu³, R. Sousa¹, W. Zhao¹ and S. Mangin² *1. Beihang University, Beijing, China; 2. Université de Lorraine, Nancy, France; 3. Spintec, Université Grenoble Alpes, Grenoble, France*
- SOA-02. All optical switching in transition metal synthetic ferrimagnetic multilayer systems with enhanced interlayer exchange coupling.** C.R. Sait¹, M. Dabrowski¹, J.N. Scott², W.R. Hendren², D.G. Newman¹, A. N/Diaye³, C. Klewe³, P. Shafer³, G. van der Laan⁴, P.S. Keatley¹, R.M. Bowman² and R. Hicken¹ *1. Physics, University of Exeter, Exeter, United Kingdom; 2. Mathematics and Physics, Queen's University Belfast, Belfast, United Kingdom; 3. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 4. Diamond Light Source Ltd, Didcot, United Kingdom*
- SOA-03. All-optical switching in a 2D van der Waals magnet CrI₃.** M. Dabrowski¹, S. Guo¹, M. Strungaru², P.S. Keatley¹, F. Withers¹, E. Santos² and R. Hicken¹ *1. Physics and Astronomy, University of Exeter, Exeter, United Kingdom; 2. School of Physics and Astronomy, The University of Edinburgh, Edinburgh, United Kingdom*
- SOA-04. Sub-picosecond magnetization reversal in fully ferromagnetic spin valves.** J. Igarashi¹, W. Zhang^{1,2}, Q. Remy^{1,3}, E. Díaz¹, J. Lin¹, J. Hohlfeld¹, M. Hehn¹, S. Mangin¹, J. Gorchon¹ and G. Malinowski¹ *1. Université de Lorraine, Nancy, France; 2. Beihang University, Hefei, China; 3. University of Cambridge, Cambridge, United Kingdom*
- SOA-05. Application of all-optical switching for a high-speed optical memory. Proposed scheme of high-speed demultiplexing.** V. Zayets¹, I. Serdeha² and V. Grygoruk² *1. Platform Photonics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Educational and Scientific Institute of High Technologies, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*
- SOA-06. Femtosecond Laser Comb Driven Magnetoelastic Modes.** A. Chaurasiya¹, A. Awad¹, R. Khymyn¹ and J. Åkerman¹ *1. Department of Physics, University of Gothenburg, Gothenburg, Sweden*

SOA-07. Simulations of Magnetization Reversal in FM/AFM Bilayers With THz Frequency Pulses. *J. Hirst*¹, *S. Ruta*¹, *J. Jackson*³, *L. Petit*³ and *T. Ostler*² *1. Materials & Engineering Research Institute, Sheffield Hallam University, Sheffield, United Kingdom; 2. University of Hull, Sheffield, United Kingdom; 3. Science and Technology Facilities Council, Daresbury, United Kingdom*

SOA-08. Withdrawn

SOA-09. Ultrafast time-resolved spectroscopy of spin precession by an asynchronous optical sampling based on a dual-comb system. *D. Nishikawa*¹, *K. Maezawa*¹, *S. Fujii*¹, *M. Okano*² and *S. Watanabe*¹ *1. Physics, Keio University, Yokohama, Japan; 2. Communications Engineering, National Defense Academy, Yokosuka, Japan*

ORAL SESSIONS

Session SOB NEW APPROACHES IN COMPUTATIONAL MAGNETISM

Thomas Schrefl, Chair
University for Continuing Education Krems, Wiener Neustadt, Austria

SOB-01. Frequency Demultiplexing of Spin Waves by Inverse-designed Magnetization Patterns, Experimentally Realized by FIB Irradiation. *M. Kiechle*¹, *A. Papp*², *L. Maucha*², *S. Mendisch*¹, *J. Greil*¹, *V. Ahrens*¹, *G. Csaba*² and *M. Becherer*¹ *1. TUM School of Computation, Information and Technology, Technical University of Munich, Munich, Germany; 2. Faculty of Information Technology and Bionics, Pazmany Peter Catholic University, Budapest, Hungary*

SOB-02. Multiscale simulations of soft magnetic composites. *A. Ducevic*¹, *F. Bruckner*¹, *C. Abert*¹ and *D. Suess*¹
1. Functional Materials, Universität Wien, Vienna, Austria

- SOB-03. Convolutional neural networks to predict properties of magnetic nanostructures.** *H. Oezelt¹, A. Kovacs^{1,2}, J. Fischbacher¹, L. Breth^{1,2}, M. Gusenbauer¹, Q. Ali^{1,2}, A. Kornell^{1,2}, S. Schaffer³, L. Exl^{3,4} and T. Schrefl^{1,2}*
1. Department for Integrated Sensor Systems, University of Continuing Education Krems, Wiener Neustadt, Austria; 2. Christian Doppler Laboratory for Magnet design through physics informed machine learning, Wiener Neustadt, Austria; 3. Research Platform MMM Mathematics-Magnetism-Materials Faculty of Mathematics, University of Vienna, Vienna, Austria; 4. Wolfgang Pauli Institute, Faculty of Mathematics, University of Vienna, Vienna, Austria
- SOB-04. A path integral method for numerical simulations of spin dynamics.** *T. Nussle¹ and J. Barker¹* *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*
- SOB-05. Longitudinal Spin Fluctuations in Atomistic Spin Models.** *D.R. Papp¹, R.F. Evans¹ and R.W. Chantrell¹* *1. School of Physics, Engineering and Technology, University of York, York, United Kingdom*
- SOB-06. Transient retrograde motion of spin wave-driven skyrmions in magnetic nanotracks.** *L. Huang¹, G. Burnell¹ and C. Marrows¹* *1. Physics, University of Leeds, Leeds, United Kingdom*
- SOB-07. Physics-Informed Neural Networks for Solving Two-Dimensional Magneto-Static Fields.** *Z. Gong³, Y. Chu¹ and S. Yang²* *1. EEE, Imperial College London, London, United Kingdom; 2. College of Electrical Engineering, Zhejiang University, Hangzhou, China; 3. Beijing Research Institute, Zhejiang Lab, Beijing, China*
- SOB-08. Data-driven approach for accelerating the simulations of the non-linear dynamics of vortex based spin-torque nano-oscillators.** *F. Abreu Araujo¹, S. de Wergifosse¹ and C. Chopin¹* *1. IMCN / BSMA, UCLouvain, Louvain-la-Neuve, Belgium*
- SOB-09. Zero Point Effects on the Magnetocrystalline Anisotropy of Antiferromagnets.** *R.A. Lawrence¹ and M.I. Probert¹* *1. School of Physics, Engineering and Technology, University of York, York, United Kingdom*

Session SOC
NONLINEAR AND FUNDAMENTAL MAGNONICS
PHENOMENA

Qi Wang, Co-Chair

Universitat Wien, Vienna, Austria

Santa Pile, Co-Chair

Johannes Kepler University Linz, Linz, Austria

- SOC-01. Switching Magnon Chirality in Artificial Ferrimagnet.** *(Invited)* Y. Meng¹ and H. Zhao¹ 1. *Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China*
- SOC-02. Prediction and observation of virtual magnons in highly excited ferrimagnetics.** D.A. Bozhko¹, V.S. L'vov^{2,3}, A. Pomyalov³, A.A. Serga⁴ and B. Hillebrands⁴
1. *Department of Physics and Energy Science, University of Colorado Colorado Springs, Colorado Springs, CO, United States*; 2. *Department of Complex Systems, Weizmann Institute of Science, Rehovot, Israel*; 3. *Department of Chemical and Biological Physics, Weizmann Institute of Science, Rehovot, Israel*; 4. *Fachbereich Physik and Landesforschungszentrum OPTIMAS, Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau, Kaiserslautern, Germany*
- SOC-03. Spin Wave Decoherence in the Presence of Dispersive Shock Waves.** C.A. McEleney², R.E. Camley¹ and R. Macêdo² 1. *Center for Magnetism and Magnetic Materials, Department of Physics and Energy Science, University of Colorado at Colorado Springs, Colorado Springs, CO, United States*; 2. *James Watt School of Engineering, University of Glasgow, Glasgow, United Kingdom*
- SOC-04. Nonlinear excitation of short-wavelength exchange spin waves in out-of-plane magnetized YIG nanowaveguides.** Q. Wang^{1,2}, R.V. Verba³, B. Heinz⁴, M. Schneider⁴, O. Wojewoda⁵, K. Davidkova⁵, K. Levchenko¹, C. Dubs⁶, N.J. Mauser^{2,7}, M. Urbánek⁵, P. Pirro⁴ and A. Chumak^{1,2}
1. *Faculty of Physics, University of Vienna, Vienna, Austria*; 2. *Research Platform Mathematics-Magnetism-Materials, University of Vienna, Vienna, Austria*; 3. *Institute of Magnetism, Kyiv, Ukraine*; 4. *TU Kaiserslautern, Kaiserslautern, Germany*; 5. *CEITEC BUT, Brno University of Technology, Brno, Czechia*; 6. *INNOVENT e.V., Jena, Germany*; 7. *Faculty of Mathematics, University of Vienna, Vienna, Austria*
- SOC-05. Numerical and Micromagnetic Investigation of a Significant Magnon-Magnon Interaction in Magnetic Insulator Bilayers.** J. Liu¹ and Q. Shao¹ 1. *The Hong Kong University of Science and Technology, Hong Kong, Hong Kong*

- SOC-06. Time-resolved state tomography for temporal evolution of nonlinear magnetization dynamics under parallel pumping.** *H. Shimizu*¹, *T. Hioki*^{2,1} and *E. Saitoh*^{1,2} *1. Applied physics, The University of Tokyo, Hongo, Bunkyo-ku, Japan; 2. Advanced Institute for Materials Research, Tohoku University, Sendai, Japan*
- SOC-07. Non-linearities in Driven Spin-Wave Active Ring Oscillator.** *A. Mukhopadhyay*¹ and *A. Prabhakar*¹
1. Department of Electrical Engineering, Indian Institute of Technology Madras, Chennai, India
- SOC-08. Micromagnetic simulations of magnon nonlinear interactions in a YIG disk magnetic vortex.** *S. Salama*^{1,2}, *M. Massouras*¹, *A. Anane*² and *J. Adam*¹ *1. Centre de Nanosciences et de Nanotechnologies, CNRS, Palaiseau, France; 2. Unite Mixte de Physique CNRS, Thales, Universite Paris Saclay, Palaiseau, France*
- SOC-09. Goos-Hänchen effect for the inelastically scattered spin waves.** *K. Sobucki*¹, *J. Kharlan*^{1,2}, *R.V. Verba*², *I. Lyubchanskii*^{3,4}, *M. Krawczyk*¹ and *P. Gruszecki*¹ *1. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 2. Institute of Magnetism, National Academy of Sciences of Ukraine, Kyiv, Ukraine; 3. Donetsk Institute for Physics and Engineering, National Academy of Sciences of Ukraine, Kyiv, Ukraine; 4. Faculty of Physics, V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*
- SOC-10. Quantified spin-wave symmetry in rectangular permalloy microstrips investigated using TR-STXM, FMR and Mumax3.** *S. Pile*¹, *A. Ney*¹, *K. Lenz*², *R. Narkowicz*², *J. Lindner*², *S. Wintz*³, *J. Förster*³, *S. Mayr*⁴ and *M. Weigand*⁵
1. Johannes Kepler University, Linz, Austria; 2. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 4. Paul Scherrer Institut, Villigen PSI, Switzerland; 5. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany
- SOC-11. Temperature Dependent Spin Gap in Multiferroic 2D-XY Antiferromagnet Ba₂CoGe₂O₇ Under Applied Magnetic Field.** *R. Dutta*^{1,2}, *H. Thoma*^{1,2}, *B. Roessli*⁸, *V. Kocsis*^{3,4}, *Y. Tokunaga*^{3,5}, *Y. Taguchi*³, *Y. Tokura*^{3,6}, *I. Kézsmárki*⁷ and *V. Hutanu*^{1,2} *1. RWTH Aachen University, IFK, Aachen, Germany; 2. MLZ, Forschungszentrum Julich, Garching, Germany; 3. RIKEN Center for Emergent Matter Science, Saitama, Japan; 4. Budapest University of Technology and Economics, Department of Physics, Budapest, Hungary; 5. University of Tokyo, Department of Advanced Materials Science, Kashiwa, Japan; 6. Department of Applied Physics, University of Tokyo, Quantum-Phase Electronics Center, Tokyo, Japan; 7. University of Augsburg, Department of Experimental Physics V, Augsburg, Germany; 8. Paul Scherrer Institut (PSI), Laboratory for Neutron Scattering and Imaging (LNS), Villigen, Switzerland*

- SOC-12. Distant Excitation of Spin-Waves - How Electromagnetic Cross-Talk Impacts on Hybrid Magnonic Devices.**
J. Greil¹, M. Golibrzuch¹, M. Kiechle¹, A. Papp², G. Csaba² and M. Becherer¹ 1. *Technical University of Munich, Munich, Germany;* 2. *Pázmány Péter Catholic University, Budapest, Hungary*
- SOC-13. Ring-shaped multi-bandpass spin wave filter using YIG film.** *T. Taniguchi^{1,2}, M. Lindner¹, C. Riedel¹ and C.H. Back¹*
 1. *Physics, Technical University of Munich, Garching, Germany;* 2. *Tohoku University, Sendai, Japan*
- SOC-14. Theoretical demonstration of the electron spin wave filter in semiconductor two-dimensional electron gas.**
K. Kikuchi¹, K. Nakajima¹, S. Karube¹, C. Zhang² and M. Kohda^{1,3} 1. *Graduate School of Engineering, Tohoku University, Sendai, Japan;* 2. *The Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan;* 3. *Center for Strategic and International Studies, Tohoku University, Sendai, Japan*

ORAL SESSIONS

Session SOD

QUANTUM AND HYBRID MAGNONICS

Dmytro Bozhko, Chair

University of Colorado Colorado Springs, Colorado Springs,
 CO, United States

- SOD-01. Coupling of terahertz light with nanometer-wavelength magnons. (Invited)** *R. Salikhov¹, I. Ilyakov¹, L. Körber^{1,2}, A. Kákay¹, R. Gallardo³, A. Ponomaryov¹, J. Deinert¹, T. de Oliveira¹, K. Lenz¹, J. Fassbender^{1,2}, S. Bonetti^{5,6}, O. Hellwig^{1,4}, J. Lindner¹ and S. Kovalev¹* 1. *Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany;* 2. *Fakultät Physik, Technische Universität Dresden, Dresden, Germany;* 3. *Departamento de Física, Universidad Técnica Federico Santa María, Valparaíso, Chile;* 4. *Institute of Physics, Chemnitz University of Technology, Dresden, Germany;* 5. *Department of Physics, Stockholm University, Stockholm, Sweden;* 6. *Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, Venice, Italy*
- SOD-02. Measuring Spatially Resolved Phase of Nanoscale Spin Waves.** *O. Wojewoda¹, F. Ligmajer¹, M. Hrton¹, J. Klima², M. Dhankhar¹, K. Davidkova², M. Stano¹, J. Holobradek¹, J. Zlamal², T. Sikola^{2,1} and M. Urbánek^{1,2}* 1. *CEITEC, Brno University of Technology, Brno, Czechia;* 2. *Institute of Physical Engineering, Brno University of Technology, Brno, Czechia*

- SOD-03. Brillouin Light Scattering Characterization of Voltage-Controlled Magnonic Waveguides via Magnetoelectric Coupling.** *P. Che*¹, *J. Adam*², *S. Salama*², *A. Abdelsamie*¹, *V. Garcia*¹, *S. Fusil*¹, *K. Bouzehouane*¹, *A. Vecchiola*¹, *L. Iglesias*¹, *R. Lebrun*¹, *A. Barthelemy*¹, *M. Bibes*¹, *P. Bortolotti*¹, *A. Anane*¹ and *I. Boventer*¹ *1. Unité Mixte de Physique, CNRS/Thales, Université Paris-Saclay, Palaiseau, France; 2. Centre de Nanosciences et de Nanotechnologies, CNRS, Université Paris-Saclay, Palaiseau, France*
- SOD-04. Observation of Coupled Magnon-Phonon Mode Anticrossing in a Two-Port Surface Acoustic Wave Resonator.** *Y. Hwang*^{1,2}, *J. Puebla*², *K. Kondou*², *K. Yamamoto*³, *S. Maekawa*^{2,3} and *Y. Otani*^{1,2} *1. Institute for Solid State Physics, University of Tokyo, Chiba, Japan; 2. CEMS, RIKEN, Saitama, Japan; 3. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*
- SOD-05. Electric control of magnon phase and magnonic Aharonov-Casher effect.** *V.I. Vasyuchka*¹, *R. Serha*², *A.A. Serga*¹ and *B. Hillebrands*¹ *1. Fachbereich Physik and Landesforschungszentrum OPTIMAS, Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau, Kaiserslautern, Germany; 2. Faculty of Physics, University of Vienna, Vienna, Austria*
- SOD-06. Strong to ultra-strong coherent coupling measurements in a YIG/cavity system at room temperature.** *G. Bourcin*^{2,1}, *J. Bourhill*³, *V. Vlaminck*^{2,1} and *V.M. Castel*^{2,1} *1. Lab-STICC (UMR 6285), Brest, France; 2. IMT Atlantique, Brest, France; 3. ARC Centre of Excellence for Engineered Quantum Systems and ARC Centre of Excellence for Dark Matter Particle Physics, Perth, WA, Australia*
- SOD-07. Real-time Measurement of Coherent Energy Exchange in Remotely Coupled Hybrid Magnonic Resonators.** *M. Song*^{1,2}, *T. Polakovic*³, *T.W. Cecil*⁴, *J.E. Pearson*¹, *R. Divan*⁵, *W. Pfaff*⁶, *W. Kwok*¹, *U. Welp*¹, *K. Kim*², *A. Hoffman*⁷, *V. Novosad*¹ and *Y. Li*¹ *1. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States; 2. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 3. Physics Division, Argonne National Laboratory, Lemont, IL, United States; 4. High Energy Physics Division, Argonne National Laboratory, Lemont, IL, United States; 5. Center for Nanoscale Materials, Argonne National Laboratory, Lemont, IL, United States; 6. Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL, United States; 7. Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States*

- SOD-08. Influence of paramagnetic GGG substrate on YIG films at millikelvin temperatures.** R. Serha¹, A. Voronov¹, D. Schmoll¹, R.V. Verba², S. Koraltan¹, K. Davidkova³, B. Budinska¹, Q. Wang¹, O. Dobrovolskiy¹, M. Urbánek³, M. Lindner⁴, T. Reimann⁴, C. Dubs⁴, C. Abert¹, D. Suess¹, S. Knauer¹ and A. Chumak¹ 1. Faculty of Physics, University of Vienna, Vienna, Austria; 2. Institute of Magnetism, Kyiv, Ukraine; 3. CEITEC BUT, Brno University of Technology, Brno, Czechia; 4. INNOVENT e.V. Technologieentwicklung, Jena, Germany
- SOD-09. Universal Set of Magnon-Mediated Quantum Gates.** C. Trevillian¹ and V. Tyberkevych¹ 1. Physics, Oakland University, Rochester, MI, United States
- SOD-10. Inverse design in nanomagnonics.** Q. Wang^{1,2}, A. Chumak² and P. Pirro³ 1. School of Physics, Huazhong University of Science and Technology, Wuhan, China; 2. Faculty of Physics, University of Vienna, Vienna, Austria; 3. Fachbereich Physik and Landesforschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany
- SOD-11. Nano-scale physical reservoir computing based on propagating spin-wave.** S. Iihama^{1,2}, Y. Koike^{3,2}, S. Mizukami^{2,4} and N. Yoshinaga^{2,5} 1. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 2. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Department of Applied Physics, Tohoku University, Sendai, Japan; 4. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan; 5. MathAM-OIL, AIST, Sendai, Japan
- SOD-12. Model of a Magnetic Waveguide for a Neural Network.** A.A. Nikitin¹ and E. Lähderanta¹ 1. Physics, Lappeenranta-Lahti University of Technology LUT, Lappeenranta, Finland
- SOD-13. Spin diode effect in extended magnetic insulating films.** R. Kohno¹, N. Thiery¹, E. Clot¹, R. Schlitz², K. An^{1,3}, V. Naletov¹, L. Vila¹, N. Beaulieu⁴, J. Ben Youssef⁴, H. Merbouche⁵, V. Cros⁵, A. Anane⁵, T. Hauet⁶, V.E. Demidov⁷, S. Demokritov⁷, G. de Loubens⁸ and O. Klein¹ 1. Université Grenoble Alpes, CEA, CNRS, Grenoble INP, Spintec, Grenoble, France; 2. Department of Materials, ETH Zürich, Zürich, Switzerland; 3. Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea; 4. LabSTICC, CNRS, Université de Bretagne Occidentale, Brest, France; 5. Unité Mixte de Physique CNRS, Thales, Université Paris Saclay, Palaiseau, France; 6. Université de Lorraine, CNRS Institut Jean Lamour, Nancy, France; 7. Department of Physics, University of Muenster, Muenster, Germany; 8. SPEC, CEA-Saclay, CNRS, Université Paris Saclay, Gif-sur-Yvette, France

Session SOE TOPOLOGICAL AND 3D MAGNONICS

Sebastian Wintz, Chair

Max Planck Institute for Intelligent Systems, Stuttgart, Germany

- SOE-01. Spin-Wave Dynamics in Ferromagnetic Gyroid Nanostructures.** *M. Golebiewski*¹, *R. Hertel*², *V.I. Vasyuchka*³, *P. Pirro*³, *M. Krawczyk*¹ and *J. Llandro*⁴
1. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 2. Strasbourg Institute of Material Physics and Chemistry, University of Strasbourg, CNRS, Strasbourg, France; 3. Faculty of Physics, TU Kaiserslautern, Kaiserslautern, Germany; 4. Research Institute of Electrical Communication, Center for Science and Innovation in Spintronics, Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan
- SOE-02. Tuning spin-wave dynamics by interlayer coupling within the nanomagnets of an artificial spin-ice.** *J. de Rojas*¹, *D. Atkinson*¹ and *A.O. Adeyeye*¹ *1. Physics, Durham University, Durham, United Kingdom*
- SOE-03. Reconfigurable spin-wave dispersion in continuous magnetic layer induced via artificial spin ice based magnonic crystal.** *T.C. Dion*², *J. Carter-Gartside*¹, *K.D. Stenning*³, *A. Vanstone*¹, *D. Arroo*^{3,1}, *H. Kurebayashi*³, *W.R. Branford*¹ and *T. Kimura*² *1. Blackett Laboratory, Imperial College, London, United Kingdom; 2. Solid State Physics, Kyushu University, Fukuoka, Japan; 3. London Centre for Nanotechnology, UCL, London, United Kingdom*
- SOE-04. Field Orientation dependent Spin-Wave Dynamics of Artificial Spin Ice Lattices.** *M. Kuchibhotla*¹, *A. Haldar*¹ and *A.O. Adeyeye*² *1. Physics, Indian Institute of Technology Hyderabad, Sangareddy, India; 2. Physics, Durham University, Durham, United Kingdom*
- SOE-05. Topological magnons and magnon-polarons in 2D magnets. (Invited)** *S. Kim*¹ *1. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea*
- SOE-06. Withdrawn**
- SOE-07. Withdrawn**

- SOE-08. Topological magnons driven by the Dzyaloshinskii-Moriya interaction in the centrosymmetric ferromagnet Mn_5Ge_3 .** M. dos Santos Dias^{1,2}, N. Biniskos³, F.J. dos Santos^{4,5}, K. Schmalzl⁶, J. Persson⁷, F. Bourdarot⁸, N. Marzari^{4,5}, S. Blügel¹, T. Brückel⁷ and S. Lounis^{1,2} 1. Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany; 2. Faculty of Physics, University of Duisburg-Essen and CENIDE, Duisburg, Germany; 3. Jülich Centre for Neutron Science at MLZ, Forschungszentrum Jülich GmbH, Garching, Germany; 4. Theory and Simulation of Materials (THEOS), and National Centre for Computational Design and Discovery of Novel Materials (MARVEL), École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; 5. Laboratory for Materials Simulations (LMS), Paul Scherrer Institut, Villeglen, Switzerland; 6. Jülich Centre for Neutron Science at ILL, Forschungszentrum Jülich GmbH, Grenoble, France; 7. Jülich Centre for Neutron Science (JCNS-2) and Peter Grünberg Institut (PGI-4), Forschungszentrum Jülich GmbH, Jülich, Germany; 8. CEA, IRIG, MEM, MDN, Université Grenoble Alpes, Grenoble, France
- SOE-09. Low-energy magnonic edge states protected by non-equilibrium topology.** P.M. Gunnink¹, J.S. Harms¹, A. Mook² and R.A. Duine^{1,3} 1. Utrecht University, Utrecht, Netherlands; 2. Johannes Gutenberg University, Mainz, Germany; 3. Eindhoven University of Technology, Eindhoven, Netherlands
- SOE-10. Spin-Wave Frequency Comb and Penrose Superradiance.** Z. Wang¹, Z. Jin¹, H. Yuan², Y. Cao¹ and P. Yan¹ 1. University of Electronic Science and Technology of China, Chengdu, China; 2. Utrecht University, Utrecht, Netherlands
- SOE-11. Spontaneous Emergence of Spin-Wave Frequency Combs Mediated by Vortex Gyration.** C. Heins^{1,2}, K. Schultheiss¹, L. Körber^{1,2}, A. Kákay¹, T. Hula^{1,3}, M. Bejarano^{1,2}, J. Lindner¹, J. Fassbender^{1,2} and H. Schultheiss^{1,2} 1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Technische Universität Dresden, Dresden, Germany; 3. Technische Universität Chemnitz, Chemnitz, Germany
- SOE-12. Evidence of non-degenerated, non-reciprocal and ultra-fast spin-waves in the canted antiferromagnet $\alpha\text{-Fe}_2\text{O}_3$.** A. El Kanj¹, O. Gomonay², I. Boventer¹, P. Bortolotti¹, V. Cros¹, A. Anane¹ and R. Lebrun¹ 1. Unité Mixte de Physique CNRS, Thales, Université Paris-Saclay, Palaiseau, France; 2. Institute of Physics, Johannes Gutenberg University Mainz, Mainz, Germany

Session SOF ULTRAFast MAGNETISM

Stephane Mangin, Chair
Université de Lorraine, Vandoeuvre-lès-Nancy, France

- SOF-01. Spin Dynamics at Interfaces on Femtosecond Timescales. (Invited)** *A. Eschenlohr¹ 1. University Duisburg-Essen, Duisburg, Germany*
- SOF-02. Ultrafast electron-phonon scattering in an antiferromagnetic Dirac-semimetal.** *M. Weber¹, K. Leckron¹ and H. Schneider¹ 1. Physics, TU Kaiserslautern, Kaiserslautern, Germany*
- SOF-03. Indirect Optical Manipulation of the Antiferromagnetic Order of Insulating NiO by Ultrafast Interfacial Energy Transfer.** *S. Wust¹, C. Seibel¹, H. Meer², P. Herrgen¹, C. Schmitt², L. Baldrati², R. Ramos^{3,4}, T. Kikkawa⁵, E. Saitoh^{5,6}, O. Gomonay², J. Sinova^{2,7}, Y. Mokrousov^{2,8}, H. Schneider¹, M. Kläui², B. Rethfeld¹, B. Stadtmüller^{1,2} and M. Aeschlimann¹ 1. Department of Physics and Research Center OPTIMAS, RPTU Kaiserslautern-Landau, Kaiserslautern, Germany; 2. Institute of Physics, Johannes Gutenberg-University Mainz, Mainz, Germany; 3. CIQUS, Departamento de Química-Física, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; 4. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 5. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 6. Institute for AI and Beyond, The University of Tokyo, Tokyo, Japan; 7. Institute of Physics, Czech Academy of Sciences, Praha, Czechia; 8. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich and JARA, Jülich, Germany*
- SOF-04. Experimental evidence of ultrafast magnon generation in laser driven demagnetization dynamics. (Invited)** *C. von Korff Schmising¹, S. Jana¹, K. Yao¹, M. Hennecke¹, D. Schick¹, M. Viret², J. Chauleau² and S. Eisebitt¹ 1. Max Born Institute, Berlin, Germany; 2. CEA, Paris Saclay, Paris, France*

- SOF-05. Investigating the interplay of local electron correlations and ultrafast spin dynamics in fcc nickel at the european x-ray free electron laser.** *T. Lojewski*¹, M.F. Elhanoty², L. Guyader³, O. Grånäs², N. Agarwal³, C. Boeglin⁴, R. Carley³, A. Castoldi^{5,6}, C. David⁷, C. Deiter³, F. Döring⁸, R.Y. Engel⁸, F. Erdinger⁹, H. Fangohr^{3,10}, C. Fiorini^{5,6}, P. Fischer⁹, N. Gerasimova³, R. Gort³, F. de Groot¹¹, K. Hansen⁸, S. Hauf³, D. Hickin³, M. Izquierdo³, B.E. Van Kuiken³, Y. Kvashnin², C. Lambert¹², D. Lomidze³, S. Maffessanti⁸, L. Mercadier³, G. Mercurio³, P.S. Miedema⁸, K. Ollefs¹, M. Pace⁴, M. Porro^{3,13}, J. Rezvani¹⁴, B. Rösner⁷, N. Rothenbach¹, A. Samartsev^{3,8}, A. Scherz³, J. Schlappa³, C. Stamm^{12,15}, M. Teichmann³, P. Thunstrom², M. Turcato³, A. Yaroslavlsev^{2,3}, J. Zhu³, M. Beye⁸, H. Wende¹, U. Bovensiepen¹, O. Eriksson^{2,16} and A. Eschenlohr¹
1. Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany; 2. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 3. European XFEL, Schenefeld, Germany; 4. Institut de Physique et Chimie des Matériaux de Strasbourg, Université de Strasbourg, Strasbourg, France; 5. Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, Milano, Italy; 6. Istituto Nazionale di Fisica Nucleare, Milano, Italy; 7. Paul Scherrer Institut, Villigen, Switzerland; 8. Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany; 9. Institute for Computer Engineering, University of Heidelberg, Heidelberg, Germany; 10. Max-Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany; 11. Debye Institute for Nanomaterials Science, Utrecht University, Utrecht, Netherlands; 12. Department of Materials, ETH Zurich, Zurich, Switzerland; 13. Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, Venezia, Italy; 14. Laboratori Nazionali di Frascati, INFN, Frascati (Roma), Italy; 15. Institute for Electric Power Systems, University of Applied Sciences and Arts Northwestern Switzerland, Windisch, Switzerland; 16. School of Science and Technology, Örebro University, Örebro, Sweden
- SOF-06. Experimental detection of magnon noise enhancement near spin reorientation in $\text{Sm}_{0.7}\text{Er}_{0.3}\text{FeO}_3$.** *M.A. Weiss*¹, A. Herbst¹, J. Schlegel¹, T. Danneegger¹, M. Evers¹, A. Donges¹, M. Nakajima², A. Leitenstorfer¹, S. Goennenwein¹, U. Nowak¹ and T. Kurihara³ *1. Physics Department, University of Konstanz, Konstanz, Germany; 2. Institute of Laser Engineering, Osaka University, Osaka, Japan; 3. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan*
- SOF-07. Coherent Magnetization Dynamics in Strongly Quenched Systems.** *A. Lentfert*¹, A. De¹, L. Scheuer¹, B. Stadtmüller^{1,2}, B. Hillebrands¹, G. von Freymann^{1,3}, M. Aeschlimann¹ and P. Pirro¹ *1. University of Kaiserslautern-Landau, Kaiserslautern, Germany; 2. Johannes Gutenberg University Mainz, Mainz, Germany; 3. Fraunhofer Institute for Industrial Mathematics, Kaiserslautern, Germany*

- SOF-08. Optical Tamm states in 2D nanostructured magnetophotonic structures.** *B. Mathmann¹, o. haidar^{1,2}, A. Talbi¹, N. Tiercelin¹, A. Mir², A. Akjouj¹ and Y. Dusch¹*
1. Univ. Lille, CNRS, Centrale Lille, Univ. Polytechnique Hauts-de-France, UMR 8520-IEMN, Lille, France;
2. Physics, Laboratory of Advanced Materials Studies and Applications (LEM2A), Moulay Ismail University, Meknes, Morocco
- SOF-09. Optical Control of Spin Waves in Hybrid YIG/Plasmonic Structures.** *N. Kuznetsov¹, H. Qin^{2,3}, L. Flajšman¹ and S. van Dijken¹*
1. Applied Physics, Aalto University, Espoo, Finland;
2. Wuhan University, Wuhan, China; 3. Wuhan Institute of Quantum Technology, Wuhan, China

POSTER SESSION

Session SPA **MAGNETIZATION DYNAMICS AND MICROMAGNETICS (Poster Session)**

Sebastian Knauer, Co-Chair
 University of Vienna, Vienna, Austria

Vitaliy Vasyuchka, Co-Chair
 Technische Universität Kaiserslautern, Kaiserslautern, Germany

- SPA-01. Design of two-dimensional magnonic crystals using a yttrium iron garnets and non-magnetic metals.** *K. Mori^{1,2}, T. Koguchi^{1,2}, T. Watanabe³, M. Inoue¹, K. Ishiyama¹ and T. Goto¹*
1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. Shin-Etsu Chemical Co., Ltd, Annaka, Japan
- SPA-02. Numerical modelling of operation of a spin-wave active-ring based physical reservoir computer.** *S.I. Watt¹ and M. Kostylev¹*
1. Physics, University of Western Australia, Crawley, WA, Australia
- SPA-03. Ultrafast laser induced magnetization switching in Amorphous TbCo and the Role of Element Specific Damping on HI-AOS.** *S.P. P¹ and J.R. Mohanty¹*
1. Department of Physics, Indian Institute of Technology Hyderabad, Sangareddy, India

- SPA-04. Micromagnetics Simulation of Highly Efficient Oscillation of Magnetization in a Ferromagnetic Local Areas via Spin Waves induced by Spin-Orbit Torque.** *T. Koda¹, S. Muroga² and Y. Endo³* 1. *Electronic Mechanical Engineering, National Institute of Technology, Oshima College, SuoOshima, Japan;* 2. *Mathematical Science and Electrical-Electronic-Computer Engineering, Akita University, Akita, Japan;* 3. *Electrical Engineering, Tohoku University, Sendai, Japan*
- SPA-05. Accessing Ultrafast Demagnetization Rates of Ferrimagnetic Thin Films through THz Emission Spectroscopy.** *G. Nava Antonio¹, Q. Remy², M. Hehn³, S. Mangin³ and C. Ciccarelli¹* 1. *Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom;* 2. *Department of Physics, Freie Universität Berlin, Berlin, Germany;* 3. *Institut Jean Lamour, Université de Lorraine, Nancy, France*
- SPA-06. Interpretation of spin-wave modes in Co/Ag nanodot arrays probed by broadband ferromagnetic resonance.** *D. Markó^{1,2}, R. Cheenikundil³, J. Bauer³, K. Lenz⁴, W. Chuang⁵, K. Lin⁵, J. Wu⁶, M. d'Aquino⁷, R. Hertel³ and D.S. Schmool²* 1. *Magnetic Microsystem Technologies, Silicon Austria Labs GmbH, Villach, Austria;* 2. *Université Paris-Saclay, UVSQ, CNRS, GEMaC, Versailles, France;* 3. *Institut de Physique et Chimie des Matériaux de Strasbourg, Université de Strasbourg, CNRS, Strasbourg, France;* 4. *Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany;* 5. *Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan;* 6. *Department of Physics, National Changhua University of Education, Changhua, Taiwan;* 7. *Department of Electrical Engineering and ICT, University of Naples Federico II, Naples, Italy*
- SPA-07. A Theoretical Study with Numerical Simulations of Spin-waves-induced Domain Wall Motion.** *Y. Chuang¹ and Y. Tang¹* 1. *National Central University, Taoyuan, Taiwan*
- SPA-08. Observation of mode splitting by magnon-magnon coupling in synthetic antiferromagnets.** *D. Hayashi¹, Y. Shiota^{1,2}, M. Ishibashi¹, R. Hisatomi^{1,2}, T. Moriyama^{1,2} and T. Ono^{1,2}* 1. *Institute for Chemical Research, Kyoto University, Uji, Japan;* 2. *Center for Spintronics Research Network, Kyoto University, Uji, Japan*

- SPA-09. Direct observation of propagating magnons with large non-reciprocity.** R. Gallardo¹, M. Weigand², K. Schultheiss⁶, A. Kákay⁶, R. Mattheis³, J. Raabe⁴, G. Schütz⁵, A. Deac⁷, J. Lindner⁶ and S. Wintz^{5,2} *1. Universidad Técnica Federico Santa María, Valparaíso, Chile; 2. Helmholtz-Zentrum Berlin, Berlin, Germany; 3. Leibniz Institut für Photonische Technologien, Jena, Germany; 4. Paul Scherrer Institut, Villigen PSI, Switzerland; 5. Max Planck Institut für Intelligente Systeme, Stuttgart, Germany; 6. Institute of ion beam physics and materials research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 7. Dresden high magnetic field laboratory, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*
- SPA-10. Signal equalization of nonreciprocal SWs by using an air gap in nm-thick YIG microstructure.** M. Sarker¹, K. Terao¹, H. Yamahara¹, M. Seki¹ and H. Tabata¹ *1. Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan*
- SPA-11. Propagating Spin-Wave Spectroscopy At Millikelvin Temperatures Using Arbitrary Magnetisation Orientations.** S. Knauer¹, S. Peinhaupt¹, K. Davidkova², D. Schmoll^{1,3}, R. Serha^{1,3}, A. Voronov^{1,3}, Q. Wang¹, M. Lindner⁴, T. Reimann⁴, C. Dubs⁴, M. Urbánek² and A. Chumak¹ *1. Faculty of Physics, University of Vienna, Vienna, Austria; 2. Brno University of Technology, CEITEC BUT, Brno, Czechia; 3. Vienna Doctoral School in Physics, University of Vienna, Vienna, Austria; 4. INNOVENT e.V. Technologieentwicklung, Jena, Germany*
- SPA-12. Spin-wave dynamics in the multi-layered ferromagnetic nanorod.** H. Reshetniak¹, N. Lesniewski¹, U. Makartsou¹, M. Golebiewski¹, P. Gruszecki¹ and M. Krawczyk¹ *1. Institute of Spintronics and Quantum Information, Adam Mickiewicz University, Poznan, Poland*
- SPA-13. Spin motive force generated by non-linear spin waves.** K. Hoshi^{1,2}, T. Hioki^{3,1} and E. Saitoh^{1,2} *1. The University of Tokyo, Tokyo, Japan; 2. institute for AI and Beyond, Tokyo, Japan; 3. Tohoku University, Sendai, Japan*
- SPA-14. Global Biasing Using a Hardware-Based Artificial Zeeman Term in Spinwave Ising Machines.** V. Gonzalez¹, A. Litvinenko¹, R. Khymyn¹ and J. Åkerman¹ *1. University of Gothenburg, Gothenburg, Sweden*
- SPA-15. Magnetic Structures and Spinwave Excitations in Rare-earth Iron Garnet near Compensation Temperature.** M. Mori¹ *1. Japan Atomic Energy Agency, Ibaraki, Tokai, Japan*

- SPA-16. Three Dimensional Spatial Distributions of Demagnetization Factors in Assemblies of Discrete Magnetic Elements: A Multi-scalar Approach and Solution.** S. McCann¹ and T. Mercer¹ *1. University of Central Lancashire, Preston, United Kingdom*
- SPA-17. Nonlinear spin-wave transport in the YIG nano-waveguides.** K. Davidková¹, Q. Wang³, A. Voronov³, O. Wojewoda⁵, S. Knauer³, M. Lindner⁴, T. Reimann⁴, C. Dubs⁴, A. Chumak³ and M. Urbánek^{1,2} *1. Physical engeneering, Brno University of Technology, Brno, Czechia; 2. CEITEC BUT, Brno, Czechia; 3. Faculty of Physics, Vienna University of Technology, Vienna, Austria; 4. INNOVENT e. V. Technologieentwicklung, Jena, Germany; 5. CEITEC, Brno University of Technology, Brno, Czechia*
- SPA-18. Timescales and contribution of heating and helicity effect in helicity-dependent all-optical switching.** G. Li², X. Zheng¹, J. Wang², X. Lu³, J. Wu⁴, T. Ostler⁵ and Y. Xu⁴ *1. Beihang University, Beijing, China; 2. Guangdong University of Technology, Guangdong, China; 3. Nanjing University, Nanjing, China; 4. University of York, York, United Kingdom; 5. Sheffield Hallam University, Sheffield, United Kingdom*
- SPA-19. Influence of non-local damping on magnon properties of ferromagnets.** Z. Lu¹ *1. Applied physics, KTH Royal Institute of Technology, Stockholm, Sweden*

ORAL SESSIONS

Session TOA

MAGNETIC TEXTURES I

Sachin Krishnia, Chair

Unite Mixte de Physique CNRS/Thales, Palaiseau, France

- TOA-01. Room temperature skyrmions in synthetic antiferromagnets and their fast current induced dynamics without skyrmion Hall effect. (Invited)** O. Boulle¹ *1. SPINTEC, GRENOBLE, France*
- TOA-02. External bias field control of skyrmion dynamics in a magnetic nanotrack.** H. Perumal¹, S. Syamlal¹, B. Priyanka¹ and J. Sinha¹ *1. Physics and Nanotechnology, SRM Institute of Science and Technology, Chennai, India*
- TOA-03. Constriction effect on skyrmions properties.** Y. Urbina-Elgueta^{1,3}, J. C. Denardin^{1,3} and J. Palma^{2,3} *1. Physics, Universidad de Santiago, Santiago, Chile; 2. Ingenieria, Universidad Central, Santiago, Chile; 3. Centro para el Desarrollo de la Nanociencia y la Nanotecnología, Santiago, Chile*

TOA-05. Spin torque driven Skyrmion resonance technique in frustrated Fe_3Sn_2 crystal. *N. Bernstein*¹, *B.J. Assouline*¹, *H. Li*², *I. Rozhansky*¹, *W. Wang*² and *A. Capua*¹ *1. Applied Physics, The Hebrew University of Jerusalem, Jerusalem, Israel; 2. Beijing National Laboratory for Condensed Matter Physics, Chinese Academy of Sciences, Beijing, China*

TOA-06. Interaction of propagating spin waves with extended skyrmions. *R. Mansell*¹, *T. Schaffers*¹, *R.B. Holländer*¹, *H. Qin*^{1,2} and *S. van Dijken*¹ *1. Department of Applied Physics, Aalto University, Espoo, Finland; 2. School of Physics and Technology, Wuhan University, Wuhan, China*

TOA-07. Effect of DMI tensor components on antiskyrmion properties. *A. Di Pietro*^{3,1}, *P. Ansalone*³, *F. García Sánchez*², *V. Basso*³, *A. Magni*³ and *G. Durin*³ *1. Solid state physics, Politecnico di Torino, Turin, Italy; 2. Applied Physics, Universidad de Salamanca, Salamanca, Spain; 3. Istituto Nazionale di Ricerca Metrologica, Turin, Italy*

TOA-08. Impact of the Ampère-Oersted field on the dynamics of spin-torque vortex oscillators. *S. de Wergifosse*¹, *C. Chopin*¹ and *F. Abreu Araujo*¹ *1. UCLouvain, Louvain-la-Neuve, Belgium*

TOA-09. Dynamic properties of magnetic hopfions. (Invited) *O. Tartakivska*^{1,2}, *M. Krawczyk*¹, *K. Sobucki*¹ and *P. Graczyk*³ *1. Adam Mickiewicz University Poznan Poland, Poznan, Poland; 2. Institute of Magnetism, National Academy of Sciences of Ukraine, Kyiv, Ukraine; 3. Institute of Molecular Physics PAS, Poznan, Poland*

TOA-10. Current-induced nonreciprocal dynamics and nonlinear Hall effect of a magnetic hopfion. *Y. Liu*¹, *H. Watanabe*¹ and *N. Nagaosa*^{1,2} *1. Center for Emergent Matter Science, RIKEN, Wako, Japan; 2. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*

TOA-11. Dynamics of an Antiferromagnetic Bloch Line Driven by Spin Current. *R. Ovcharov*¹, *B. Ivanov*^{2,3}, *J. Åkerman*¹ and *R. Khymyn*¹ *1. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 2. Institute of Magnetism of NASU and MESU, Kyiv, Ukraine; 3. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands*

- TOA-12. Resonant Magnetoelastic Coupling Between Magnetic Vortex and Lattice Breathing Modes.** *A. Bondarenko*^{1,2}, *M. Kounalakis*^{1,3}, *S. Viola Kusminskiy*^{3,4}, *G. Bauer*^{5,6} and *Y. Blanter*¹ *1. Kavli Institute of Nanoscience, Delft University of Technology, Delft, Netherlands; 2. Institute of Magnetism of NAS and MOS of Ukraine, Kyiv, Ukraine; 3. Institute for Theoretical Solid State Physics, RWTH Aachen University, Aachen, Germany; 4. Max Planck Institute for the Science of Light, Erlangen, Germany; 5. WPI-AIMR, Tohoku University, Sendai, Japan; 6. Kavli Institute for Theoretical Sciences, University of the Chinese Academy of Sciences, Beijing, China*

ORAL SESSIONS

Session TOB

MAGNETIZATION DYNAMICS AND DAMPING I

Paul Keatley, Chair

University of Exeter, Exeter, United Kingdom

- TOB-01. Nonlinear Multi-Magnon Scattering in Ensembles of Nanomagnets. (Invited)** *S. Lendinez*¹, *M.T. Kaffash*¹, *O.G. Heinonen*², *S. Gliga*⁴, *E. Iacocca*³ and *B. Jungfleisch*¹ *1. University of Delaware, Newark, DE, United States; 2. Argonne National Laboratory, Lemont, IL, United States; 3. University of Colorado Colorado Springs, Colorado Springs, CO, United States; 4. Paul Scherrer Institute, Villigen, Switzerland*
- TOB-02. Magnon Cherenkov effect in ferromagnet/superconductor heterostructures. (Invited)** *O. Dobrovolskiy*¹ *1. Faculty of Physics, University of Vienna, Vienna, Austria*
- TOB-03. Compensation of anisotropy in spin-Hall devices for neuromorphic applications.** *P. Sethi*¹, *D. Sanz Hernandez*¹, *F. Godel*¹, *S. Krishnia*¹, *F. Ajejas*¹, *A. Mizrahi*¹, *V. Cros*¹, *D. Markovic*¹ and *J. Grollier*¹ *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France*
- TOB-04. Impact of Pulse Amplitude on Voltage-Driven Precessional Switching Dynamics Using Macrospin Modeling.** *D. Favaro*^{1,2}, *W. Kim*¹, *M. Gama Monteiro*¹, *S. Rao*¹, *R. Carpenter*¹, *J. Van Houdt*^{1,3}, *K. Temst*^{2,1} and *S. Couet*¹ *1. Imec, Leuven, Belgium; 2. Quantum Solid State Physics (QSP), Department of Physics and Astronomy, KU Leuven, Leuven, Belgium; 3. Semiconductor Physics, Department of Physics and Astronomy, KU Leuven, Leuven, Belgium*

- TOB-05. Effect of thermal annealing on the magnetization reversal and spin dynamics in ferrimagnetic CoTb thin films.** J. Pradhan¹, M. Devapriya¹, R. Mondal², M. Talluri², A. Haldar¹ and C. Murapaka² *1. Physics, Indian Institute of Technology Hyderabad, Sangareddy, India; 2. Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad, Sangareddy, India*
- TOB-06. Spin Dynamics with Inertia in Ferromagnetic Thin Films.** A. De¹, A. Lentfert¹, L. Scheuer¹, B. Stadtmüller^{1,2}, P. Pirro¹, G. von Freymann^{1,3} and M. Aeschlimann¹ *1. TU Kaiserslautern, Kaiserslautern, Germany; 2. Johannes Gutenberg University, Mainz, Germany; 3. Fraunhofer Institute for Industrial Mathematics, Kaiserslautern, Germany*
- TOB-07. Study on magnetization dynamics induced by the spin-orbit torque in devices consisting of hematite.** A. Yamaguchi¹, N. Matsumoto², W. Yoshikawa² and Y. Fujii² *1. Laboratory of Advanced Science and Technology for Industry, University of Hyogo, Ako-gun, Japan; 2. KRI Inc., Kyoto, Japan*
- TOB-08. Investigating coupling mechanisms in vortex-based Magnetic Tunnel Junctions.** A. Jenkins¹, L. Martins¹, L. Benetti¹, A. Schulman¹, P. Anacleto¹ and R. Ferreira¹ *1. International Iberian Nanotechnology Laboratory, Braga, Portugal*
- TOB-09. Binding Events Leveraging the Mutual Synchronization of Spintronic Nano-oscillators.** M. Romera^{1,2}, P. Talatchian¹, S. Tsunegi³, K. Yakushiji³, A. Fukushima³, H. Kubota³, S. Yuasa³, V. Cros¹, P. Bortolotti¹, M. Ernoult^{1,4}, D. Querlioz⁴ and J. Grollier¹ *1. Unité Mixte de Physique, CNRS, Thales, Univ. Paris-Sud, Université Paris-Saclay, Palaiseau, France; 2. GFMC, Dpto. Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 3. National Institute of Advanced Industrial Science and Technology (AIST), Spintronics Research Center, Tsukuba, Japan; 4. Centre de Nanosciences et de Nanotechnologies, CNRS, Univ. Paris-Sud, Université Paris-Saclay, Orsay, France*
- TOB-10. Dynamic magnetization behavior of magnetostatically coupled linear chains of thick Permalloy nanomagnets.** J.R. Scott¹, D. Atkinson¹ and A.O. Adeyeye¹ *1. Physics, Durham University, Durham, United Kingdom*

- TOB-11. Permeability Control of Ferromagnetic Wires for Time-varying Spintronic Metamaterials.** *T. Kodama*¹, N. Kikuchi², S. Okamoto^{2,3}, S. Ohno⁴ and S. Tomita^{1,4}
1. Institute for Excellence in Higher Education, Tohoku University, Sendai, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 3. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan; 4. Department of Physics, Graduate School of Science, Tohoku University, Sendai, Japan
- TOB-12. Investigations of ferromagnetic resonance and inverse spin Hall effect in NiFe/FeMn/NiFe multilayers with varying antiferromagnetic layer thickness.** *B. Panigrahi*¹, M. Manivel Raja³, C. Murapaka² and A. Haldar¹
1. Department of Physics, Indian Institute of Technology, Hyderabad, Sangareddy, India; 2. Department of Materials Science and Metallurgical Engineering, Indian Institute of Technology, Hyderabad, Sangareddy, India; 3. Advanced Magnetic Group, Defence Metallurgical Research Laboratory, Kanchanbagh, India
- TOB-13. Ferromagnetic resonance hysteresis in hybrid magnetic trilayers with combined in-plane and perpendicular magnetic anisotropies.** *D. Markó*^{1,2}, D.S. Schmool², K. Lenz³, J. Díaz^{4,5}, C. Quirós^{4,5}, A. Hierro-Rodriguez^{4,5}, M. Velez^{4,5} and L.M. Álvarez-Prado^{4,5}
1. Magnetic Microsystem Technologies, Silicon Austria Labs GmbH, Villach, Austria; 2. Université Paris-Saclay, UVSQ, CNRS, GEMaC, Versailles, France; 3. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 4. Departamento de Física, Facultad de Ciencias, Universidad de Oviedo, Oviedo, Spain; 5. Centro de Investigación en Nanomateriales y Nanotecnología (CINN), CSIC-Universidad de Oviedo, El Entrego, Spain
- TOB-14. Thickness dependence of creep-scaling behavior in Pt/Co single interface films.** *J. Yu*¹, S. Lee¹, M. Kim¹, J. Shin¹, W. Shim¹ and S. Choe¹
1. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea
- TOB-15. Epitaxial Co₂FeSi/LiNbO₃ multiferroic heterostructures with a low damping constant.** *S. Yamada*^{1,2}, T. Usami¹, S. Komori³, S. Nagata⁴, Y. Nozaki^{5,6}, T. Taniyama³ and K. Hamaya^{1,2}
1. Center for Spintronics Research Network, Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Suita, Japan; 3. Department of Physics, Nagoya University, Nagoya, Japan; 4. Department of Systems Innovation, Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 5. Department of Physics, Keio University, Yokohama, Japan; 6. Center for Spintronics Research Network, Keio University, Yokohama, Japan

TOB-16. Magnetization dynamics of $[\text{Co}_{60}\text{Fe}_{40}/\text{Pt}]_5$ multilayers synthesized over varying Pt buffer structures. *F.M. Matinaga*¹, M. Tavares¹, A. Krohling¹, G. Gomes^{3,4}, L. Fernandez³, M. Martins¹, L.H. Andrade¹, P. Nakarmi² and T. Mewes² *1. Centro de Desenvolvimento de Tecnologia Nuclear, Belo Horizonte, Brazil; 2. Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, United States; 3. Depto de Física, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; 4. Universidade de Montes Claros, Montes Claros, Brazil*

TOB-17. Observation of Coherence Anomaly in $\text{Y}_3\text{Fe}_5\text{O}_{12}$. *T. Makiuchi*¹, T. Hioki^{1,2}, H. Shimizu¹, K. Hoshi^{1,4}, M. Elyasi², K. Yamamoto³, N. Yokoi^{1,4}, G. Bauer² and E. Saitoh^{1,4} *1. Department of Applied Physics, The University of Tokyo, Bunkyo, Japan; 2. Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan; 4. Institute for AI and Beyond, The University of Tokyo, Bunkyo, Japan*

ORAL SESSIONS

Session TOC

MICROMAGNETICS AND HYSTERESIS MODELING I

Arabinda Haldar, Chair

Indian Institute of Technology Hyderabad, Hyderabad, India

TOC-01. Finite Difference Micromagnetic Simulations using True 3D Periodic Boundary Conditions. *F. Bruckner*¹, A. Ducevic¹, C. Abert¹ and D. Suess¹ *1. Functional Materials, University of Vienna, Vienna, Austria*

TOC-02. Hybrid precorrected FFT - Poisson solver method for the magnetostatic field in finite element micromagnetic modeling. *J. Duan*¹ and V. Lomakin¹ *1. University of California, San Diego, San Diego, CA, United States*

TOC-03. Introducing the step Monte Carlo method for simulating dynamic properties. *D. Sztenkiel*¹ *1. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*

TOC-04. Modeling of Multi-Level Spin-Orbit Torque-MRAM: Scalability, Stochasticity, and Variations. *Z. Tong*¹, S. Cheung¹, Z. Ren¹, P. Yang² and Q. Shao¹ *1. Department of Electronic and Computer Engineering, The Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong; 2. Center for Statistical Science, Tsinghua University, Beijing, China*

- TOC-05. Advanced Micromagnetic HAMR Model: Investigation of Damping Dependence and Parametric Optimization for High Performance.** *W. Pantasri¹, A. Meo³, R.W. Chantrell², P. Chureemart¹ and J. Chureemart¹* 1. *Physics, Mahasarakham University, Kantarawichai, Thailand;* 2. *Physics, University of York, York, United Kingdom;* 3. *electrical and Information Engineering, Politecnico of Bari, Bari, Italy*
- TOC-06. Rigorous single-period micromagnetic model of stripe domains: Comparison with analytics and experiment.** *S. Deussner¹, D. Suess¹, C. Abert¹, F. Bruckner¹, S. Faehler², P.T. Heistracher¹, L. Reichel³ and V. Neu³* 1. *University of Vienna, Vienna;* 2. *Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany;* 3. *Leibniz IFW, Dresden, Germany*
- TOC-07. A micromagnetic study on the domain-wall coupling in double-helix shaped magnetic nano structures.** *C. Abert¹, C. Donnelly², S. Koraltan¹, F. Bruckner¹, S. Ruiz-Gomez², A. Hierro-Rodriguez³, S. Finizio⁴, J. Raabe⁴, A. Pacheco⁵ and D. Suess¹* 1. *University of Vienna, Vienna, Austria;* 2. *Max Planck Institute for Chemical Physics of Solids, Dresden, Germany;* 3. *University of Oviedo, Oviedo, Spain;* 4. *Paul Scherrer Institut, Villigen, Switzerland;* 5. *University of Zaragoza, Zaragoza, Spain*
- TOC-08. Control of magnetization chirality in a ferromagnetic ring using a single nanoelement.** *U. Makartsou¹, M. Moalic¹, M.K. Zelent¹ and M. Krawczyk¹* 1. *Faculty of Physics, Adam Mickiewicz University, Poznan, Poland*
- TOC-09. Micromagnetic Simulations of CoFeB/MgO Perpendicular Stacks for Sensor Applications.** *P.M. Santos^{1,2}, P. Araujo^{1,2}, D. Sorensen^{1,2}, F. Matos^{1,2} and S. Cardoso^{1,2}* 1. *Instituto de Engenharia de Sistemas E Computadores – Microsistemas e Nanotecnologias (INESC MN) Lisbon, Lisbon, Portugal;* 2. *Instituto Superior Tecnico, Universidade de Lisboa, Lisboa, Portugal*
- TOC-10. Electronic Structure and Exchange Bias of a Compensated Ferrimagnet Mn₂PtAl.** *A. Lukoyanov¹, S. Samatham², A. Patel³, P. Babu⁴ and K. G. Suresh⁵* 1. *M. N. Mikheev Institute of Metal Physics of Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russian Federation;* 2. *Department of Physics, Chaitanya Bharathi Institute of Technology, Hyderabad, India;* 3. *Research Centre for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan;* 4. *UGC-DAE Consortium for Scientific Research, Mumbai Center, BARC Campus, Mumbai, India;* 5. *Magnetic Materials Laboratory, Department of Physics, Indian Institute of Technology Bombay, Mumbai, India*

TOC-11. Structural and micromagnetic modeling of the magnetic binder phase in WC-Co cemented carbides. *L. Breth*^{1,2}, *J. Fischbacher*^{1,2}, *A. Kovacs*^{1,2}, *H. Oezelt*^{1,2}, *T. Schrefl*^{1,2}, *C. Czettl*³, *S. Kuehrer*³, *J. Pachlhofer*³, *M. Schwarz*³, *T. Weirather*³ and *H. Brueckl*¹ *1. Department for Integrated Sensor Systems, University of Continuing Education Krems, Wiener Neustadt, Austria; 2. Christian Doppler Laboratory for magnet design through physics informed machine learning, University for Continuing Education, Wiener Neustadt, Austria; 3. R&D Cutting Tools, Ceratizit Austria GmbH, Reutte, Austria*

TOC-12. Tuning the coercivity of permanent magnets by the combined effect of field angle and defect thickness. *Q. Ali*^{2,1}, *J. Fischbacher*^{2,1}, *A. Kovacs*^{2,1}, *H. Oezelt*^{2,1}, *M. Gusenbauer*^{2,1} and *T. Schrefl*^{2,1} *1. Department for Integrated Sensor Systems, University for Continuing Education Krems, Wiener Neustadt, Austria, Wiener Neustadt, Austria; 2. Christian Doppler Laboratory for magnet design through physics informed machine learning, University for Continuing Education Krems, Wiener Neustadt, Austria, Wiener Neustadt, Austria*

POSTER SESSION

Session TPA MAGNETIC TEXTURES II (Poster Session)

Keisuke Yamada, Chair
Gifu University, Gifu, Japan

TPA-01. Demonstration of the Current-Driven Bloch Line Motion for Novel Magnetic Memory Operation. *J. Yang*¹, *T. Lee*¹, *K. Moon*², *A.M. Park*¹, *S. Lee*¹, *M. Shin*³, *S. Kim*⁴ and *K. Kim*¹ *1. Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Quantum Spin Team, Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea; 3. School of Electrical Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 4. Physics, University of Ulsan, Daejeon, The Republic of Korea*

TPA-02. Dynamics of magnetic domain-walls in spintronic device observed by Kerr microscopy. *X. Zhang*^{1,2}, *Y. Pan*^{1,2}, *Z. Cao*², *H. Yang*¹ and *W. Zhao*¹ *1. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 2. Beihang Hangzhou Innovation Institute (Yuhang), Beihang University, Hangzhou, China*

- TPA-03. Universal Relation between Energy Barrier and Properties of Ferromagnet.** *M. Kim*¹, *D. Kim*² and *S. Choe*¹
1. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 2. Center for Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea
- TPA-04. Tunable Creation of Bimerons in Confined Circular Nanodots.** *B. Priyanka*¹, *S. Syamlal*¹, *H. Perumal*¹ and *J. Sinha*¹ *1. Physics and Nanotechnology, SRM University, Chennai, India*
- TPA-05. Skyrmion vs. antiskyrmion Hall angles.** *B. Kim*¹
1. Mathematics and Physics, University of Wisconsin-Parkside, Kenosha, WI, United States
- TPA-06. Magnon dynamics in a Skyrmion-textured domain wall of antiferromagnets.** *S. Lee*¹, *K. Nakata*², *O. Tchernyshyov*³ and *S. Kim*¹ *1. Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Japan Atomic Energy Agency, Tokai, Japan; 3. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, United States*
- TPA-07. Depinning Field of Vortex wall at Triangular Notch with Various incoming Angles in Permalloy Wires.** *D. Shiu*¹, *K. Lai*¹, *P. Wang*¹, *R. Cao*² and *L. Horng*¹ *1. Physics, National Changhua, Changhua, Taiwan; 2. Electrical Engineering, Feng Chia University, Taichung, Taiwan*
- TPA-08. Influence of pinning on the dynamics of vortex-based magnetic tunnel junctions.** *A. Jenkins*¹, *L. Martins*¹, *L. Benetti*¹, *A. Schulman*¹, *P. Anacleto*¹, *M. Claro*¹, *T. Boehnert*¹ and *R. Ferreira*¹ *1. International Iberian Nanotechnology Laboratory, Braga, Portugal*
- TPA-09. Frequency Sensing and Detection using Granular Vortex MTJ Nano Oscillator.** *S. Shreya*¹, *A. Jenkins*², *T. Böhnert*², *R. Ferreira*², *F. Moradi*¹ and *H. Farkhani*¹ *1. Electrical and Computer Engineering Department, Aarhus University, Aarhus, Denmark; 2. International Iberian Nanotechnology Laboratory (INL), Braga, Portugal*
- TPA-10. Chiral coupling of two orthogonal magnetizations in GdCo ferrimagnet.** *S. Ko*¹, *J. Park*², *J. Park*¹, *J. Yuk*² and *K. Kim*¹ *1. Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Material Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea*

Session TPB
MAGNETIZATION DYNAMICS AND DAMPING II
(Poster Session)

Dieter Suess, Chair
 University of Vienna, Vienna, Austria

- TPB-01. Magnetization dynamics in FePt nano-granular with thermal heating observed by all-optical pump-probe method.** *Y. Sasaki¹, I. Suzuki², R. Mandal³, S. Kasai² and Y. Takahashi²* *1. International Center for Young Scientists, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. WPI-Advanced Institute for Materials Research, Tohoku University, Sendai, Japan*
- TPB-02. Effect of rapid thermal annealing on magnetic properties and FMR damping of CoFeB multilayer structure.** *Y. Karampuri¹, Y. Wang², J. Kim², H. Divi¹ and T. Wu²* *1. Physics, National Institute of Technology, Warangal, India; 2. School of Information science and Technology, Shanghai Tech University, Shanghai, China*
- TPB-03. Temperature-dependent spin dynamics in WSe₂/Pt/CoFe trilayers.** *Z. Li¹, Y. Zhang¹, J. Zhang¹, Y. Song¹, S. Zhang¹, Q. Jin¹ and Z. Zhang¹* *1. Department of Optical Science and Engineering, Fudan University, Shanghai, China*
- TPB-04. Effect of Si Composition on Static and Dynamic Magnetic Properties of Fe-Si Films.** *Y. Jiang¹, T. Miyazaki² and Y. Endo^{1,3}* *1. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 2. Faculty of Engineering, Tohoku University, Sendai, Japan; 3. Center for Science and Innovation in Spintronics (CSIS), Tohoku University, Sendai, Japan*
- TPB-05. Spin waves softening in thin films with perpendicular anisotropy.** *N. Lesniewski¹ and P. Gruszecki¹* *1. Physics, Adam Mickiewicz University, Poznan, Poland*
- TPB-06. Fitting of X-Band CW FMR in Exchange-Biased [Co/Pt] Multilayers.** *B. Shortall¹ and P.S. Stamenov¹* *1. School of Physics and CRANN, Trinity College Dublin, Dublin, Ireland*
- TPB-07. Binary Terahertz Frequency Shift Keying Modulation in Spin Torque Oscillators with Synthetic Antiferromagnetic Layer.** *Y. Wang¹, C. Zheng¹, D. Zhang¹ and Y. Liu¹* *1. Tongji University, Shanghai, China*

- TPB-08. Magnetization Process of Stadium-Shaped Magnetic Tunnel Junction Cells for Artificial Spin Ice.** *H. Kubota¹, S. Tsunegi¹, K. Yakushiji¹, T. Taniguchi¹, S. Tamaru¹, T. Yamamoto¹, A. Sugihara¹, H. Nomura^{2,3} and Y. Suzuki^{2,4}*
1. National Institute of Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Osaka University, Toyonaka, Japan; 3. SRIS, Tohoku University, Sendai, Japan; 4. CSRN, Osaka University, Toyonaka, Japan
- TPB-09. Anomalous Charge-to-Spin Conversion in Paramagnetic Metal CaRuO_3 .** *J. Zhang¹, F. Han², H. Wu¹ and J. Sun³*
1. Songshan Lake Materials Laboratory, Dongguan, China; 2. School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China; 3. Beijing National Laboratory for Condensed Matter Physics & Institute of Physics, Beijing, China
- TPB-10. Spin reorientation transitions, field induced spin switching and exchange bias behaviour in $\text{Sm}_{1-x}\text{Y}_x\text{FeO}_3$ Single crystals.** *S. Das¹, B. Mali¹, R. Ganesan¹ and S. Elizabeth¹*
1. Physics, Indian Institute of Science, Bangalore, India
- TPB-11. Magnetization reversal and Gilbert damping in $\text{Co}_2\text{FeAl}_{0.5}\text{Si}_{0.5}$ (CFAS) quaternary Heusler alloy.** *L.A. Longchar¹, M. Rahaman¹, M.M. Raja², V.R. Reddy³, S.N. Kaul¹ and S. Srinath¹*
1. School of Physics, University of Hyderabad, Hyderabad, India; 2. Defence Metallurgical research Laboratory, Telangana, India; 3. UGC-DAE CSR, Indore, India
- TPB-12. Perpendicular magnetic anisotropy in bismuth-doped yttrium iron garnet thin films.** *S. Mozhikunnath Das¹, L. Flajšman¹, R. Mansell¹ and S. van Dijken¹*
1. Department of applied physics, Aalto University, Espoo, Finland

POSTER SESSION

Session TPC

MICROMAGNETICS AND HYSTERESIS MODELING II (Poster Session)

Satoshi Iihama, Chair
 Tohoku University, Sendai, Japan

- TPC-01. FEA Verification and Analyses for the Attraction Cases between Magnetic Like Poles.** *S. Ran¹, M. Zou², G. Mizzell³ and C. Chen^{1,4}*
1. Quadrant Solutions, San Jose, CA, United States; 2. Lab Magnetics, A Quadrant Company, San Jose, CA, United States; 3. SuperMagnetMan, Pelham, AL, United States; 4. Magnet Energy, LLC, San Jose, CA, United States

- TPC-02. Is there theoretical upper limit of coercivity?**
C. Mitsumata¹, M. Mizuguchi² and M. Kotsugi¹ 1. Materials Science, Tokyo University of Science, Tokyo, Japan; 2. Materials Science and Technology, Nagoya University, Nagoya, Japan
- TPC-03. Analytical Inverse Preisach Model and Its Comparison With Inverse J-A Model in terms of Accuracy and Computational Efficiency.** *R. Liu¹, C. Gu¹, J. Sun² and B. Tang¹ 1. China Three Gorges University, Yichang, China; 2. Testing Center of Yichang Three Gorges Power Transmission and Transformation Engineering Co. Ltd., Yichang, China*
- TPC-04. An Experimental-Numerical Approach for Energy Loss Separation of Grain-Oriented Electrical Steels.**
H. Hamzehbahmani⁴, T. Shibauchi¹, Y. Gao¹, W. Guan² and K. Muramatsu³ 1. Oita University, Oita, Japan; 2. Wuhan University, School of Electrical Engineering and Automation, Wuhan, China; 3. Saga University, Saga, Japan; 4. Durham University, Durham, United Kingdom
- TPC-05. Enhancement of HAMR performances by FePt based exchange coupled composite media.** *W. Pantasri¹, A. Meo^{2,1}, R.W. Chantrell³, P. Chureemart¹ and J. Chureemart¹ 1. Physics, Mahasarakham University, Kantarawichai, Thailand; 2. Electrical and Information Engineering, Politecnico of Bari, Bari, Italy; 3. Physics, University of York, York, United Kingdom*
- TPC-06. Predictions of Optimal Heating by Magnetic Reversal Behavior of Magnetic Nanowires with Different Materials.**
Y. Chen¹ and B. Stadler^{2,1} 1. CEMS, University of Minnesota, Minneapolis, MN, United States; 2. ECE, University of Minnesota, Minneapolis, MN, United States
- TPC-07. Temperature influences on the vortex chirality probability in permalloy asymmetric disk array.** *K. Lai¹, D. Shiu¹, C. Chen¹, V. Arockia Doss¹ and L. Horng¹ 1. National Changhua University of Education Department of Physics, Changhua, Taiwan*
- TPC-08. Control of Magnetization Precession Frequency using Current Density of Spin-Orbit Torque Applied to Local Area.** *T. Koda¹, A. Nakagawa¹, S. Muroga³ and Y. Endo² 1. Electronic Mechanical Engineering, National Institute of Technology, Oshima College, SuoOshima, Japan; 2. Electrical Engineering, Tohoku University, Sendai, Japan; 3. Mathematical Science and Electrical-Electronic-Computer Engineering, Akita University, Akita, Japan*

- TPC-09. Simulation of spin-orbit-torque switching of a perpendicular nanomagnet assisted by DMI.** J. Watanabe¹, K. Yamada² and Y. Nakatani¹ *1. Graduate School of Informatics and Engineering, University of Electro-Communications, Chofu, Japan; 2. Faculty of Engineering, Gifu University, Gifu City, Japan*

ORAL SESSIONS

Session UOA

COMPLEX MAGNETIC OXIDES/INSULATORS

Sandra Ruiz Gómez, Chair

Max Planck Institute for Chemical Physics of Solids,
Cerdanyola del valles, Spain

- UOA-01. Field Free Switching in Spin-filter Tunnel Devices.** *(Invited)* V. Kumar¹, A. Khandelwal¹, Y. Tang² and B. Prasad¹ *1. Indian Institute of Science, Bengaluru, India; 2. National Central University, Jung-Li, Taiwan*
- UOA-02. Experimental and Theoretical Investigation of Cation Site Occupation and Magnetic Ordering in Co-Ferrite Spinel.** Y. Fang¹, S. Mullurkara¹, K. Taddei³, G. Wang¹ and P. Ohodnicki^{1,2} *1. Mechanical Engineering and Materials Science, University of Pittsburgh, Allison Park, PA, United States; 2. Electrical and Computer Engineering, University of Pittsburgh, Pittsburgh, PA, United States; 3. Oak Ridge National Laboratory, Knoxville, TN, United States*
- UOA-03. Strain Mediated Control over Magnetization in CoFe₂O₄/STO (001) Thin-Film.** G. Channagoudra¹, A. Bagri², A. Ahlawat², R.J. Choudhary², M. Gupta² and V. Dayal¹ *1. Department of Physics, Maharaja Institute of Technology Mysore (Aff. to VTU Belagavi), Mandya, India; 2. UGC DAE Consortium for Scientific Research, Indore, India*
- UOA-04. Spin-Orbit Torque Generation and Amplification of Spin-Waves in Garnets Micro-Structures. (Invited)** A. Anane¹ *1. Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, Palaiseau, France*
- UOA-05. Antiferromagnetic domains distribution carried by stoichiometry.** A. Mandziak¹, L. Aballe², M. Foerster², M. Angel², J. Prieto³, C. Granados Miralles⁴, A. Quesada⁴, A. Berja⁴, J. de la Figuera³ and P. Nita⁵ *1. National Synchrotron Radiation Research Center SOLARIS, Cracow, Poland; 2. Alba synchrotron, Cerdanyolla del Valles, Spain; 3. Institute of Chemical Physics 'Rocasolano', Madrid, Spain; 4. Institute of Ceramic and Glass, Madrid, Spain; 5. Physics, Jagiellonian University, Cracow, Poland*

- UOA-06. Resonant microwave absorption in $\text{LaMn}_{1-x}\text{Mo}_x\text{O}_3$ ($0 \leq x \leq 0.1$) investigated using a vector network analyzer.**
Y. Lee¹ and R. Mahendiran¹ *1. Physics Department, National University of Singapore, Singapore*
- UOA-07. Strain Effects on the Magnetic Ordering in A-type Antiferromagnetic $\text{Pr}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ Films.** Y. Chen¹ and J.G. Lin^{1,2} *1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Center for Atomic Initiatives for New Materials, National Taiwan University, Taipei, Taiwan*
- UOA-08. Observation of Griffith's Phase and Exchange Bias Phenomena in B-site doped 6H Barium Ruthenate.**
P. Santhosh¹ and M.M. Kurian¹ *1. Physics, IIT Madras, Chennai, India*
- UOA-09. Vibronic excitations in the resonant inelastic x-ray scattering spectra of spin-orbit Mott insulators.**
N. Iwahara¹, S. Shikano¹ and W. Furukawa¹ *1. Chiba University, Chiba, Japan*

ORAL SESSIONS

Session UOB

MAGNETIC SEMICONDUCTORS AND METALS

Jaroslav Hamrle, Chair

Charles University in Prague, Prague, Czechia

- UOB-01. A new class of ferromagnetic semiconductors and quantum heterostructures. (Invited)** L.D. Anh^{1,2}, K. Takiguchi¹, T. Chiba³ and M. Tanaka^{1,4} *1. Dept. of Electrical Engineering and Information Systems, The university of Tokyo, Tokyo, Japan; 2. JST-PRESTO, Saitama, Japan; 3. National Institute of Technology, Fukushima College, Fukushima, Japan; 4. Center for spintronics research network, The University of Tokyo, Tokyo, Japan*
- UOB-02. Magnetic Order in Wurtzite (Ga,Mn)As.** K. Gas¹, J. Sadowski¹ and M. Sawicki¹ *1. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*
- UOB-04. Topological States in Magnetic Pyrochlore Iridates. (Invited)** J. Chakhalian¹ *1. Physics and Astronomy, Rutgers University, Piscataway, NJ, United States*

- UOB-05. Putative Quantum Critical Point in Doped Skyrmion Binary Alloys.** *S. Samatham*¹, S. Shravan Kumar Reddy¹, A.K. Patel^{3,2} and K. G. Suresh² *1. Department of Physics, Chaitanya Bharathi Institute of Technology, Hyderabad, India; 2. Magnetic Materials Laboratory, Department of Physics, Indian Institute of Technology Bombay, Mumbai, India; 3. Research Centre for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Ibaraki, Japan*
- UOB-06. Enhanced anomalous Hall and negative anisotropic magnetoresistance effects driven by *p-d* hybridization with carbon.** *S. Isogami*¹, Y. Kota², H. Yasufuku¹, K. Oyoshi¹, M. Tanaka¹ and Y. Takahashi¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. National College of Technology, Fukushima college, Iwaki, Japan*
- UOB-07. Machine Learning Study of Highly Spin-Polarized Heusler Alloys at Finite Temperature.** *I. Kurniawan*^{1,2}, Y. Miura^{1,3} and K. Hono^{1,2} *1. Research Center for Magnetic and Spintronics Material, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Graduate School of Science and Technology, University of Tsukuba, Tsukuba, Japan; 3. Center for Spintronics Research Network (CSRN), Graduate School of Engineering Science, Osaka University, Osaka, Japan*
- UOB-08. Magnetotransport properties of Mn₂CoSb.** *M. Seredina*¹, D. Karpenkov¹, A. Bogach², S. Taskaev³, R.Y. Umetsu⁴, X. Xu⁵ and V. Khovaylo¹ *1. National University of Science and Technology "MISIS", Moscow, Russian Federation; 2. Prokhorov General Physics Institute, Moscow, Russian Federation; 3. Chelyabinsk State University, Chelyabinsk, Russian Federation; 4. Institute for Materials Research, Tohoku University, Sendai, Japan; 5. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China*
- UOB-09. Competition between two magnetic states in Mn₂YSn (Y = Sc, Ti, and V) Heusler alloys under applied pressure: Ab initio study.** *V.V. Sokolovskiy*¹, M. Zagrebin¹, D. Baigutlin¹ and V. Buchelnikov¹ *1. Condensed Matter, Chelyabinsk State University, Chelyabinsk, Russian Federation*

UOB-10. Magnetic Properties of Fully-Compensated Ferrimagnet in (Cr,Fe)S Compound with NiAs-Type Structure.

R.Y. Umetsu¹, S. Semboshi¹, M. Miyakawa¹, N. Yodoshi², A. Masago^{3,6}, Y. Kawahito^{3,5}, T. Fukushima^{4,6} and H. Akai^{5,7}
1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Kyushu University, Fukuoka, Japan; 3. Japan Agency for Marine-Earth Science and Technology, Yokosuka, Japan; 4. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 5. Graduate School of Engineering, Osaka University, Suita, Japan; 6. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 7. Academeia Co. Ltd., Kashiwa, Japan

POSTER SESSION

Session UPA
FUNDAMENTAL PROPERTIES AND COOPERATIVE PHENOMENA
(Poster Session)

Le Anh, Chair
The University of Tokyo, Tokyo, Japan

- UPA-01. Structure, Magnetism and Electrical Transport of Electron Doped $\text{SrCo}_{0.5}\text{Nb}_{0.5}\text{O}_3$.** *M.M. Kurian¹, P. Santhosh¹ and P. Neenu Lekshmi²* *1. Physics, IIT Madras, Chennai, India; 2. Institute of Physics for Advanced Materials, Rua do Campo Alegre, Portugal*
- UPA-02. Microstructure and Electron Magnetic Circular Dichroism of Antiphase Boundaries in Magnetic Oxides.** *Z. Li^{1,2} and X. Zhong^{1,2}* *1. Materials Science and Engineering, City University of Hong Kong, Kowloon, Hong Kong; 2. City University of Hong Kong Matter Science Research Institute (Futian, Shenzhen), Shenzhen, China*
- UPA-03. Probing the structure and magnetic property of Fe doped spinel chromites for memory and spintronic applications.** *A. Yamijala¹, N. Narasaiah¹, H. Divi¹, D. Dinakar¹, T. Wu² and Y. Karampuri¹* *1. National Institute of Technology, Warangal, Warangal, India; 2. Shanghai University, Shanghai, China*
- UPA-04. Band engineering of magnetic semiconductors by phosphorus doping.** *O. Yastrubchak¹ and N. Tataryn¹* *1. V. E. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine*
- UPA-05. Valence Band Dispersion in Mn, Bi and In doped GaAs.** *N. Tataryn¹* *1. V. E. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine*

- UPA-06. Effect of Crystallinity on Magnetic Properties in Manganese-Doped Indium Tin Oxide Films.** *S. Kitagawa*¹ and T. Nakamura^{1,2} *1. Graduate School of Human and Environmental Studies, Kyoto University, Kyoto, Japan; 2. Institute for Liberal Arts and Sciences, Kyoto University, Kyoto, Japan*
- UPA-07. Magnetic Anisotropy Studies of Fe_yN Nanocrystals Embedded in GaN.** *K. Gas*¹, A. Navarro-Quezada², T. Truglas³, V. Bauernfeind³, M. Matzer², D. Kreil⁴, A. Ney², H. Groiss³, A. Bonanni² and M. Sawicki¹ *1. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 2. Institute of Semiconductor and Solid-State Physics, Johannes Kepler University Linz, Linz, Austria; 3. Christian Doppler Laboratory for Nanoscale Phase Transformations, Johannes Kepler University Linz, Linz, Austria; 4. Institute of Theoretical Physics, Johannes Kepler University Linz, Linz, Austria*
- UPA-08. Anisotropic Magnetoresistance Effect in Bulk Single-Crystal Half-Metallic Heusler Alloys.** *T. Tanaka*³, T. Kubota¹, S. Kokado² and R.Y. Umetsu^{3,4} *1. Engineering, Tohoku University, Sendai, Japan; 2. Integrated Science and Technology, Shizuoka University, Hamamatsu, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*
- UPA-09. High spin-polarization in a disordered novel quaternary Heusler alloy FeMnVGa.** *S. Gupta*¹, C. Barreateau², J. Crivello², M. Avdeev³ and C. Mazumdar¹ *1. Condensed Matter Physics Division, Saha Institute of Nuclear Physics, Kolkata, India; 2. Metallurgy and Inorganic Materials, Université Paris-Est, Institut de Chimie et des Matériaux Paris-Est, Paris, France; 3. School of Chemistry, Australian Nuclear Science and Technology Organisation, Sydney, NSW, Australia*
- UPA-10. Withdrawn**
- UPA-11. Study of interplay between magnetic/electric fields and Cr-doped effect in Mo_{1-x}Cr_xSe₂ (x=0, 0.5) nanosheet.** *Y. Lee*¹, T. Tsai¹, C. Yang², Y. Tung³ and K. Lin⁴ *1. Department of Physics, Chung Yuan Christian University, Chung-Li, Taiwan; 2. Department of Physics, National Central University, Zhongli, Taiwan; 3. Department of Physics, National Sun Yat-sen University, Kaohsiung, Taiwan; 4. Department of Chemical Engineering and Material Science, Yuan Ze University, Chung-Li, Taiwan*
- UPA-12. Field-Induced Spin Nematic Phase of a Magnet on the Shastry-Sutherland Lattice with the Anisotropic Ferromagnetic Interaction.** *T. Sakai*¹ *1. Graduate School of Material Science, University of Hyogo, Ako-gun, Japan*

- UPA-13. Spin Orbital Reorientation Transitions Induced by Magnetic Field.** *D. Sztenkiel*¹ *1. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*

ORAL SESSIONS

Session VOA
NANOCRYSTALLINE AND AMORPHOUS SOFT
MAGNETS I

Motoki Ota, Co-Chair
Proterial, Ltd., Tokyo, Japan

Naoki Ito, Co-Chair
Proterial, Ltd., Yasugi, Japan

- VOA-01. An Extensive Experimental Study on the Effect of the Main Laser Powder Bed Fusion Process Parameters on the Soft-Magnetic Behavior of Fe-based Bulk Metallic Glasses.** *M.G. Ozden*¹ and *N. Morley*¹ *1. Material Science and Engineering, The University of Sheffield, Sheffield, United Kingdom*
- VOA-02. Novel FeCoBPSiCr Amorphous Alloy Powder with High B_s of 1.61 T and High Corrosion Resistance.** *H. Matsumoto*¹, *A. Hasegawa*¹, *Y. Kajiura*¹, *M. Hosono*¹, *K. Yoshidome*¹, *H. Ohkubo*², *M. Arata*², *M. Asai*², *E. Hokuto*² and *S. Otska*² *1. Materials Research Center, TDK Corporation, Narita, Japan; 2. Magnetics Business Group, TDK Corporation, Tsuruoka, Japan*
- VOA-03. Synchrotron radiation X-ray diffraction study on nucleation and growth of nanocrystalline phase in Fe-Si-B-P-Cu-C amorphous alloys.** *S. Hiramoto*^{1,2}, *J. Uzuhashi*³, *T. Ohkubo*³, *A. Toda*¹, *C. Moriyoshi*¹ and *Y. Kuroiwa*¹ *1. Graduate School of Advanced Science and Engineering, Hiroshima University, Higashihiroshima, Japan; 2. Tohoku Magnet Institute Co., Ltd., Natori, Japan; 3. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- VOA-04. First order reversal curves as a tool to analyze magnetostatic interactions and coercivity fluctuations in sets of bistable microwires.** *A. Cabanas*², *R. Perez Del Real*¹, *D. Laroze*³ and *M. Vázquez*¹ *1. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 2. Departamento de Física, FACH, Universidad de Tarapacá, Arica, Chile; 3. Instituto de Alta Investigación, Cedenna, Universidad de Tarapacá, Arica, Chile*

- VOA-05. Effect of Applied Stress on Magnetostriction of Amorphous Magnetic Microwires.** V. Zhukova^{1,2}, M. Churyukanova³, S. Kaloshkin³, P. Corte-Leon^{1,2}, M. Ipatov^{1,2} and A. Zhukov^{1,4} *1. Department Polym. and Advanced Mater., Universidad del País Vasco, San Sebastián, Spain; 2. Dept. Appl. Phys., Universidad del País Vasco, San Sebastian, Spain; 3. Composite materials, National University of Science and Technology, Moscow, Russian Federation; 4. Dept. Appl. Phys., Universidad del País Vasco and Ikervasque, San Sebastian, Spain*
- VOA-06. Formulation of electric voltage for vibration generation device using Magnetostriction Material.** T. Kawai¹, E. Ishikawa¹, M. Ohtake¹ and M. Futamoto¹ *1. Faculty of Engineering, Yokohama National University, Yokohama, Japan*
- VOA-07. Sintering of NANOMET into Nanocrystalline Soft Magnetic Composite.** R. Gautam¹, Z. Kautsar¹, X. Tang¹, H. Mamiya¹, S. Hiramoto², T. Miyatake², H. Sepehri-Amin¹, T. Ohkubo¹ and K. Hono¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Tohoku Magnet Institute, Natori, Japan*
- VOA-08. Comparative Study of the Magnetic and Magnetotransport Properties of FINEMET Thin Magnetic Wires.** S. Corodeanu¹, C. Hlenschi¹, H. Chiriac¹, T.A. Ovari¹ and N. Lupu¹ *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*
- VOA-09. Near Zero Magnetostrictive Nanocrystalline Fe-Si-B-Cu-Nb Alloys with a High Heating Rate Annealing.** K. Toyonaga¹, Y. Ogawa¹ and N. Ito¹ *1. Proterial, Ltd., Shimane, Japan*
- VOA-10. Improved high permeability CoZrTaB laminated thin films with novel CMOS compatible dielectric material.** G. Wei¹, R. Das¹, D. Lordan¹, R. Sai¹, M. Hayes¹, M. Lorenc¹, B. Clarke², D. Hurley² and P. McCloskey¹ *1. Tyndall National Institute, UCC, Cork, Ireland; 2. TEL Magnetic Solutions, Dublin, Ireland*
- VOA-11. Single domain to vortex state transition in permalloy nanodot arrays prepared by displacement talbot lithography and electrodeposition.** S. Honnali^{1,2}, M. Kutuzau^{1,3}, N. Kornelius^{1,2}, H. Reith¹ and K. Leistner^{1,3} *1. IFW Dresden, Dresden, Germany; 2. TU Dresden, Dresden, Germany; 3. TU Chemnitz, Chemnitz, Germany*

Session VOB

SOFT MAGNETIC ALLOYS AND OXIDES I

Masaaki Takezawa, Chair

Kyushu Institute of Technology, Kitakyushu, Japan

- VOB-01. Growth-Induced Order by Site-Preference in Anisotropic Mixed Rare-Earth Iron Garnet Thin Films.** *A. Kaczmarek¹, E. Rosenberg^{1,2}, Y. Song¹, A. Penn³, G. Beach¹ and C. Ross¹*
1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States;
2. 3M Corporate Research Materials Laboratory, 3M Center, St. Paul, MN, United States;
3. MIT.nano, Massachusetts Institute of Technology, Cambridge, MA, United States
- VOB-02. Effect of YIG nanoparticles addition on the magnetic properties of manganese ferrite.** *S. Che^{1,2}, J. Feng^{1,2} and Y. Ying^{1,2}*
1. College of Materials Science and Engineering, Zhejiang University of Technology, Deqing, Huzhou, China;
2. Research Center of Magnetic and Electronic Materials, Zhejiang University of Technology, Deqing, Huzhou, China
- VOB-03. Powder Injection Molding and Ceramic Injection Molding-like additive manufacturing for prototyping compact cores for power electronics using MnZn ferrites.** *U.M. Soupremanien¹, V. Martin² and F. Gillon²*
1. CEA-LITEN, Université Grenoble Alpes, Grenoble, France;
2. ULR 2697 - L2EP, Univ. Lille, Arts et Metiers, Centrale Lille, Junia, Lille, France
- VOB-04. Hysteresis loops of $\text{Lu}_{(1-x)}\text{Sr}_x\text{Fe}_{0.5}\text{Cr}_{0.5}\text{O}_3$ perovskites with $x = 0$ and $x = 0.1$.** *F.E. Lurgo¹, R. Carbonio² and O. Billoni³*
1. Magnetic Resonance Group, INN-CNEA-CONICET, San Carlos de Bariloche, Argentina;
2. Physical Chemistry, INFIQC-CONICET-UNC, Córdoba, Argentina;
3. IFEG-CONICET-UNC, Córdoba, Argentina
- VOB-05. Accuracy Investigation of High-Frequency Core Loss Measurement for Low-Permeability Magnetic Materials.** *Y. Sato¹, Y. Uehara², S. Okamoto³, S. Yoshida³, Y. Endo³, N. Ono³ and H. Matsumoto¹*
1. Aoyama Gakuin University, Sagami-hara, Japan;
2. Magnetic Device Laboratory Ltd., Kawasaki, Japan;
3. Tohoku University, Sendai, Japan
- VOB-06. A mechanically strong and ductile soft magnet with extremely low coercivity.** *L. Han¹, F. Maccari², O. Gutfleisch², Z. Li³ and D. Raabe¹*
1. Max-Planck-Institut für Eisenforschung, Düsseldorf, Germany;
2. Technical University of Darmstadt, Darmstadt, Germany;
3. Central South University, Changsha, China

- VOB-07. Increase of Saturation Magnetization Flux Density in Nitrogen Defective Fe_{16}N_x .** *Y. Asari*¹, *T. Tabata*¹, *M. Noujima*¹, *M. Komuro*¹ and *S. Terada*¹ *1. Hitachi, Ltd., Hitachi, Japan*
- VOB-08. Effect of Helical Anisotropy on Magnetic Losses in Stacked Cores of Grain-Oriented and Non-Oriented Steels.** *S. Dobák*¹, *J. Fuzer*¹, *I. Petryshynets*², *P. Kollár*¹ and *F. Kováč*² *1. Institute of Physics, Faculty of Science, P. J. Šafárik University in Košice, Košice, Slovakia; 2. Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia*
- VOB-09. Realization of Soft Magnetic Properties in Precipitation Hardening Stainless Steel.** *T. Sato*^{1,2}, *T. Naruse*¹, *T. Ebata*¹ and *S. Saito*² *1. Advanced Material Div., Tohoku Steel Co., Ltd., Murata-machi, Japan; 2. Graduate School of Engineering Department of Electronic Engineering, Tohoku University, Sendai, Japan*
- VOB-10. Magnetic Properties of Fe-Mn-Ni Powders Prepared by Hydrogen Reduction of Wet-Synthesized Ferrite Nanopowders.** *J. Nishitsuji*¹, *R. Okazaki*¹, *S. Abe*¹, *J. Akamatsu*¹, *N. Imaoka*¹, *Y. Kawakami*², *H. Hosokawa*² and *K. Ozaki*² *1. Nicha Corporation, Anan, Japan; 2. National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan*
- VOB-11. The effect of temperature on the magnetic properties of Fe/SiO₂/ferrite soft magnetic composites.** *J. Fuzer*¹, *S. Vovk*¹, *S. Dobák*¹, *P. Kollár*¹, *R. Bureš*² and *M. Fáberová*² *1. Institute of Physics, Faculty of Science, P.J. Šafárik University in Košice, Košice, Slovakia; 2. Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia*
- VOB-12. Temperature Dependence of Wideband Losses in Fe-Co and Fe-Si Steel Sheets.** *N. Banu*¹, *E. Ferrara*¹, *L. Rocchino*¹, *F. Fiorillo*¹, *M. Pasquale*¹, *D. Brunt*², *A. Wilson*² and *S. Harmon*² *1. Materials, INRIM, Torino, Italy; 2. National Physical Laboratory, Teddington, United Kingdom*
- VOB-13. The alloying of boron to melt spun Fe-6.5%Si ribbons.** *G. Ouyang*¹, *R. Claude*², *A. Kovar*², *M.J. Kramer*^{1,2}, *I.E. Anderson*^{1,2} and *J. Cui*^{2,1} *1. Ames Laboratory, US Department of Energy, Ames, IA, United States; 2. Iowa State University, Ames, IA, United States*

- VOB-14. Evaluation of microstructure and magnetic performance of Fe- 6.5 wt% Si soft magnetic powder core.** *M. Nguyen*¹, *S. Yoshida*², *S. Okamoto*^{2,3}, *T. Miyazaki*⁴ and *Y. Endo*^{1,5}
1. Department of Electrical Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 3. National Institute for Material Science (NIMS), Tsukuba, Japan; 4. Faculty of Engineering, Tohoku University, Sendai, Japan; 5. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan
- VOB-15. Effect of Tensile Stress Application on Magnetic Properties of Fe_{0.8}Co_{0.2} Alloy and Martensitic Fe_{0.8}Co_{0.2}N_x Alloy System.** *T. Tabata*¹, *M. Komuro*¹, *Y. Asari*¹, *M. Noujima*¹ and *S. Terada*¹ *1. Research & Development Group, Hitachi, Ltd., Hitachi, Japan*
- VOB-16. Magnetic Shielding Materials for Electric Vehicles.** *T. Damatopoulou*¹ *1. NTUA, Athens, Greece*

POSTER SESSION

Session VPA NANOCRYSTALLINE AND AMORPHOUS SOFT MAGNETS II (Poster Session)

Takeshi Yanai, Co-Chair
 Nagasaki University, Nagasaki, Japan
Tetsuroh Kawai, Co-Chair
 Yokohama National University, Japan

- VPA-01. FeNi-based Nanocomposite Soft Magnetic Alloy Magnetic and Mechanical Property Tailoring Through Flash Annealing.** *L. Wewer*¹, *K. Byerly*³, *S. Kernion*³ and *P. Ohodnicki*^{1,2} *1. Mechanical Engineering and Materials Science, University of Pittsburgh, Pittsburgh, PA, United States; 2. Electrical and Computer Engineering, University of Pittsburgh, Pittsburgh, PA, United States; 3. CorePower Magnetics, Pittsburgh, PA, United States*
- VPA-02. Electrically Insulation of FINEMET Powders with a High Resistivity Organosilane Coating to Preserve Magnetic Properties.** *F. Borza*¹, *D. Gherca*¹, *M. Grigoras*¹, *G. Stoian*¹, *M. Tibu*¹ and *N. Lupu*¹ *1. National Institute of R&D for Technical Physics, Iasi, Romania*
- VPA-03. Scaling the manufacturing of soft magnetic inductor cores for power conversion applications from 8-inch to 12-inch wafers.** *C. Falub*¹, *X. Zhao*², *J.H. Richter*², *H. Rohrmann*¹, *M. Tschirky*² and *M. Padrun*¹ *1. Research & Development, Evatec AG, Trübbach, Switzerland; 2. Business Unit Semiconductors, Evatec AG, Trübbach, Switzerland*

- VPA-04. Microstructure and Magnetic Characterization on Ball-milled Fe-based Nanocrystalline Alloy Sheet.** *S. Nagata*¹, *Y. Horibe*¹, *S. Hiramoto*², *H. Narahara*¹, *N. Mori*¹, *I. Sasaki*¹, *M. Takezawa*¹, *Y. Ando*¹, *T. Shikayama*³, *S. Mukai*³, *S. Maeda*³, *S. Sakima*³, *T. Ishii*³ and *S. Motozuka*¹ *1. Kyushu Institute of Technology, Kitakyushu, Japan; 2. Tohoku Magnet Institute, Natori, Japan; 3. Yaskawa Electric Corporation, Kitakyushu, Japan*
- VPA-05. Giant magnetoimpedance effect at GHz frequencies in amorphous microwires.** *A. Zhukov*^{1,2}, *M. Ipatov*^{2,3}, *P. Corte-Leon*^{2,3}, *J. Blanco*^{2,4} and *V. Zhukova*^{2,3} *1. Dept. Polym. and Advanced Mater., Universidad del Pais Vasco and Ikerbasque, San Sebastian, Spain; 2. Dept. Appl. Phys., Universidad del Pais Vasco, San Sebastian, Spain; 3. Dept. Polym. and Adv. Mater., Universidad del Pais Vasco, San Sebastian, Spain; 4. EHU Quantum Center, Universidad del Pais Vasco, San Sebastian, Spain*
- VPA-06. Magnetic Properties of High- B_s Fe_{84.3}B₆P₉Cu_{0.7} Nanocrystalline Alloy Powder.** *M. Kuno*¹, *N. Onishi*¹, *M. Yamaki*¹, *Y. Imano*¹ and *A. Urata*¹ *1. Advanced materials R&D, TOKIN Corporation, Sendai, Japan*
- VPA-07. Fast Propagation and Merger of Magnetic Domain Walls in Low Magnetostrictive Amorphous Submicrometric Wires.** *S. Corodeanu*¹, *C. Hlenschi*¹, *C. Rotarescu*¹, *H. Chiriac*¹, *N. Lupu*¹ and *T.A. Ovari*¹ *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*
- VPA-08. Heat and current annealing effects on magnetic properties of Fe-rich glass-coated amorphous microwires with different radius.** *A. Gonzalez Villegas*^{1,2}, *P. Corte-Leon*^{1,2}, *V. Zhukova*^{1,2}, *A. García-Gómez*^{1,2}, *M. Ipatov*^{1,2}, *J. Gonzalez*^{1,2}, *J. Blanco*² and *A. Zhukov*^{1,2} *1. Advanced Polymers and Materials: Physics, Chemistry and Technology, Universidad del País Vasco, San Sebastian, Spain; 2. Dpto. de Física Aplicada, EIG, Universidad del País Vasco, San Sebastian, Spain*
- VPA-09. Fabrication of Fe-based nanocrystalline powder-pressed magnetic core with low coercivity and small iron loss.** *T. Kanaya*¹, *R. Ohta*¹, *M. Sonehara*¹ and *T. Sato*¹ *1. Electrical and Computer Engineering, Shinshu University, Nagano, Japan*
- VPA-10. Magnetic Domain Observation of Milled Nanocrystalline Alloy Powder.** *M. Takezawa*¹, *T. Nagaki*¹, *S. Motozuka*¹, *I. Sasaki*^{1,2}, *Y. Ando*¹, *H. Narahara*¹, *N. Mori*¹, *T. Shikayama*², *S. Mukai*², *S. Maeda*², *S. Sakima*² and *T. Ishii*² *1. Kyushu Institute of Technology, Kitakyushu, Japan; 2. Yaskawa Electric Corporation, Kitakyushu, Japan*

- VPA-11. Magnetic Loss Modeling of Nanocrystalline Cores Considering Stack Thickness.** W. Meng¹, Y. Li¹, C. Zhang¹, H. Sun¹ and Z. Wan¹ *1. Hebei University of Technology, Tianjin, China*
- VPA-12. Anomalous magnetic anisotropy behaviour in Co-rich and Fe-rich glass-coated microwires under applied stress.** A. García-Gómez^{1,2}, J. Blanco^{1,2}, P. Corte-Leon^{1,2}, M. Ipatov^{1,2}, A. Gonzalez Villegas^{1,2}, J. Gonzalez^{1,2}, A. Zhukov^{1,2} and V. Zhukova^{1,2} *1. Polymers and Advanced Materials: Physics, Chemistry and Technology, University of the Basque Country UPV/EHU, Donostia-San Sebastián, Spain; 2. Applied Physics Departement, University of the Basque Country UPV/EHU, Donostia-San Sebastián, Spain*
- VPA-13. Two-Dimensional Magnetostrictive Characteristics of Amorphous and Permendur Electric Power Magnetic Materials.** M. Enokizono^{1,2} and D. Wakabayashi² *1. Vector magnetic characteristic technical laboratory, Usa, Japan; 2. Mechanical Electric Engineering, Nippon Bunri University, Oita, Japan*
- VPA-14. Structural Phase Transformation and Magnetic Properties Induced by Thermal Analysis with Different Gaseous Environments in Iron-Doped Manganese Oxide Nanoparticles.** L. Huang¹, Y. Chen¹, Z. Huang¹, P. Chuang¹, A. Spivakov¹ and C. Lin¹ *1. Department of Applied Physics, National Pingtung University, Pingtung, Taiwan*

POSTER SESSION

Session VPB SOFT MAGNETIC ALLOYS AND OXIDES II (Poster Session)

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

- VPB-01. Jiles-Atherton's parameters as a functions of temperature.** T. Shirane¹ *1. National Institute of Technology, Sendai College, Sendai, Japan*
- VPB-02. One-pot solvothermal synthesis of dispersed Fe₃O₄ nanoparticles decorated on graphene oxide for magnetic hyperthermia.** R. Lamouri¹ and K. Kim¹ *1. Physics, Yeungnam University, Gyeongsan, The Republic of Korea*

- VPB-03. Analysis on Iron Loss of Sendust Dust Cores based on Magnetization Reversal Processes.** *N. Ono¹, Y. Uehara², Y. Endo^{3,4}, S. Yoshida¹, N. Kikuchi¹ and S. Okamoto^{1,5}*
1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 2. Magnetic Device Laboratory Ltd., Kawasaki, Japan; 3. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 4. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan; 5. National Institute for Materials Science, Tsukuba, Japan
- VPB-04. Tailoring of Surface Roughness and B2 Ordering in Fe₅₀Co₅₀ Single-Crystal Film for Enhancement of Magnetostriction.** *Y. Nakamura¹, M. Ohtake¹, T. Kawai¹, M. Futamoto¹ and N. Inaba²*
1. Faculty of Engineering, Yokohama National University, Yokohama, Japan; 2. Graduate School of Science and Engineering, Yamagata University, Yonezawa, Japan
- VPB-05. PLD-fabricated Fe-Co films prepared by using different spot size of laser beam.** *A. Yamashita¹, H. Kaku¹, T. Yanai¹, M. Nakano¹ and H. Fukunaga¹*
1. Nagasaki University, Nagasaki, Japan
- VPB-06. Cold Workability and Magnetic Properties of FeCo-V Alloys with the Addition of a Small Amount of Aluminum.** *K. Urakawa^{1,2}, M. Kasuya³, S. Sato⁴, K. Kanie¹, N. Owari², T. Ebata² and S. Suzuki⁵*
1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 2. Tohoku Steel Co., Ltd., Murata-machi, Japan; 3. Faculty of Production Systems Engineering and Sciences, Komatsu University, Komatsu, Japan; 4. Graduate School of Science and Engineering, Ibaraki University, Hitachi, Japan; 5. Micro System Integration Center, Tohoku University, Sendai, Japan
- VPB-07. Synthesis and characterization of single phase γ -Co₄₇Ni₂₂Al₃₁ Heusler alloy nanoparticles.** *D. Mahata¹ and A. Srinivasan¹*
1. Physics, IIT Guwahati, Guwahati, India
- VPB-08. Effect of Annealing Temperature on Structure and Magnetic Properties of Ultra-thin High-Purity Iron Ribbons.** *X. Ma¹, R.Y. Umetsu², T. Miyazaki³, S. Mikami⁴, T. Hiraki⁴ and Y. Endo^{1,5}*
1. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Faculty of Engineering, Tohoku University, Sendai, Japan; 4. R&D, TOHO ZINC Co, Ltd, Tokyo, Japan; 5. Center for Science and Innovation in Spintronics(CSIS), Tohoku University, Sendai, Japan

- VPB-09. Feature analysis on B-H curves of dust cores under the application of DC bias field.** *T. Onuma*¹, *Z. Li*¹ and *S. Okamoto*^{1,2} *1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 2. Center for Science and Innovation in Spintronics (CSIS), Tohoku University, Sendai, Japan*
- VPB-10. Anisotropic FMR Peak Widths in Fe-Co Single Crystal Thin Films.** *S. Umetsu*¹, *M. Sato*¹, *Y. Takahashi*¹, *N. Inaba*¹, *F. Kirino*², *M. Ohtake*³ and *M. Futamoto*³ *1. Graduate School of Science and Engineering, Yamagata University, Yonezawa, Japan; 2. Tokyo University of the Arts, Tokyo, Japan; 3. Yokohama National University, Yokohama, Japan*
- VPB-11. Measurement and Evaluation of Magnetic Barkhausen Noise of Oriented Silicon Steel Sheet under Mechanical Stress.** *Y. Yao*¹ and *L. Li*¹ *1. State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University, Beijing, China*
- VPB-12. Thickness Dependent Magnetic Properties of Electrodeposited Co₂FeSn Films.** *P. Pathak*¹ and *A. Srinivasan*¹ *1. Physics, IIT Guwahati, Guwahati, India*
- VPB-13. Study on the Effect of Cutting Process on the Magnetic Properties of Electrical Steel with Different Si Content for Motor.** *D. Ma*¹, *B. Tian*¹, *Y. Li*¹, *H. Hu*¹, *Y. Ma*¹ and *R. Pei*¹ *1. Department of electrical Engineering, Shenyang University of Technology, Shenyang city, China*
- VPB-14. Crossed Anisotropy Multilayered Nanogranular Films Combining High Permeability, Ferromagnetic Resonance Frequency, and Resistivity.** *M. Naoe*¹, *M. Sonehara*², *K. Miyaji*², *T. Sato*², *Y. Endo*³, *N. Kobayashi*¹ and *K. Arai*¹ *1. Research Institute for Electromagnetic Materials, Tomiya, Japan; 2. Shinshu University, Nagano, Japan; 3. Tohoku University, Sendai, Japan*

Session WOA
HARD MAGNETIC MATERIALS I

Thibaut Devillers, Chair
 Institut Néel CNRS, Grenoble, France

- WOA-01. Understanding the Coercivity of Ga-containing Nd-Fe-B Sintered Magnets from Feature Extraction and Selection of X-ray Diffraction Patterns by Dimension Reduction and Sparse Modelling. (Invited) K. Ishigami^{1,2}, T. Onuma^{1,2}, A. Kato^{3,2}, M. Yano^{3,2}, T. Shoji^{3,2}, T. Nakamura^{4,2} and S. Okamoto^{1,2}** *1. Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University, Sendai, Japan; 2. Digital Transformation Initiative Center for Magnetic Materials (DXMag), National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. Advanced Material Engineering Division, Toyota Motor Corporation, Susono, Japan; 4. International Center for Synchrotron Radiation Innovation Smart (SRIS), Tohoku University, Sendai, Japan*
- WOA-02. Tomography-based Digital Twins of Nd-Fe-B Magnets for Micromagnetic Simulations. A. Bolyachkin^{1,2}, E. Dengina^{2,3}, N. Kulesh², X. Tang^{2,1}, H. Sepehri-Amin^{2,3}, T. Ohkubo² and K. Hono^{2,3}** *1. International Center for Young Scientists, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. Faculty of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan*
- WOA-03. Magnetic Hardening of Neodymium-lean Permanent Magnets by Local Replacement of Grains by High Anisotropy Phases. J. Fischbacher^{1,2}, H. Oezelt^{1,2}, A. Kovacs^{1,2}, Q. Ali^{1,2}, M. Yano³, N. Sakuma³, A. Kinoshita³, T. Shoji³, A. Kato³ and T. Schrefl^{1,2}** *1. Department for Integrated Sensor Systems, University for Continuing Education Krems, Wiener Neustadt, Austria; 2. Christian Doppler Laboratory for magnet design through physics informed machine learning, University for Continuing Education Krems, Wiener Neustadt, Austria; 3. Advanced Materials Engineering Division, Toyota Motor Corporation, Susono, Japan*
- WOA-04. Development of Dy-free sintered NdFeB magnet through grain boundary engineering by diffusion of PrCu alloys. W. Tang¹, G. Ouyang¹, J. Wang¹, H. Dasari², M.J. Kramer¹, J. Cui^{1,2} and I.E. Anderson^{1,2}** *1. Ames Laboratory, US Department of Energy, Ames, IN, United States; 2. Materials Science & Engineering, Iowa State University, Ames, IA, United States*

- WOA-05. High resistivity anisotropic hot-deformed Nd-Fe-B magnets prepared from DyF₃ electrophoretic deposited powders.** Z. Kautsar^{1,2}, H. Sepehri-Amin^{1,2}, X. Tang^{2,3}, R. Iguchi², K. Uchida^{2,4}, T. Ohkubo² and K. Hono^{1,2}
1. Graduate School of Science and Technology, University of Tsukuba, Tsukuba, Japan; 2. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. International Center for Young Scientist, National Institute for Materials Science (NIMS), Tsukuba, Japan; 4. Institute for Materials Research, Tohoku University, Sendai, Japan
- WOA-06. Nd-Fe-B Hydrogenation-Disproportionation-Dehydrogenation-Recombination (HDDR) magnet for variable magnetic flux motor.** K. Takeda¹, S. Miyazaki¹, T. Kajita¹ and Y. Enokido¹ *1. Technology & Intellectual Property HQ, TDK Corporation, Narita, Japan*
- WOA-07. Withdrawn**
- WOA-08. Withdrawn**
- WOA-09. (Nd, LRE)-Fe-B hot-deformed magnets for application of variable-magnetic-force motors.** X. Tang¹, H. Sepehri-Amin¹, A. Bolyachikin¹, T. Ohkubo¹ and K. Hono¹
1. National Institute for Materials Science (NIMS), Tsukuba, Japan
- WOA-10. Unconventional Alloy Design for the Additive Manufacturing of (Pr, Nd)-Fe-B based Permanent Magnets.** L. Schäfer¹, K. Skokov¹, F. Maccari¹, D. Koch¹, E. Adabifiroozjaei¹, L. Molina-Luna¹ and O. Gutfleisch¹
1. Materials Science, Technical University Darmstadt, Darmstadt, Germany
- WOA-11. Effect of Nd-Cu Doping on the Grain Alignment and Magnetic Properties of Ce-Fe-B Hot-deformed Magnets.** H. Choi^{1,2}, H. Cha¹, H. Choi-Yim² and J. Lee¹ *1. Korea Institute of Materials Science, Changwon, The Republic of Korea; 2. Sookmyung Women's University, Seoul, The Republic of Korea*
- WOA-12. Achieving 2.8 T coercivity in Nd-Fe-B sintered magnets subjected to DyCu and PrCu grain boundary diffusion process. (Invited)** Z. Wang¹, T. Sasaki¹, Y. Une², T. Ohkubo¹ and K. Hono¹ *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Daido Steel Co. Ltd., Nagoya, Japan*
- WOA-13. Dual-main-phase Ce magnets designed by two main phases with different magnetocrystalline anisotropy: the effect of Ce chemical state.** M. Zhu¹, Q. Sun¹, Y. Fang¹ and W. Li¹ *1. Central Iron & Steel Research Institute, Beijing, China*

- WOA-14. Achievement of 2.3T Coercivity in HRE-free Nd-Fe-B Sintered Magnets via TaF₅-Pr₇₀Cu₁₅Al₁₀Ga₅ Two-step Infiltration.** S. Lee^{1,2}, T. Kim¹, S. Lee³, D. Kim³, W. Lee² and J. Lee¹ *1. Korea Institute of Materials Science, Changwon, The Republic of Korea; 2. Yonsei University, Seoul, The Republic of Korea; 3. Star group Ind. Co., Deagu, The Republic of Korea*

ORAL SESSIONS

Session WOB

HARD MAGNETIC MATERIALS II

Lars Daniel Hedlund, Chair
Northeastern University, Boston, MA, United States

- WOB-01. Restricted grain growth and role of Nb precipitates in Nd-Fe-Nb-B melt spun ribbon.** B. Muni^{1,2}, P. Delhi Babu², M. Sadhashivam¹, K. Pradeep¹, G. Sundararajan^{1,2} and R. Gopalan^{2,1} *1. Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, India; 2. CAEM, International Advanced Research Centre for Powder Metallurgy and New Materials, Chennai, India*
- WOB-02. Modeling the Impact of Laser Powder Bed Fusion on Nd-Fe-B Permanent Magnets.** J. Thielsch¹, F. Bittner¹ and W. Drossel^{1,2} *1. Fraunhofer Institute for Machine Tools and Forming Technology IWU, Dresden, Germany; 2. Chemnitz University of Technology, Chemnitz, Germany*
- WOB-03. Development of recycling friendly coatings for Nd-Fe-B magnets.** B. Podmiljsak¹, L. Grau², C. Burkhardt² and S. Kobe¹ *1. Institut Jozef Stefan, Ljubljana, Slovenia; 2. Institute for Precious and Technology Metals, Pforzheim, Germany*
- WOB-04. High magnetic performance of Nd-Fe-B sintered magnets by grain boundary diffusion with LRE-Al-Cu (LRE= La, Nd, and Pr.) alloys.** J. Ryeong¹, H. Lee², H. Lee¹ and W. Lee¹ *1. Department of Materials Science and Engineering, Yonsei University, Seodaemun-gu, The Republic of Korea; 2. Hyundai Motor Company, Hwaseong, The Republic of Korea*
- WOB-05. Influence of filler fraction and morphology on magnetic performance of polymer bonded magnets produced by laser powder bed fusion. (Invited)** K. Schäfer¹, T. Braun¹, S. Riegg¹, J. Musekamp² and O. Gutfleisch¹ *1. Materials Science, Functional Materials, Darmstadt, Germany; 2. Institute for Materials Technology, Darmstadt, Germany*

- WOB-06. Low-temperature Manufacturable, Recyclable and Reconfigurable Liquid-metal Bonded NdFeB Magnets.** R. Zhao^{2,1}, H. Wang², Y. Shi², Z. Zhu^{3,4} and B. Zhang⁵
1. Quanzhou Institute of Equipment Manufacturing of Haixi Institutes, Chinese Academy of Sciences, Quanzhou, China; 2. Zhongyuan-Petersburg Aviation Colledge, zhongyuan University of Technology, Zhengzhou, China; 3. Nanchang Institute of Technology, Nanchang, China; 4. Zhejiang Sci-Tech University, Hangzhou, China; 5. Henan University of Animal Husbandry and Economy, Zhengzhou, China
- WOB-07. Cu-containing SmFe₁₂-based sintered magnets with high coercivity.** S. Ashok Krishnaswamy^{1,2}, X. Tang², H. Sepehri-Amin^{1,2}, J. Zhang², T. Ohkubo² and K. Hono^{1,2} *1. University of Tsukuba, Tsukuba, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- WOB-08. Grain boundary engineering of Nd-based ThMn₁₂ magnets and their nitrides.** A. Aubert¹, X. Liao¹, F. Maccari¹, S. Riegg¹, S. Ener¹, E. Adabifiroozjaei¹, T. Jiang¹, L. Molina-Luna¹, K. Skokov¹ and O. Gutfleisch¹
1. TU Darmstadt, Darmstadt, Germany
- WOB-09. Magnetic Properties and Phase Transformation of Sm-Fe-Co-X (X = Ga, V, B, Si, and Ti) Permanent Magnetic Materials.** C. Choi¹, T. Zhou¹, K. Jong-Woo² and J. Park¹
1. Powder Materials Division, Korea Institute of Materials Science, Changwon, The Republic of Korea; 2. Ceramic Materials Division, Korea Institute of Materials Science, Changwon, The Republic of Korea
- WOB-10. Energy based model for twin boundary prediction in Sm-Fe-Co 1:12.** G. Hrkac¹, C. Skelland¹ and T. Schrefl²
1. Engineering, University of Exeter, Exeter, United Kingdom; 2. University for Continuing Education Krems, Krems, Austria
- WOB-11. Microstructural features of strip-cast Nd(Fe,Mo)₁₂ based alloys.** S. Luca¹, C. Flament¹, R. Sedek^{1,2} and P. De Rango²
1. Univ. Grenoble Alpes, CEA, Liten, DTNM, Grenoble, France; 2. Univ. Grenoble Alpes, CNRS, Institut Neel, Grenoble, France
- WOB-12. Magnetic properties enhancement and microstructures in anisotropic Sm(Fe,Ti,V)₁₂-based sintered magnets.** J. Zhang¹, X. Tang¹, A. Bolyachkin¹, S. Ashok Krishnaswamy^{1,2}, H. Sepehri-Amin¹, T. Ohkubo¹ and K. Hono^{1,2} *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Graduate School of Science and Technology, University of Tsukuba, Tsukuba, Japan*

WOB-13. Development of TbCu₇-type Sm-Fe-N anisotropic magnet powder by low-temperature build-up process using molten salt. *S. Sato*¹, *E. Node*² and *S. Okada*² *1. Materials Research Center, Technology & IP HQ, TDK corporation, Narita, Japan; 2. Magnetic Powder Metallurgy Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan*

WOB-14. Sm-Fe Binary Phases Synthesized at Low temperature by Reduction-Diffusion Process. *J. Kim*¹, *S. Okada*¹, *K. Takagi*¹ and *K. Ozaki*¹ *1. Magnetic Powder Metallurgy Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan*

ORAL SESSIONS

Session WOC

HARD MAGNETIC MATERIALS III

Hisashi Maehara, Co-Chair
Nichia Corporation, Anan-shi, Japan

Hiroaki Kura, Co-Chair
Denso Corporation, Kariya, Japan

WOC-01. Preparation of Sm-Fe-N hard magnetic nanopowder from micron-sized Sm-H and Fe mixed powder. *Y. Hirayama*¹, *L. Zheng*¹, *W. Yamaguchi*¹, *K. Takagi*¹ and *K. Ozaki*¹
1. National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan

WOC-02. Effects of Nb and B addition on intrinsic magnetic properties and phase on TbCu₇-type Sm-Fe-Co-Nb-B alloy. *N. Kurokawa*¹, *M. Matsuura*¹, *S. Sakurada*² and *S. Sugimoto*¹ *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Toshiba Corporation, Kawasaki, Japan*

WOC-03. Direct consolidation of Sm₂Fe₁₇N₃ magnet and coercivity improvement by severe plastic deformation. *A. Hosokawa*¹ and *Y. Hirayama*¹ *1. National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan*

WOC-04. Development of Sm₂Fe₁₇N₃ magnetic powder doped with La, W, and Ti. *H. Maehara*¹ and *M. Kume*¹ *1. Magnet Material Development, NICHIA CORPORATION, Anan-shi, Japan*

WOC-05. Evaluation of Practicality for Fully Dense Isotropic Sm-Fe-N Magnets Made by Shock-Wave Consolidation Method. *S. Takagi*¹, *K. Morii*¹, *T. Iriyama*¹, *K. Tominaga*², *N. Wada*², *E. Hida*² and *Y. Yamada*² *1. Corporate R&D Center, Daido Steel Co., Ltd., Nagoya, Japan; 2. Explosives Division, ASAHI KASEI CORPORATION, Chikushino, Japan*

- WOC-06. Effect of Mn doping on magnetic properties, magnetic domain structures and microstructures of 2-17 type Sm-Co magnets.** *H. Machida*¹, *T. Fujiwara*¹, *C. Fujimoto*¹, *Y. Kanamori*¹, *K. Inoue*² and *M. Takezawa*² *1. TOKIN Corporation, Sendai, Japan; 2. Kyushu Institute of Technology, Kitakyushu, Japan*
- WOC-07. The role of initial defect on the cellular structure evolution in Fe-rich Sm₂Co₁₇-type magnets.** *Q. Li*^{1,2} and *Y. Fang*¹
1. Central Iron & Steel Research Institute, Beijing, China; 2. University of Science and Technology Beijing, Beijing, China
- WOC-08. Anomalous Reduction in Magnetization of Sm₂Fe₁₇N₃ Anisotropic Sintered Magnets during Pressure Current Sintering.** *W. Yamaguchi*¹, *A. Hosokawa*¹ and *K. Takagi*¹
1. Magnetic Powder Metallurgy Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan
- WOC-09. Mechanism for Strengthening High-Performance Sm-Co Magnets.** *C.I. Nlebedim*¹, *X. Liu*¹, *J. Cui*^{1,2} and *B. Cui*¹
1. Critical Materials Institute, Ames Laboratory, US Department of Energy, Ames, IA, United States; 2. Materials Science and Engineering, Iowa State University, Ames, IA, United States
- WOC-10. An Atomistic Study of Plastic Deformation of SmCo₅ by Amorphous Shear Bands.** *N. Wang*^{1,2}, *H. Luo*^{2,3}, *L. Liu*^{2,3}, *Y. Ding*^{2,3}, *R. Chen*^{2,3}, *X. Zhang*¹, *X. Yao*¹, *I. Szlufarska*⁴ and *A. Yan*^{2,3} *1. Shanxi Key Laboratory of Biomedical Metal Materials, College of Materials Science and Engineering, Taiyuan University of Technology, Taiyuan, China; 2. Joint Innovation Center for Rare Earth Permanent Magnets, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China; 3. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China; 4. Department of Materials Science and Engineering, University of Wisconsin, Madison, WI, United States*
- WOC-11. Heat treatment effect on magnetic properties of Sm-Co nanopowder prepared by induction thermal plasma process.** *K. Park*¹ and *Y. Hirayama*¹ *1. National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan*
- WOC-12. Mechanical and Magnetic Properties of Additive Particulate-modified Sm-Co Sintered Magnets.** *B. Cui*¹, *X. Liu*¹, *C.I. Nlebedim*¹ and *J. Cui*¹ *1. Ames Laboratory, US Department of Energy, Ames, IA, United States*

WOC-13. A machine learning assisted high throughput study of NdCeLaFeB films. *Y. Hong*¹, *S. Grenier*¹, *T. Devillers*¹, *A. Kovacs*^{2,3}, *H. Oezelt*^{2,3}, *M. Yano*⁴, *N. Sakuma*⁴, *A. Kinoshita*⁴, *T. Shoji*⁴, *A. Kato*⁴, *T. Schrefl*^{2,3} and *N. Dempsey*¹ *1. Institut Néel CNRS, Grenoble, France; 2. Christian Doppler Laboratory for magnet design through physics informed machine learning, Danube University Krems, Wiener Neustadt, Austria; 3. Department for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, Austria; 4. Advanced Materials Engineering Div., Toyota Motor Corporation, Mishuku Susono, Japan*

WOC-14. Recycling and Enrichment of Rare Earth Based Permanent Magnet Scraps. *D. Celebi*¹, *S. Ghorbanighoshchi*¹, *N. Gunduz Akdogan*² and *O. Akdogan*¹ *1. Bahcesehir University, Istanbul, Turkey; 2. Piri Reis University, Istanbul, Turkey*

ORAL SESSIONS

Session WOD

HARD MAGNETIC MATERIALS IV

Yusuke Hirayama, Chair

National Institute of Advanced Industrial Science and Technology
(AIST), Nagoya, Japan

WOD-01. Generalised Form of the Magnetic Anisotropy Field in Micromagnetic and Atomistic Spin Models. *J.B. Collings*¹, *R. Rama-Eiroa*^{2,3}, *S. Jenkins*¹, *R. Otxoa*⁴, *R.F. Evans*¹ and *R.W. Chantrell*¹ *1. University of York, York, United Kingdom; 2. Donostia International Physics Centre, San Sebastian, Spain; 3. Polymers and Advanced Materials Department: Physics, Chemistry, and Technology, University of the Basque Country, UPV/EHU, San Sebastian, Spain; 4. Hitachi Cambridge Laboratory, Cambridge, United Kingdom*

WOD-02. Experimental Determination of Anisotropy Fields, First and Second Anisotropy Constants, and Remanent Magnetizations in Self-Polarized Zn-Ti and Co-Ti Equally Co-Substituted BaM Ferrites. *A. Hoez*¹, *A. Chevalier*¹ and *J. Mattei*¹ *1. Université de Bretagne Occidentale, Brest, France*

WOD-03. Highly Coercive Ferrite Nanocomposite Powder with Enhanced Thermal Stability and No-content of Critical Raw Elements. *A. Bollero*¹, *A. Fernández-Calzado*¹, *E.M. Palmero*¹, *C.M. Montero*¹, *S. Ener*², *O. Gutfleisch*², *D. Makovec*³, *J. Grenèche*⁴ and *P. Bernardi*⁵ *1. Group of Permanent Magnets and Applications, IMDEA Nanoscience, Madrid, Spain; 2. Functional Materials, Material Science, TU Darmstadt, Darmstadt, Germany; 3. Department for Materials Synthesis, Jozef Stefan Institute, Ljubljana, Slovenia; 4. Institut des Molécules et Matériaux du Mans, Le Mans Université, Le Mans, France; 5. Industrie ILPEA Spa, Malgesso-Varese, Italy*

- WOD-04. Magnetic properties of α'' -Fe₁₆N₂ nanopowder.** *T. Saito*¹ and *H. Yamamoto*² *1. Chiba Institute of Technology, Narashino, Japan; 2. NEOJI-CONSUL, Kyoto, Japan*
- WOD-05. Quadrupole electronic structures in Mn₃₋₈Ga thin films studied by XMLD and ARPES.** *J. Okabayashi*¹, *Y. Miura*², *K. Tanaka*³, *K. Suzuki*⁴ and *S. Mizukami*⁵ *1. University of Tokyo, Tokyo, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. Institute for Molecular Science, Aichi, Japan; 4. JAEA, Ibaraki, Japan; 5. Tohoku Univ., Sendai, Japan*
- WOD-06. Optimisation of Ga-doped τ -MnAl for use as a permanent magnetic material.** *E.V. Davis-Fowell*¹, *N. Morley*¹, *D. Allwood*¹ and *R. Goodall*¹ *1. Department of Material Science and Engineering, The University of Sheffield, Sheffield, United Kingdom*
- WOD-07. Production of a single crystalline ϵ -MnAl powder precursor material.** *F. Jürries*^{1,2}, *B. Lukas*^{1,3}, *N. Kornelius*^{1,2} and *T. Woodcock*¹ *1. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 2. TU Dresden, Dresden, Germany; 3. TU Bergakademie Freiberg, Freiberg, Germany*
- WOD-08. Towards the Industrial Production of MnAlC as a Rare Earth-free Permanent Magnet Alternative: Coercivity Development in Cast and Milled MnAlC Alloy.** *A. Martín-Cid*¹, *J. Vergara-Ortega*¹, *C. Muñoz Rodríguez*¹, *E.M. Palmero*¹, *G. Qin*², *C. Hall*², *E. Forlin*³, *L. Bianchin*³, *S. Ener*⁴, *O. Gutfleisch*⁴ and *A. Bollero*¹ *1. IMDEA nanociencia, Madrid, Spain; 2. Less Common Metals Ltd., Ellesmere Port, United Kingdom; 3. MBN Nanomaterialia S.p.A, Vascon di Carbonera, Italy; 4. Technical University of Darmstadt, Darmstadt, Germany*
- WOD-09. Magnetic, physical and chemical properties of consolidated Mn-Al-C bulk magnets.** *S. Ener*¹, *U. Rocabert*¹, *F. Maccari*¹, *A. Aubert*¹, *G. Qin*², *A. Martín-Cid*³, *A. Bollero*³ and *O. Gutfleisch*¹ *1. Functional Materials, TU Darmstadt, Darmstadt, Germany; 2. Less Common Metal Ltd., Cheshire, United Kingdom; 3. IMDEA Nanociencia, Madrid, Spain*
- WOD-10. BH curves of Anisotropic Alnico Magnets.** *A. Ibrayeva*¹, *E. Lind*¹, *M. Silva*¹, *S. Ghorai*² and *S. Eriksson*¹ *1. Electrical Engineering, Uppsala University, Uppsala, Sweden; 2. Material Science and Engineering, Uppsala University, Uppsala, Sweden*
- WOD-11. Withdrawn**

- WOD-12. Exploration of functional properties of all-3d transition metal Heusler alloys.** *M. Marathe*¹ and *H.C. Herper*¹
1. Department of physics and astronomy, Uppsala University, Uppsala, Sweden
- WOD-13. Magnetic properties of monoclinic Fe₃Se₄ doped with transition metals.** *A. Alsaad*¹, *H. Zeng*², *N. Alaqtash*⁴ and *R. Sabirianov*³ *1. Physics, Jordan University of Science and Technology, Irbid, Jordan; 2. Physics, SUNY Buffalo, Buffalo, NY, United States; 3. Physics, University of Nebraska at Omaha, Omaha, NE, United States; 4. Hashemite University, Zarqa, Jordan*
- WOD-14. Fabrication of L1₀-FeNi from compositional optimized amorphous alloys.** *Y. Wang*¹, *Y. Zhang*², *Z. Hao*¹ and *C. Cao*¹
1. Northwestern Polytechnical University, Xi'an, China; 2. Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China
- WOD-15. Development of Hard Magnetic Composite MnAlC / Hydrogel Inks for Manufacturing Alternative Permanent Magnets by 3D-Printing.** *Z. Curbelo-Cano*¹, *E.M. Palmero*¹, *C.M. Montero*¹, *J. de Vicente*¹ and *A. Bollero*¹ *1. Group of Permanent Magnets and Applications, IMDEA Nanociencia, Madrid, Spain*

POSTER SESSION

Session WPA **HARD MAGNETIC MATERIALS V (Poster Session)**

Nora Dempsey, Chair
Institut Néel CNRS, Grenoble, France

- WPA-01. Contribution of Nd-rich alloys to the multi-main-phase LaCe-based sintered magnets with high coercivity.** *H. Chen*¹, *W. Liu*¹, *Y. Li*¹, *H. Zhang*¹ and *M. Yue*¹ *1. Beijing University of Technology, Beijing, China*
- WPA-02. Effect of Phosphate Treatment on Corrosion Resistance of Nd-Fe-B Anisotropic Magnetic Powder.** *K. Shimba*¹, *M. Yamazaki*¹, *S. Sugimoto*² and *H. Mitarai*¹ *1. Aichi Steel Corporation, Tokai, Japan; 2. Tohoku University, Sendai, Japan*
- WPA-03. DEM simulation of the single-directional pressed and double-directional pressed Nd-Fe-B compacts.** *K. Zhu*¹, *X. Bao*¹, *J. Li*¹, *S. Guan*¹ and *X. Gao*¹ *1. State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, China*

- WPA-04. Solidification Characteristics and Microstructure Evolutions of $\text{RE}_2\text{Fe}_{14}\text{B}$ ($\text{RE}=\text{Ce}, \text{Y}, \text{La}$) Alloys.** A. Li¹, H. Feng¹, W. Yang¹ and W. Li¹ *1. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China*
- WPA-05. Coercivity enhancement of NdFeB sintered magnets by grain boundary diffusion with $\text{Tb}_{75-x-y}\text{Al}_x\text{Ce}_y\text{Cu}_{20}\text{Zn}_5$ alloy powders ($x=0-40$; $y=0-25$).** Y. Wong¹, H. Chang¹ and W.C. Chang¹ *1. Physics, National Chung Cheng University, ChiaYi, Taiwan*
- WPA-06. Comparison on the coercivity enhancement of hot-deformed NdFeB magnets by doping $\text{Ce}_{80}\text{M}_{20-x}\text{Zn}_x$ ($\text{M}=\text{Cu}, \text{Al}$; $x=0-20$) alloy powders.** H. Chang¹, Y. Wong¹, P. Lin¹ and W.C. Chang¹ *1. Physics, National Chung Cheng University, ChiaYi, Taiwan*
- WPA-07. Coercivity and Surface Morphology of Pr-Fe-B Thicker Films at Elevated Temperature.** A. Sun¹ and L.T. Tran¹ *1. Yuan Ze University, Taoyuan, Taiwan*
- WPA-08. The effect of annealing temperature on grain boundary structure and magnetic properties of Nd-Ce-Gd-Fe-B sintered magnet.** H. Yu¹, X. Bao¹, S. Guan¹, J. Li¹ and X. Gao¹ *1. University of Science and Technology Beijing, Beijing, China*
- WPA-09. Preparation of Nd-Fe-B thick-film magnets by vacuum arc deposition for device applications.** K. Otsuka¹, T. Motomura¹, A. Yamashita¹, T. Yanai¹, H. Fukunaga¹, K. Nagai², T. Shinshi² and M. Nakano¹ *1. Nagasaki University, Nagasaki, Japan; 2. Tokyo Institute of Technology, Yokohama, Japan*
- WPA-10. Phase Stability and Magnetic Properties in Pr-Fe-(C,B) System.** Z. Bai¹, H. Zhang¹, E. Fu¹, W. Liu¹ and M. Yue¹ *1. Beijing University of Technology, Beijing, China*
- WPA-11. Electronic Structure of NdFeCoB Oxide Magnetic Particles with Different Contents of Co.** V.Y. Samardak¹, A. Komissarov^{1,2}, A. Dotsenko², V. Korochentsev^{1,2}, I. Osmushko^{1,2}, A. Belov¹, P. Mushtuk¹, V. Antonov¹, G. Ahmadpour³, F. Nasirpouri³, A. Samardak¹ and A. Ognev¹ *1. Laboratory of Spin-Orbitronics, Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Laboratory of Electronic Structure and Quantum Chemical Modeling, Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation; 3. Faculty of Materials Engineering, Sahand University of Technology, Tabriz, The Islamic Republic of Iran*

- WPA-12. Effect of Hot Pressure Condition on the Magnetic Performance of (Nd_{0.6}Ce_{0.4})-Fe-B Hot-deformed Magnets.** *W. Kim¹, Y. Jang¹, H. Lee¹, P. Choi¹, K. Shin¹ and W. Lee¹*
1. Department of Materials Science & Engineering, Yonsei University, Seoul, The Republic of Korea
- WPA-13. PLD-fabricated (Nd or Pr)-Fe-B Thick-film Magnets Applied to Small Stepping Motors.** *K. Kono¹, M. Sakuragi¹, A. Yamashita¹, T. Yanai¹, H. Fukunaga¹ and M. Nakano¹*
1. Nagasaki University, Nagasaki, Japan
- WPA-14. Spin Glass Interface Mediates Intergranular Exchange in Nd₂Fe₁₄B.** *J.B. Collings¹, R.W. Chantrell¹ and R.F. Evans¹*
1. University of York, York, United Kingdom
- WPA-15. Nd-Fe-B films prepared by low temperature process.** *K. Higashi¹, I. Fukuda¹, A. Yamashita¹, T. Yanai¹, H. Fukunaga¹, K. Nagai², T. Shinshi² and M. Nakano¹*
1. Nagasaki University, Nagasaki, Japan; 2. Tokyo Institute of Technology, Yokohama, Japan

POSTER SESSION

Session WPB

HARD MAGNETIC MATERIALS VI (Poster Session)

George Hadjipanayis, Chair
University of Delaware, Newark, United States

- WPB-01. Nd-Fe-B Thick-film Magnets on Si Substrates with Al-O Underlayers.** *H. Yamaguchi¹, K. Higuchi¹, H. Kaku¹, A. Yamashita¹, T. Yanai¹, H. Fukunaga¹, K. Nagai², T. Shinshi² and M. Nakano¹* *1. Nagasaki University, Nagasaki, Japan; 2. Tokyo Institute of Technology, Yokohama, Japan*
- WPB-02. Influence of Grain Size on the Grain Boundary Diffusion Process and Coercivity Enhancement of Sintered Nd-Fe-B Magnets.** *D. Shi^{2,1}, C. Wang³, D. Chen², Q. Lan^{2,1} and M. Wu^{2,1}* *1. Institute of rare earth magnetic material, Xiamen Tungsten Co., Ltd, Xiamen, China; 2. Fujian Key Laboratory for Rare Earth Functional Materials, Longyan, China; 3. College of Materials Science and Engineering, Fuzhou University, Fuzhou, China*
- WPB-03. Achievement of high coercivity for Sm(Fe-Co)-B thin films by appropriate heat treatment after Al deposition.** *Y. Mori¹, M. Kambayashi¹, M. Doi¹ and T. Shima¹* *1. Tohoku Gakuin University, Tagajo, Japan*

- WPB-04. Effect of Cu Addition on Magnetic Properties and Microstructures of $\text{SmFe}_{11}\text{Ti}$ Alloys Prepared by Melt-Spinning.** *H. Lee*¹ and *J. Kim*¹ *1. Hanyang University, Ansan, The Republic of Korea*
- WPB-05. Magnetic properties and microstructures of $\text{Ce}_x\text{Sm}_{0.8-x}\text{Zr}_{0.2}(\text{Fe}_{0.8}\text{Co}_{0.2})_{11.5}\text{Ti}_{0.5}$ ($x=0-0.8$) alloys with ThMn_{12} structure prepared by melt-spinning method.** *F. Liu*¹, *H. Feng*¹, *X. Sun*^{1,2} and *H. Zhao*¹ *1. Central Iron & Steel Research Institute, Beijing, China; 2. Digital R&D Center of China Iron & Steel Research Institute Co., Ltd., Beijing, China*
- WPB-06. Assessment of Directionally Solidified Eutectic Sm-Fe(Co)-Ti Alloys as Permanent Magnet Materials.** *A. Gabay*¹, *C. Han*², *C. Ni*² and *G. Hadjipanayis*^{1,3} *1. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 2. Department of Materials Science and Engineering, University of Delaware, Newark, DE, United States; 3. Department of Chemical Engineering, Northeastern University, Boston, MA, United States*
- WPB-07. Achievement of high saturation magnetization and coercivity on ThMn_{12} -type $\text{Sm-Zr-Fe-Co-Ti-Cu-B}$ alloys.** *H. Makuta*¹ and *T. Fujiwara*¹ *1. Tokin Corporation, Sendai, Japan*
- WPB-08. Increase in coercivity of $\text{Sm(Fe-Co)}_{12}\text{-B}$ thin films by diffusion from trench side.** *S. Hatanaka*¹, *Y. Mori*¹, *M. Doi*¹ and *T. Shima*¹ *1. Tohoku Gakuin University, Sendai-shi, Japan*
- WPB-09. Enhancement of Maximum Energy Product by $\alpha\text{-Fe}$ Coating on the Side of Rectangular $\text{Sm(Fe}_{0.8}\text{Co}_{0.2})_{12}$ Nanoparticles.** *R. Uda*¹, *K. Koike*¹, *N. Inaba*¹, *H. Kato*¹, *M. Itakura*², *M. Nakano*³, *S. Okubo*⁴ and *H. Ohta*⁴ *1. Graduate school of science and engineering, Yamagata University, Yonezawa, Japan; 2. Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Kasuga, Japan; 3. Graduate School of Engineering, Nagasaki University, Nagasaki, Japan; 4. Molecular Photoscience Research Center, Kobe University, Kobe, Japan*
- WPB-10. Withdrawn**
- WPB-11. Improvement of magnetic property for melt spun CeCo_5 ribbons due to Fe and C-doping.** *H.W. Chang*¹, *C. Chang*¹, *Y. Wong*¹, *W.C. Chang*¹ and *C. Shaw*² *1. National Chung Cheng University, Chia-Yi, Taiwan; 2. Superrite Electronics Co. Ltd., Taipei, Taiwan*

WPB-12. Enhanced magnetic properties of anisotropic SmCo₅/Fe-Co composites prepared using ultrasound-assisted electroless plating. G. Lee¹, J. Ahn¹ and J. Kim¹
1. Department of Materials Science and Chemical Engineering, Hanyang University, Ansan, The Republic of Korea

WPB-13. Effect of isothermal aging process on the microstructure of grain boundary regions in Sm(Co, Fe, Cu, Zr)_z magnets. C. Dong¹, L. Liu¹, B. Zhou¹, Y. Sun¹, Y. Ding¹ and A. Yan¹ *1. CISRI & NIMTE Joint Innovation Center for Rare Earth Permanent Magnets, Ningbo Institute of Materials Technology and Engineering, Ningbo, China*

POSTER SESSION

Session WPC HARD MAGNETIC MATERIALS VII (Poster Session)

Yukiko Takahashi, Chair
NIMS, Tsukuba, Japan

WPC-01. High Coercive Force Sm₂Fe₁₇N₃ Magnetic Materials by Phosphate Surface Modification. S. Tada¹, S. Yamanaka¹, K. Iwai¹ and M. Abe¹ *1. Nichia Corporation, Anan-shi, Japan*

WPC-02. Study of recycle process of Sm₂Fe₁₇N₃ bonded magnet. M. Yamamoto¹, T. Sasaki¹, K. Kawamura¹ and T. Yamashita¹
1. Nichia Corporation, Anan-shi, Japan

WPC-03. High saturation magnetization and high coercivity of Co substituted orthoferrite. A. Sawamoto¹ and X. Liu¹
1. Shinshu University, Nagano, Japan

WPC-04. Switching Field Distributions and Magnetocrystalline Anisotropy Fields in Zn-Ti and Co-Ti Equally Co-Substituted BaM Ferrites. A. Huez¹, A. Chevalier¹ and J. Mattei¹ *1. Université de Bretagne Occidentale, Brest, France*

WPC-05. Generation probability of point defects considering microscopic elastic scattering cross-sections in rare-earth permanent magnets via first-principles calculations. F. Akagi¹, R. Suzuki¹ and T. Yayama¹ *1. Kogakuin University, Tokyo, Japan*

- WPC-06. Reduction effect of coercivity of electroplated Fe-Pt film magnets by chloride ion in plating baths.** *D. Fukushima¹, R. Narabayashi¹, A. Yamashita¹, T. Yanai¹, M. Nakano¹ and H. Fukunaga¹ I. Graduate school of Engineering, Nagasaki University, Nagasaki, Japan*
- WPC-07. Synthesis of Hexaferrite-Based SrFe₁₂O₁₉/FeCo Nanocomposites.** *Y. Okawa¹, S. Okada¹ and S. Yamamuro¹ I. Graduate School of Science and Engineering, Ehime University, Matuyama, Japan*
- WPC-08. Effect of low-temperature annealing on hard magnetic properties of electroplated Fe-Pt films.** *R. Narabayashi¹, D. Fukushima¹, A. Yamashita¹, T. Yanai¹, M. Nakano¹ and H. Fukunaga¹ I. Graduate School of Engineering, Nagasaki University, Nagasaki, Japan*
- WPC-09. Effect of Cu addition on the crystal structure and magnetic properties for Mn-Ga thin films.** *Y. Miura¹, M. Doi¹ and T. Shima¹ I. Tohoku Gakuin University, Sendai, Japan*
- WPC-10. Demagnetization of Nd-Fe-B Sintered and Ferrite Magnets Derived from Magnetic Measurements.** *Y. Matsuura¹ I. Research Institute for Applied Sciences, Kyoto, Japan*
- WPC-11. Magnetic properties of Co-Zr-Si-B melt-spun ribbons.** *M. Tanaka¹ and T. Saito¹ I. Chiba Institute of Technology, Narashino, Japan*
- WPC-12. Formation of bct structure and high magnetic anisotropy in Fe-Co films with added V and C elements.** *T. Hasegawa¹ and T. Nishikawa¹ I. Department of Materials Science, Akita University, Akita, Japan*
- WPC-13. Microstructural and magnetic properties of low-energy ball milled LTP-MnBi powders via melt-spinning and gas-atomization.** *M. Kang¹ and J. Kim¹ I. Department of Materials Science and Chemical Engineering, Hanyang University, Ansan, The Republic of Korea*
- WPC-14. Effect of additive elements on crystal structure and magnetic properties for FeMnGa thin films.** *T. Yokoe¹, M. Doi¹ and T. Shima¹ I. Tohoku Gakuin University, Sendai-shi, Japan*

Session XOA

THIN FILMS AND SURFACE EFFECTS I

Sonka Reimers, Chair

Johannes Gutenberg University Mainz, Mainz, Germany

- XOA-01. Tailored Metamagnetic Behavior under Spatial Confinement. (Invited)** J.A. Arregi¹, L. Motyčková², O. Gomonay³ and V. Uhlir^{1,2} *1. CEITEC BUT, Brno University of Technology, Brno, Czechia; 2. Institute of Physical Engineering, Brno University of Technology, Brno, Czechia; 3. Johannes Gutenberg University, Mainz, Germany*
- XOA-02. Odd spin frustration in ultrathin Cr(001) films studied by spin-polarized scanning tunneling microscopy.** T. Kawagoe¹ and S. Suga² *1. Osaka Kyoiku University, Kashiwara, Japan; 2. Osaka University, Ibaraki, Japan*
- XOA-03. Direct observation of spin polarization in epitaxial Fe₃O₄(001)/MgO thin films grown by magnetron sputtering.** Z. Zhang¹, X. Lu¹, Y. Yan¹, J. Lu¹, Z. Li¹, Q. Liu¹, F. Zhu², J. Cao², Y. Wang², Z. Huang⁴, Y. Zhai⁴, Y. Li¹, X. Ruan¹, L. He¹, J. Wu³, J. Du¹, R. Zhang¹ and Y. Xu^{1,3} *1. Nanjing University, Nanjing, China; 2. Shanghai Synchrotron Radiation Facility, Shanghai, China; 3. York-Nanjing International Joint Center in Spintronics, York, United Kingdom; 4. Department of Physics, Southeast University, Nanjing, China*
- XOA-04. Influence of Free Layer Surface Roughness on Tunnel Magnetoresistance in 300 nm CMOS-compatible MTJ Stacks.** C.A. Durner^{1,2}, M. Lederer¹, T. Gurieva¹, J. Hertel¹, M. Hindenberg¹, L. Gerlich¹, M. Wagner-Reetz¹ and S. Parkin² *1. Center Nanoelectronic Technologies (CNT), Fraunhofer IPMS, Dresden, Germany; 2. Nanosystems from Ions, Spins and Electrons (NISE), Max Planck Institute of Microstructure Physics, Halle (Saale), Germany*
- XOA-05. Ferromagnetic Springs in Exchange Biased Trilayers.** S. Akhundzada¹, A. Vereijken¹, L. Paetzold¹, V. Vanakalapu¹, C. Janzen¹, T. Saerbeck² and A. Ehresmann¹ *1. Institute of Physics and Center for Interdisciplinary Nanostructure Science and Technology (CINaT), University of Kassel, Kassel, Germany; 2. Institut Laue-Langevin, Grenoble, France*
- XOA-06. Understanding magnetocrystalline anisotropy of distorted Fe/MgO(001) interface based on orbital and quadrupole moments.** Y. Miura¹ and J. Okabayashi² *1. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Research Center for Spectrochemistry, The University of Tokyo, Tokyo, Japan*

- XOA-07. Role of Cu in Buffer-free $\text{SmCo}_{5-x}\text{Cu}_x$ Hard Magnetic Thin Films.** G. Gkouzia¹, D. Günzing², T. Weßels^{3,2}, A. Kovács³, A. N/Diaye⁴, M. Major¹, J. Palakkal¹, R. Xie¹, H. Zhang¹, H. Wende², K. Ollefs² and L. Alff¹ *1. Materials Science, Technische Universität Darmstadt, Darmstadt, Germany; 2. Physics, Faculty of Physics and Center for Nanointegration (CENIDE), Duisburg, Germany; 3. Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons and Peter Grünberg Institute, Forschungszentrum Jülich, Jülich, Germany; 4. Lawrence Berkeley National Laboratory, Berkeley, CA, United States*
- XOA-08. Investigating magnetocrystalline anisotropy in the system Au/Co-Staircase/Au(788) by using XMCD.** R.J. Rosa¹, R.L. Souza¹, G. Gomes^{2,3}, R. Paniago³ and M. Martins¹ *1. Centro de Desenvolvimento da Tecnologia Nuclear - CDTN, Belo Horizonte, Brazil; 2. CCET - UNIMONTES, Montes Claros, Brazil; 3. Universidade Federal de Minas Gerais - UFMG, Belo Horizonte, Brazil*
- XOA-09. Controlling pi-anisotropy with organic multilayers.** T. Moorsom¹, S. Ozdemir¹, M. Rogers¹, M. McCauley², D. MacLaren² and O. Cespedes¹ *1. University of Leeds, Leeds, United Kingdom; 2. University of Glasgow, Leeds, United Kingdom*
- XOA-10. Spinterface formation of sexithiophene (6T) on ferromagnetic surfaces.** M. Alotaibi³, P.D. Bentley^{1,2}, J. Bradley³, T. Bird³, O. Fossberg³, G. Bertolini³, S. Tear³, I. Bergenti⁴ and A. Pratt³ *1. National Institute for Quantum Science and Technology, Takasaki, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. School of Physics, Engineering and Technology, University of York, York, United Kingdom; 4. Institute of Nanostructured Materials, CNR, Bologna, Bologna, Italy*
- XOA-11. Bending Strain Tailored Exchange Bias, Anisotropic Magnetoresistance and Planar Hall Resistance of Flexible Co/MnN Epitaxial Bilayers.** Z. Chen¹ and W. Mi¹ *1. Department of Applied Physics, Tianjin University, Tianjin, China*

Session XOB
THIN FILMS, SURFACE EFFECTS AND
MULTI-LAYERED FILMS I

Andy Thomas, Chair
 TU Dresden, IFMP, Dresden, Germany

- XOB-01. Defect-driven antiferromagnetic domain walls in CuMnAs films. (Invited)** *S. Reimers^{1,2}, D. Kriegner^{3,4}, O. Gomonay¹, D. Carbone⁵, F. Krizek⁴, V. Novak⁴, R. Campion², F. Maccherozzi⁶, A. Björling⁵, O. Amin², L. Barton², S. Poole², K. Omari², J. Michalicka⁷, O. Man⁷, J. Sinova¹, T. Jungwirth^{4,2}, P. Wadley², S. Dhesi⁶ and K. Edmonds²*
1. Institut für Physik, Johannes-Gutenberg-Universität Mainz, Mainz, Germany; 2. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom; 3. TU Dresden, Dresden, Germany; 4. Czech Academy of Sciences, Prague, Czechia; 5. MAX IV Laboratory, Lund, Sweden; 6. Diamond Light Source Ltd, Chilton, United Kingdom; 7. Central European Institute of Technology, Brno, Czechia
- XOB-02. Field-free superconducting diode effect in noncentrosymmetric superconductor/ferromagnet multilayers. (Invited)** *T. Ono¹*
1. Kyoto University, Uji, Japan
- XOB-03. Modulation of anomalous Nernst effects in Fe₄N and Mn₄N films on SrTiO₃ substrates.** *K. Ito¹, H. Sharma², M. Mizuguchi³ and K. Takanashi^{1,4}*
1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Imec, Leuven, Belgium; 3. Department of Materials Process Engineering, Nagoya University, Nagoya, Japan; 4. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan
- XOB-04. Anomalous Magnetism in Epitaxial Mn₂Ru_xGa Thin Films.** *G. Atcheson¹, J. O'Brien¹, A. Naden², K.E. Siewierska¹, J. Coey¹, K. Rode¹ and P.S. Stamenov¹*
1. CRANN/School of Physics, Trinity College Dublin, Dublin, Ireland; 2. School of Chemistry, University of St Andrews, St Andrews, United Kingdom
- XOB-05. Magnetic layer thickness influence on the anisotropy of magnetoelastic properties in Co₂Fe_{0.4}Mn_{0.6}Si Heusler alloys thin films.** *A. Nabialek¹, O. Chumak¹, T. Yamamoto², T. Seki², K. Takanashi^{2,3}, L.T. Baczewski¹ and H. Szymczak¹*
1. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan

- XOB-06. Giant perpendicular magnetic anisotropy in Co-based ferromagnet/antiferromagnetic δ -Mn bilayers.** *R. Han¹, X. Zhao¹, L. Liu¹, H. Sun¹, H. Qin¹, D. Pan¹ and J. Zhao¹*
1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductor, Chinese Academy of Sciences, Beijing, China
- XOB-07. Strain effects on magnetic compensation and spin reorientation transition of Co/Gd synthetic ferrimagnets.** *G. Masciocchi^{3,1}, P. Li², T.J. Kools², A. Petrillo², B. Koopmans², R. Lavrijsen², A. Kehlberger¹ and M. Kläui³*
1. Sensitec GmbH, Mainz, Germany; 2. Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands; 3. Physics, Johannes Gutenberg University, Mainz, Germany
- XOB-08. Structural and magnetic properties of CoFe/Sn-doped Ge/Co₂FeSi for vertical spin-valve devices on Si.** *S. Kusumoto¹, M. Yamada^{2,3}, A. Yamada¹, Y. Wagatsuma⁴, K. Sawano⁴ and K. Hamaya^{2,5}*
1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Center for Spintronics Research Network, Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 3. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan; 4. Advanced Research Laboratories, Tokyo City University, Setagaya, Japan; 5. Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Suita, Japan
- XOB-09. Enhanced soft magnetic properties in N-doped amorphous FeCo thin film.** *R. Das¹, G. Wei¹, D. Lordan¹, R. Sai¹, M. Hayes¹, B. Clarke², D. Hurley² and P. McCloskey¹*
1. MNS, Tyndall National Institute, Cork, Ireland; 2. TEL Magnetic Solutions Ltd (TELMS), Dublin, Ireland
- XOB-10. Field angle-dependent bubble lattice formation in Re/Co/Pt multilayers.** *S.K. Jena¹, J. Kisielewski², R. Gieniusz², U. Guzowska², A. Fakhredine¹, C. Autieri¹, A. Lynnnyk¹, A. Pietruczik¹, A. Maziewski² and A. Wawro¹*
1. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 2. Faculty of Physics, University of Bialystok, Bialystok, Poland

ORAL SESSIONS

Session XOC

INTERACTING MAGNETIC NANOPARTICLES

Rhodri Mansell, Chair
 Aalto University, Espoo, Finland

- XOC-01. Flexible thermoelectrics based on 3D interconnected magnetic nanowire networks. (Invited)** *T. da Câmara Santa Clara Gomes¹, N. Machal¹, F. Abreu Araujo¹ and L. Piroux¹*
1. UCLouvain, Louvain-la-Neuve, Belgium

- XOC-02. Magnetic study of Cobalt three dimensional nanonetworks: First Order Reversal Curves, hysteresis loops and first magnetization curves.** A. Ruiz-Clavijo¹, O. Caballero-Calero¹, D. Navas², C. Martín-Rubio³, R. Sanz González³ and M. Martín-González¹ *1. Instituto de Micro y Nanotecnología, Tres Cantos, Spain; 2. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 3. Payloads and Space Science Department, National Institute for Aerospace Technology, Torrejon de Ardoz, Spain*
- XOC-03. Withdrawn**
- XOC-04. Ultrasmall Fe₃O₄@Au Composite Nanoparticles with Different Sizes of Fe₃O₄ for Magnetic Hyperthermia.** L. Tonthat¹, T. Ogawa¹ and S. Yabukami¹ *1. Tohoku University, Sendai, Japan*
- XOC-05. Electrodeposited CoPt multilayered-nanowire for 3D memory device.** M. Hasan¹, T. Huang², M. Saito¹, Y. Takamura², D. Oshima³, T. Kato^{3,4} and T. Homma^{1,5} *1. Research Organization for Nano and Life Innovation, Waseda University, Shinjuku, Japan; 2. Dept. of Electrical and Electronic Eng., Tokyo Institute of Technology, Meguro, Japan; 3. Dept. of Electronics, Nagoya University, Chikusa, Japan; 4. Institute of Materials and Systems for Sustainability, Nagoya University, Chikusa, Japan; 5. Dept. of Applied Chemistry, Waseda University, Shinjuku, Japan*
- XOC-06. Tunable Magnon-Magnon Coupling Mediated by Static and Dynamic Dipolar Interaction in Ni₈₀Fe₂₀ Nanocross Array.** P.K. Pal¹ and A. Barman¹ *1. Condensed Matter Physics and Material Sciences, S N Bose National Centre For Basic Sciences, Kolkata, India*
- XOC-07. Magnetostatic Interactions in Fe/Au Barcode Nanowire Arrays.** A. Samardak¹, Y. Jeon², A. Kozlov¹, A. Ognev¹, E. Jeong³, G. Kim³, M. Ko³, A.S. Samardak¹ and Y. Kim³ *1. Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Center for Hydrogen Fuel Cell Research, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 3. Department of Materials Science and Engineering, Korea University, Seoul, The Republic of Korea*
- XOC-08. Magnetization Dynamics of Interacting Iron Oxide Nanoparticles in Ionic Solutions.** W. Muliawan¹, Y. Chen¹ and Y. Kitamoto¹ *1. Materials Science and Engineering, Tokyo Institute of Technology, Yokohama, Japan*
- XOC-09. Dynamic properties of magnetic nanoparticles in highly ordered arrangements: size- & spacing-dependent properties.** N. Neugebauer¹, Y. Wang², M. Elm¹, D. Hofmann¹, X. Ye², C. Heiliger¹ and P. Klar¹ *1. Justus-Liebig University, Giessen, Germany; 2. Indiana University, Bloomington, IN, United States*

- XOC-10. Magnetic interaction in superparamagnetic Co-Pt nanoparticles synthesized in *Pyrococcus furiosus* virus-like particle (PfV) crystal.** K. Tagata¹, D. Kanda¹, N. Kobayashi¹, A. Higashiura², S. Ichikawa³, N. Kishida¹, R. Nakatani^{1,5}, A. Nakagawa⁴ and Y. Shiratsuchi^{1,5}
1. Graduate School of Engineering, Osaka University, Suita, Japan; 2. Graduate School of Biomedical and Health Science, Hiroshima University, Hiroshima, Japan; 3. Research center for Ultra-High Voltage Electron Microscopy, Osaka University, Suita, Japan; 4. Institute for protein Research, Osaka University, Suita, Japan; 5. Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Suita, Japan
- XOC-11. On the metamagnetic phase transition in thick B2-like FeRh nanoclusters assemblies.** G. Herrera¹, D. Le Roy¹, A. Tamion¹, L. Bardotti¹, F. Tournus¹, S. Gonzales², M. Bugnet³, P. Schoeffmann⁴, E. Otero⁴, P. Ohresser⁴, F. Wilhelm⁵, A. Rogalev⁵, I. Canero-Infante² and V. Dupuis¹
1. Institut Lumiere Matiere, Villeurbanne, France; 2. Institut des Nanotechnologies de Lyon, Villeurbanne, France; 3. MATEIS, Villeurbanne, France; 4. Synchrotron SOLEIL, Saint-Aubin, France; 5. European Synchrotron Radiation Facility, Grenoble, France

ORAL SESSIONS

Session XOD

MAGNETIC NANOPARTICLES: THEORY, SYNTHESIS AND CHARACTERIZATION

Yen-Lin Huang, Chair

National Yang Ming Chiao Tung University, Hsinchu city, Taiwan

- XOD-01. Unveiling new insights into bi-magnetic antiferromagnetic/ferrimagnetic Core/Shell nanoparticles: a multicharacterization approach. (Invited)** M. Estrader², A. Gómez Roca^{1,3}, A. López-Ortega⁴, R. Ichikawa⁵, I. Peral⁶, X. Turrillas⁷, D. del-Pozo-Bueno⁸, M. Varela⁹, F. Peiró^{8,3}, S. Estradé^{8,3} and J. Nogués^{1,10}
1. Catalan Institute of Nanoscience and Nanotechnology ICN2, Bellaterra, Spain; 2. Departament de Química Inorgànica i Orgànica, Universitat de Barcelona, Barcelona, Spain; 3. Institute of Nanoscience and Nanotechnology of the University of Barcelona (IN2UB), Barcelona, Spain; 4. Departamento de Ciencias and Institute for Advanced Materials and Mathematics INAMAT, Universidad Pública de Navarra, Pamplona, Spain; 5. Nuclear and Energy Research Institute (IPEN/CNEN-SP), Sao Paulo, Brazil; 6. Department of Physics and Materials Science, University of Luxembourg, Luxembourg, Luxembourg; 7. Institut de Ciència de Materials de Barcelona-CSIC, CSIC, Bellaterra, Spain; 8. LENS-MIND, Departament Enginyeries Electrònica i Biomèdica, Universitat de Barcelona, Barcelona, Spain; 9. Departamento de Física de Materiales e Instituto Pluridisciplinar, Universidad Complutense de Madrid, Madrid, Spain; 10. ICREA, Barcelona, Spain

- XOD-02. Nanostructure-Induced $L1_0$ -Ordered CoPt Ferromagnetic Nanowires on Si/SiO₂ Substrates.** *R. Toyama*^{1,6}, S. Kawachi^{2,3}, J. Yamaura^{3,4}, T. Fujita⁵, Y. Murakami⁴, H. Hosono³ and Y. Majima^{1,3} 1. *Laboratory for Materials and Structures, Tokyo Institute of Technology, Yokohama, Japan;* 2. *Graduate School of Science, University of Hyogo, Kamigori, Japan;* 3. *Materials Research Center for Element Strategy, Tokyo Institute of Technology, Yokohama, Japan;* 4. *Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan;* 5. *School of Environmental Science and Engineering, Kochi University of Technology, Kami, Japan;* 6. *Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan*
- XOD-03. Microfabrication of High Aspect Ratio Complex Components based on Soft Ferromagnetic FeCo(V) Alloy by combining Lithography and Electrodeposition.** *E.M. Palmero*¹, M.R. Osorio¹, A. Valera¹, M. Acebrón¹, A. Bollero¹ and D. Granados¹ 1. *IMDEA Nanociencia, Madrid, Spain*
- XOD-04. Electronic Structure of SHI-irradiated MWCNT: X-ray Absorption Spectroscopy Study.** *S. Gautam*⁵, P. Thakur¹, S. Augustine², K. Asokan⁴ and K. Chae³ 1. *Diamond Light Source Ltd, Oxfordshire, United Kingdom;* 2. *Deva Matha College, Kuravilangad, India;* 3. *Advanced Analysis Center, Korea Institute of Science and Technology, Seoul, The Republic of Korea;* 4. *Materials Science Division, Inter-University Accelerator Center, New Delhi, India;* 5. *Dr. SSB University Institute of Chemical Engineering & Technology, Panjab University, Chandigarh, India*
- XOD-05. Magnetic static structure and dynamic excitations of TbCu₂ nanoparticles.** *E.M. Jefremovas*^{2,1}, M. de la Fuente Rodríguez², D. Alba Venero³, C. Echevarría-Bonet⁴, P. Bender², B. Fåk⁵, J.Á. Blanco Rodríguez⁴ and L. Fernández Barquín² 1. *Institut für Physics, Johannes Gutenberg University, Mainz, Germany;* 2. *CITIMAC, Universidad de Cantabria, Santander, Spain;* 3. *RAL-ISIS, Didcot, United Kingdom;* 4. *Física Aplicada, Universidad de Oviedo, Oviedo, Spain;* 5. *Institut Laue Langevin, Grenoble, France*
- XOD-06. Permeability of clustered soft magnetic narrow strips controlled by a surface normal magnetic field.** *T. Nakai*¹ 1. *Industrial Technology Institute, Miyagi Prefectural Government, Sendai, Japan*
- XOD-07. Optical and surface properties of layered MoS₂.** *A. Mishra*¹ and P. Das¹ 1. *Physics, IIT Delhi, New Delhi, India*

- XOD-08. A Machine Learning Based Analysis Method of AC Magnetization Spectra for Estimating Cluster Distribution of Magnetic Nanoparticles.** *Y. Chen¹, K. Slavakis² and Y. Kitamoto¹* 1. *Department of Materials Science and Engineering, Tokyo Institute of Technology, Yokohama, Japan;* 2. *Department of Information and Communications Engineering, Tokyo Institute of Technology, Yokohama, Japan*
- XOD-09. Soft Magnetic Properties of Agglomerates of Fe Nanoparticles Fabricated by Cold Spray Technique.** *E. Watanabe^{1,2}, Y. Kurumiya³, T. Ogawa³, H. Kura¹, H. Saito², Y. Ichikawa² and K. Ogawa²* 1. *DENSO CORPORATION, Kariya, Japan;* 2. *Fracture and Reliability Research Institute, Tohoku University, Sendai, Japan;* 3. *Department of Electronic Engineering, Tohoku University, Sendai, Japan*
- XOD-10. Understanding the Effects of Material and Shape Anisotropy in Three-Dimensional Nanopillars on Two-Dimensional Islands.** *C.H. Leow¹ and V. Ng¹* 1. *Information Storage Materials Laboratory, Electrical and Computer Engineering (ECE), National University of Singapore, Singapore*
- XOD-11. Evolution of magnetic interactions from non-magnetic amorphous NiCu@SiO₂ composite.** *D. Patra¹ and V. Srinivas¹* 1. *Department of Physics, Indian Institute of Technology, Chennai, India*
- XOD-12. Nonreciprocal Surface Acoustic Wave Propagation Enabled by Out-of-Plane Magnetization.** *L. Liao¹, J. Puebla², J. Kim², Y. Hwang¹ and Y. Otani^{1,2}* 1. *Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan;* 2. *CEMS, RIKEN, Wako, Japan*
- XOD-13. Fabrication of Fe-Fe₃O₄ co-aggregated nanoparticles assembly and its AC magnetic property.** *S. Yanagita^{1,2}, Y. Yamaguchi¹, N. Kosaka¹, Y. Sotome¹, C.E. McNamee³, S. Yamamoto², S. Saito¹ and T. Ogawa¹* 1. *Department Electronic Engineering, Tohoku University, Sendai, Japan;* 2. *Advanced Research Department, Sankei Giken Kogyo Co., Ltd., Isesaki, Japan;* 3. *Department of Chemistry and Materials, Shinshu University, Ueda, Japan*
- XOD-14. Tailoring the Magnetization Processes of Chemically Modulated Cylindrical Nanowires.** *L. Perez^{1,2}, C. Fernandez Gonzalez^{2,3}, A. Berja⁴, A. Mascaraque¹, L. Aballe⁵, M. Foerster⁵, R. Sanz González⁶ and S. Ruiz Gómez³* 1. *Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain;* 2. *IMDEA Nanociencia, Madrid, Spain;* 3. *Max Planck Institute for Chemical Physics of Solids, Dresden, Germany;* 4. *Instituto de Cerámica y Vidrio - CSIC, Madrid, Spain;* 5. *Alba Synchrotron, Cerdanyola del Valles, Spain;* 6. *Instituto Nacional de Técnica Aeroespacial, Torrejón de Ardoz, Spain*

Session XPB
**THIN FILMS, SURFACE EFFECTS AND MULTI-
 LAYERED FILMS II**
(Poster Session)

Luana Caron, Chair
 Bielefeld University, Bielefeld, Germany

- XPB-01. Ion Irradiation Effects on Crystal Structure and Magnetic Properties of Iron-Nickel Binary Alloys.** *Y. Kamada*¹, T. Oyake¹, T. Murakami¹, S. Kobayashi¹, K. Shimizu¹ and H. Watanabe² *1. Faculty of Science and Engineering, Iwate University, Morioka, Japan; 2. Research Institute Applied Mechanics, Kyusyu University, Kasuga, Japan*
- XPB-02. Improving magnetic and dielectric performance of Co-BaMgF₄ nanocomposite films by thermal annealing treatment.** *N. Yokohama*¹, H. Kijima-Aoki^{1,2} and H. Masumoto¹ *1. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 2. Department of Electrical Engineering, Tohoku University, Sendai, Japan*
- XPB-03. Interfacial Dzyaloshinskii-Moriya interaction in epitaxial Pd/Co/Ta films.** *A. Kozlov*¹, M.A. Kuznetsova¹, A.F. Shishelov¹ and A. Samardak¹ *1. Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation*
- XPB-04. Compositionally magnetostrictive response of perpendicularly magnetized Ta/CoFe(B)/MgO films.** *S. Ahn*¹ *1. POSTECH, Pohang, The Republic of Korea*
- XPB-05. Superconducting transition temperature and proximity coupling in Nb/Co multilayers.** *T. Kikuta*¹, S. Komori¹, K. Imura¹ and T. Taniyama¹ *1. Department of Physics, Nagoya University, Nagoya, Japan*
- XPB-06. Magnetic hardness of graded interface exchange spring L1₀-FePt films with Co nanoinclusions.** *C. Paleo*¹, F. Wilhelm², A. Dias³, N. Dempsey³, V. Dupuis¹ and D. Le Roy¹ *1. Institut Lumière Matière, Villeurbanne, France; 2. The European Synchrotron Radiation Facility (ESRF), Grenoble, France; 3. Institut Néel CNRS, Grenoble, France*
- XPB-07. Perpendicular magnetic anisotropy based spintronic devices in Pt/Co and Pt/Co/X/Pt stacks under different hard and flexible substrates.** *S. Eimer*¹, H. Cheng^{1,2}, P. Vallobra¹, Z. Boyu² and W. Zhao^{1,2} *1. Hefei Innovation Research Institute, Beihang University, Hefei, China; 2. School of Integrated Circuit Science and Engineering, 2MIIT Key Laboratory of Spintronics, Beijing, China*

- XPB-08. Effects of Hydrogen Absorption on Magneto-Transport Properties of CoPd Multilayers.** *Y. Lai*¹, B. Huang¹, C. Chen¹, Y. Tang¹ and J. Hong² *1. Department of Physics, National Central University, Taoyuan City, Taiwan; 2. Department of Physics, Tamkang University, New Taipei City, Taiwan*
- XPB-09. Withdrawn**
- XPB-10. Antiferromagnetically exchange coupled CoFe/MgO/CoFe stacks.** *S. Ahn*¹ *1. POSTECH, Pohang, The Republic of Korea*
- XPB-11. Iron and gold thin films: first-principles study.** J.N. Rychly-Gruszecka¹, H. Glowinski¹, J. Snarski-Adamski¹, P. Kuswik¹ and M. Werwinski¹ *1. Institute of Molecular Physics, Polish Academy of Science, Poznan, Poland*
- XPB-12. Fe-Co films electroplated from glycine-based plating baths.** *R. Hosohata*¹, Y. Matsumoto¹, A. Yamashita¹, T. Yanai¹, M. Nakano¹ and H. Fukunaga¹ *1. Graduate School of Engineering, Nagasaki University, 1-14 Bunkyo, Japan*

POSTER SESSION

Session XPC MAGNETIC NANOPARTICLES AND NANOWIRES (Poster Session)

Yuko Ichiyanagi, Chair
Yokohama National University, Yokohama, Japan

- XPC-01. Magnetic Properties and XAFS Analysis of PEG-coated Gd-doped ZnO Magnetic Nanoparticles.** *K. Nii*¹, K. Ohara¹, K. Nakazawa¹, T. Sakamoto¹, T. Moriwaki¹, Y. Fujita¹, H. Amano¹, I. Kawaguchi¹, S. Kobayashi¹, T. Shimohama¹ and Y. Ichiyanagi¹ *1. Yokohama National University, Yokohama, Japan*
- XPC-02. Design and optimization of magnetic fluid sealing with pole teeth on the shaft.** *Z. Li*¹ and D. Li¹ *1. State Key Laboratory of Tribology, Tsinghua University, Beijing, China*
- XPC-03. Structure and Magnetic Properties of Mn–Pt and Mn–Pt–B Melt-Spun Ribbons.** M. Mitsue¹, *I. Sasaki*¹, Y. Zhang¹, T. Tokunaga¹ and T. Ogawa² *1. Kyushu Institute of Technology, Kitakyushu, Japan; 2. Fukuoka Industrial Technology Center, Kitakyushu, Japan*

- XPC-04. Facile Synthesis of Carbon-Encapsulated Fe/Fe₃C Nanocomposite Particles and Their Magnetic Behavior.** P. Chuang¹, B. Chen¹, L. Huang¹, Z. Huang¹, Y. Chen¹, B. Xie¹, A. Spivakov¹ and C. Lin¹ *1. Department of Applied Physics, National Pingtung University, Pingtung, Taiwan*
- XPC-05. Magnetic nanopillars in self-organized magneto-dielectric nanocomposite thin films.** H. Kijima-Aoki^{1,2}, H. Masumoto² and Y. Endo^{1,3} *1. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 3. Center for Spintronics Research Network, Tohoku University, Sendai, Japan*
- XPC-06. Evaluation of magnetization response of magnetic nanoparticles internalized into cultured adherent cells.** M. Nishida¹, M. Futagawa¹, Y. Takemura² and S. Ota¹ *1. Shizuoka University, Hamamatsu, Japan; 2. Yokohama National University, Yokohama, Japan*
- XPC-07. Electric Potential-Induced Localized Surface Plasmon Resonance of Fe₃O₄/Ag Composite Magnetic Nanoparticles.** M. Riswan¹, N. Adrianto¹, I.M. Yahya¹, N.I. Istiqomah¹, A.M. Panre¹, J. Juharni¹, S. Wahyuni¹, M. Arifin¹, I. Santoso¹, D. Oshima², T. Kato² and E. Suharyadi¹ *1. Universitas Gadjah Mada, Yogyakarta, Indonesia; 2. Nagoya University, Nagoya, Japan*
- XPC-08. Magnetoresistance of CoFe Nanocoils.** K. Rogachev¹, A. Samardak¹, A. Kozlov¹, V. Kharitonov¹, Z. Namsaraev¹, M. Bazrov¹, M. Stebliy¹, E. Jeong², Y. Jeon², A. Ognev¹, A.S. Samardak¹ and Y. Kim³ *1. Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Center for Hydrogen Fuel Cell Research, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 3. Department of Materials Science and Engineering, Korea University, Seoul, The Democratic People's Republic of Korea*
- XPC-09. Compositional dependence of structure, magnetic and electrical conduction properties of Co_xPt_{1-x} alloy nanowires fabricated by electrodeposition into nanoporous templates.** N. Oguchi¹, M. Syunpei¹, S. Kasai², S. Sugimoto², M. Saito³, T. Homma³, T. Ono⁴, M. Shima¹ and K. Yamada¹ *1. Gifu University, Gifu, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Waseda University, Tokyo, Japan; 4. Kyoto University, Kyoto, Japan*
- XPC-10. Dependence of magnetic properties of Ni nanowires on time of first anodization of Al₂O₃ template.** M.I. Sobirov¹, A. Samardak¹, K. Rogachev¹, A.S. Samardak¹ and A. Ognev¹ *1. Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation*

- XPC-11. Characterization and Magnetic Properties for Room Temperature Synthesis of Ni-doped Fe₃O₄/ZnS Core-Shell Nanoparticles.** *V. Arockia Doss*¹, *D. Shiu*¹, *K. Lai*¹, *Y. Lin*² and *L. Horng*¹ *1. PHYSICS, National Changhua University of Education, Changhua, Taiwan; 2. Chemistry, National Changhua University of Education, Changhua, Taiwan*
- XPC-12. Characterization of Néel relaxation time in multicore magnetic nanoparticles.** *H. Goto*¹, *M. Futagawa*², *Y. Takemura*³ and *S. Ota*² *1. Electrical and Electronic Engineering Course, Graduate School of Integrated Science and Technology, Shizuoka University, Hamamatu, Japan; 2. Electrical and Electronic Engineering, Shizuoka University, Hamamatu, Japan; 3. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan*

POSTER SESSION

Session XPA THIN FILMS AND SURFACE EFFECTS II (Poster Session) Lucas Caretta, Chair Brown University, Providence, RI, United States

- XPA-01. Suppression of the formation of soft magnetic phase in Sm(Fe_{0.8}Co_{0.2})₁₂-B thin films by introducing Sm seed layer.** *S. Nakatsuka*¹, *Y. Mori*¹, *M. Doi*¹ and *T. Shima*¹ *1. Tohoku Gakuin University, Sendai, Japan*
- XPA-02. Preparation of Mn-N-B Single-Crystal Thin Films with Perpendicular Magnetic Anisotropy.** *K. Imamura*¹, *Y. Nakamura*¹, *S. Noro*¹, *S. Isogami*² and *M. Ohtake*¹ *1. Yokohama National University, Yokohama, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- XPA-03. Induced in-plane uniaxial magnetic anisotropy in Co thin films sputtered onto a single-crystal 128° Y-cut LiNbO₃ substrate.** *S. Shikano*¹, *S. Ono*¹, *A. Yamaguchi*², *M. Shima*¹ and *K. Yamada*¹ *1. Gifu University, Gifu, Japan; 2. University of Hyogo, Hyogo, Japan*
- XPA-04. Modulation of surface wettability and magnetization of NiFe₂O₄ films with thermal annealing.** *D. Wei*¹ *1. Department of Mechanical Engineering, Institute of Manufacturing Technology, Taipei, Taiwan*
- XPA-05. Silicide formation at lower temperatures for cobalt and nickel on $\sqrt{3}\times\sqrt{3}$ -Ag/Si(111).** *C. Chang*¹, *Y. Chow*¹, *P. Jiang*¹, *T. Fu*¹ and *J. Tsay*¹ *1. National Taiwan Normal University, Taipei, Taiwan*

- XPA-06. Synthesis and in-situ XPS study of U-Te thin films.** E. Tereshina-Chitrova¹, M. Vališka², F. Huber³ and T. Gouder³
1. Institute of Physics, Czech Academy of Sciences, Prague, Czechia; 2. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 3. European Commission, Joint Research Centre (JRC), Karlsruhe, Germany
- XPA-07. Growth and structural characterizations of off-stoichiometric IrMn thin films for tunneling magnetoresistive structure.** S. Tungasmita², K. Mopoung¹, F. Eriksson¹ and P. Persson¹ 1. Physics, Chemistry and Biology, Linköping University, Linköping, Sweden; 2. Physics, Chulalongkorn University, Bangkok, Thailand
- XPA-08. Modeling the Dependence Hysteresis Characteristics of Thin Films Pd/Co/CoO on Cobalt Oxidation.** L. Afremov¹, V. Kharitonov¹, I. Iliushin^{1,2} and P. Mushtuk^{2,1} 1. Department of Theoretical Physics and Intelligent Technologies, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Laboratory of Spin-Orbitronics, Institute of High Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation
- XPA-09. Investigation of the Effect of the Oxidation Depth of Co/CoO Films on the Relative Constant of Interfacial Interaction.** L. Brykin¹ and L. Afremov¹ 1. Institute of High-Tech Technologies and Advanced Materials, Far Eastern Federal University, Vladivostok, Russian Federation
- XPA-10. Orbital hybridization induced out-of-plane anisotropy in High entropy alloy thin-films.** M. Talluri¹, H. Perumal², B. Paikaray¹, A. Haldar³, J. Sinha², P.P. Bhattacharjee¹ and C. Murapaka¹ 1. Materials science and metallurgical engineering, IIT Hyderabad, Hyderabad, India; 2. Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Kattankulathur, India; 3. Department of Physics, IIT Hyderabad, Hyderabad, India
- XPA-11. Fe-Ni films electroplated from gel electrolyte.** Y. Matsumoto¹, R. Hosohata¹, Y. Yamaguchi¹, A. Yamashita¹, T. Yanai¹, M. Nakano¹ and H. Fukunaga¹ 1. Nagasaki University, Nagasaki, Japan
- XPA-12. Magnetic structural analysis of Pt₃Fe antiferromagnet by single crystal neutron diffraction.** A. Nakano¹, S. Kobayashi¹, Y. Hotta¹, S. Goto¹, T. Sakakura² and H. Kimura² 1. Iwate University, Morioka, Japan; 2. Tohoku University, Sendai, Japan

Session YOA

ADVANCES IN MAGNETIC CHARACTERIZATION I

Xiaoyan Zhong, Chair

City University of Hong Kong, Kowloon, Hong Kong

- YOA-01. Quantitative optical imaging method of surface acoustic wave using optical path modulation.** *R. Hisatomi*^{1,2}, K. Taga¹, R. Sasaki³, Y. Shiota¹, T. Moriyama^{1,2} and T. Ono¹
1. Kyoto University, Uji, Japan; 2. JST-PRESTO, Kawaguchi, Japan; 3. RIKEN, Wako, Japan
- YOA-02. Switching Dynamics of In-Plane Magnetized Spin-Orbit Torque Devices.** *P.S. Keatley*¹, T.H. Loughran¹, G. Mihajlović², L. Wan², Y. Choi², J. Katine² and R. Hicken¹
1. Department of Physics and Astronomy, University of Exeter, Exeter, United Kingdom; 2. Western Digital Research Center, Western Digital Corporation, San Jose, CA, United States
- YOA-03. Soft X-ray Orbital Angular Momentum carrying beam: Generation and application in magnetic materials.** *(Invited)* *S. Roy*¹, M. McCarter¹, J. Woods^{2,3}, J. T Lee¹, A. Us-Saleheen¹, A. Singh⁴, R. Tumbleson^{4,5}, S. Morley¹, R.V. Chopdekar¹, A. Scholl¹, S. Kevan¹, X. Chen⁶, W. Hu⁶, C. Mazzoli⁶, B. Farmer², A. Tremsin⁷, S. Alexander⁸, B. McMorran⁸, W. Kwok³, L. De-Long² and T. Hastings⁹
1. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. Dept. of Physics, University of Kentucky, Lexington, KY, United States; 3. Materials Sciences Division, Argonne National Laboratory, Lemont, IL, United States; 4. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Dept. of Physics, University of California Santa Cruz, Santa Cruz, CA, United States; 6. National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, NY, United States; 7. Space Sciences Lab, University of California, Berkeley, Berkeley, CA, United States; 8. Dept. of Physics, University of Oregon, Eugene, OR, United States; 9. Department of Electrical and Computer Engineering, University of Kentucky, Lexington, KY, United States
- YOA-04. Schuster-periodogram based reconstruction of non-locked dynamical processes in time-resolved scanning transmission X-ray microscopy.** *S. Finizio*¹, J. Bailey^{1,2}, B. Olsthoorn³ and J. Raabe¹
1. Photon Science Division, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. EPFL, Lausanne, Switzerland; 3. KTH Royal Institute of Technology, Stockholm, Sweden
- YOA-05. New versatile instruments to measure element-specific and macroscopic hysteresis at ID12 of the ESRF.** *A. Aubert*¹, G. Gomez^{3,2}, K. Skokov¹, F. Wilhelm², H. Wende³, A. Rogalev², O. Gutfleisch¹ and K. Ollefs³
1. TU Darmstadt, Darmstadt, Germany; 2. European Synchrotron Radiation Facility, Grenoble, France; 3. University of Duisburg-Essen, Duisburg, Germany

- YOA-06. Room-temperature magnetic antiskyrmions and anisotropic fractal magnetic domain textures in $(\text{Fe,Ni,Pd})_3\text{P}$ with S_4 symmetry. (Invited)** K. Karube¹, L. Peng¹, J. Masell^{1,2}, V. Ukleev³, J.S. White³, M. Hemmida⁴, H. Krug von Nidda⁴, I. Kézsmárki⁴, X. Yu¹, F. Kagawa^{1,5}, Y. Tokura^{1,6} and Y. Taguchi¹ *1. RIKEN Center for Emergent Matter Science (CEMS), Wako, Japan; 2. Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany; 3. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institute, Villigen, Switzerland; 4. Experimental Physics V, University of Augsburg, Augsburg, Germany; 5. Department of Physics, Tokyo Institute of Technology, Meguro-ku, Japan; 6. Department of Applied Physics, University of Tokyo, Bunkyo-ku, Japan*
- YOA-07. Withdrawn**
- YOA-08. A sensitive magneto-optic Kerr effect and optical Hall effect technique based on large-amplitude magnetic field modulation.** N. Am-Shalom¹, M. Korcia¹, N. Bernstein¹ and A. Capua¹ *1. Applied Physics, The Hebrew University of Jerusalem, Jerusalem, Israel*
- YOA-09. Scanning MOKE microscope for inspection of MRAM manufacturing.** M. Numata¹, I. Kim², K. Suzuki¹, S. Ueyama¹, J. Kim², W. Kim² and M. Lee² *1. Samsung Device Solutions R&D Japan, Samsung Japan Corporation, Yokohama, Japan; 2. Mechatronics Research, Samsung Electronics Co., Ltd., Hwaseong, The Republic of Korea*
- YOA-10. Analysis of Magnetization Reversal Process of Non-Oriented Electromagnetic Steel Sheet by Extended Landau Free Energy Model.** M. Taniwaki¹, A.L. Foggiatto¹, C. Mitsumata¹, T. Yamazaki¹, I. Obayashi², Y. Hiraoka³, Y. Igarashi⁴, Y. Mizutori⁴, H. Sepehri-Amin⁵, T. Ohkubo⁵ and M. Kotsugi¹ *1. Materials Science, Tokyo University of Science, Tokyo, Japan; 2. Okayama University, Okayama, Japan; 3. Kyoto University, Kyoto, Japan; 4. University of Tsukuba, Tsukuba, Japan; 5. National Institute for Materials Science (NIMS), Tsukuba, Japan*
- YOA-11. Magnetic Domain Observation of Grain-oriented Electrical Steel Sheet under Two-dimensional Excitation.** D. Wakabayashi¹, T. Uchiyama¹, M. Oka¹ and M. Enokizono^{1,2} *1. Nippon Bunri University, Oita, Japan; 2. Vector Magnetic Characteristic Technical Laboratory, Usa, Japan*

Session YOB

ADVANCES IN MAGNETIC CHARACTERIZATION II

Sujoy Roy, Chair

Lawrence Berkeley National Laboratory, Berkeley, CA, United States

- YOB-01. The Ferris-wheel ferromagnetic resonance technique.**
A. Rothschild¹, N. Am-Shalom¹, N. Bernstein¹, B.J. Assouline¹ and A. Capua¹ *1. Applied Physics, The Hebrew University of Jerusalem, Jerusalem, Israel*
- YOB-02. Optical Profiling of Surface-Acoustic-Wave Absorption due to Elastically Driven Ferromagnetic Resonance in Nickel.** *K. Maezawa¹, S. Fujii¹, K. Yamanoi¹, Y. Nozaki¹ and S. Watanabe¹* *1. Physics, Keio University, Yokohama, Japan*
- YOB-03. Atomic Scale Visualization of Magnetic Coupling at Individual Defects in Functional Materials by Spatially Resolved Electron Magnetic Circular Dichroism. (Invited)**
X. Zhong^{1,2} and Z. Li^{1,2} *1. Materials Science and Engineering, City University of Hong Kong, Hong Kong; 2. City University of Hong Kong Matter Science Research Institute (Futian, Shenzhen), Shenzhen, China*
- YOB-04. Magnetic imaging by the anomalous Nernst effect using atomic force microscopy.** *N.D. Budai^{1*}, H. Isshiki¹, R. Uesugi¹, Z. Zhu¹, T. Higo^{1,2}, S. Nakatsuji^{1,2} and Y. Otani^{1,3}*
1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. The Department of Physics, The University of Tokyo, Bunkyo-ku, Japan; 3. Center for Emergent Matter Science, RIKEN, Wako, Japan
- YOB-05. Magnetic Imaging of Spin Textures in a Chiral Magnet.**
E. Marchiori¹, G. Romagnoli¹, A. Magrez² and M. Poggio¹
1. Department of Physics, University of Basel, Basel, Switzerland; 2. École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
- YOB-06. In-situ correlation of electrical (magneto-)transport effects with magnetic textures in a transmission electron microscope. (Invited)** *D. Pohl⁵, B. Rellinghaus⁵, S. Schneider⁵, Y. Lee¹, D. Kriegner^{2,3}, S. Beckert², P. Vir⁴, C. Felser⁴, M. Winter⁵ and A. Thomas^{2,1}* *1. IFW Dresden, Dresden, Germany; 2. IFMP, TU Dresden, Dresden, Germany; 3. FZU, Prague, Germany; 4. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 5. DCN, TU Dresden, Dresden, Germany*

YOB-07. Spin canting at the surface of $\text{Fe}_3\text{O}_4(001)$ imaged using a spin-polarized metastable helium beam. P.D. Bentley^{2,1}, R.F. Evans², X. Sun⁴, M. Kurahashi³, A. Pratt² and Y. Yamauchi³ *1. Quantum Materials and Applications Research Center, National Institutes for Quantum Science and Technology, Takasaki, Japan; 2. School of Physics, Engineering and Technology, University of York, York, United Kingdom; 3. National Institute for Materials Science (NIMS), Tsukuba, Japan; 4. University of Science and Technology of China, Anhui, China*

YOB-08. Simulations of magnetic Bragg scattering in transmission electron microscopy. J. Snarski-Adamski¹, A. Edström², P. Zeiger³, J.Á. Castellanos-Reyes³, K. Lyon³, M. Werwinski¹ and J. Ruzs³ *1. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland; 2. Department of Applied Physics, School of Engineering Sciences, KTH Royal Institute of Technology, AlbaNova University Center, Stockholm, Sweden; 3. Division of Materials Theory, Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

YOB-09. Topological Spin Memory of Antiferromagnetically Coupled Skyrmions. (Invited) X. Cheng¹ *1. Physics, Bryn Mawr College, Bryn Mawr, PA, United States*

POSTER SESSION

Session YPA

ADVANCES IN MAGNETIC CHARACTERIZATION III (Poster Session)

Hendrik Ohldag, Chair

Lawrence Berkeley National Laboratory, Berkeley, CA, United States

YPA-01. Ac Susceptibility Measurement Using a Vibrating Sample Magnetometer. M. Al-Mahdawi¹ and M. Oogane¹ *1. Tohoku University, Sendai, Japan*

YPA-02. High-Frequency Magnetic Field Energy Imaging of Magnetic Recording Head by Alternating Magnetic Force Microscopy with Superparamagnetic Tip. M. Makarova^{1,2}, K. Suzuki¹, H. Sonobe¹, T. Matsumura¹ and H. Saito¹ *1. Akita University, Akita, Japan; 2. Institute of Physics CAS, Prague, Czechia*

YPA-03. Imaging of Magnetic Nanoparticle Using Magnetic Particle Spectroscopy Data. N. Futagawa¹, M. Fujimoto¹, K. Higashino¹, T. Sasayama¹ and T. Yoshida¹ *1. Kyushu University, Fukuoka, Japan*

- YPA-04. Visualization of the Magnetostriction Mechanism Using Machine Learning.** *A.L. Foggiatto*¹, Y. Mizutori², T. Yamazaki¹, S. Sato¹, K. Masuzawa¹, R. Nagaoka¹, M. Taniwaki¹, S. Fujieda³, S. Suzuki⁴, K. Ishiyama⁵, T. Fukuda⁶, Y. Igarashi², C. Mitsumata¹ and M. Kotsugi¹
1. Faculty of Advanced Engineering, Tokyo University of Science, Katsushika, Japan; 2. Graduate School of System and Information Engineering, University of Tsukuba, Tsukuba, Japan; 3. Graduate school of engineering, Osaka University, Suita, Japan; 4. Micro System Integration Center, Tohoku University, Sendai, Japan; 5. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 6. Fukuda Crystal Laboratory Co., Ltd., Sendai, Japan
- YPA-05. Investigation to Improve Stability in Magnetic Nanoparticle Tomography Using Direct Magnetic Field Compensation Circuit.** *M. Fujimoto*¹, N. Futagawa¹, K. Higashino¹, T. Sasayama² and T. Yoshida²
1. Electrical and Electronic Engineering, Kyushu University, Fukuoka-shi, Japan; 2. Faculty of information and electrical engineering, Kyushu University, Fukuoka-shi, Japan
- YPA-06. Polarized neutron transmission spectroscopy on an ultrafine grained steel.** *H. Mamiya*¹, O. Yojiro², N. Terada¹, K. Hiroi² and t. shinohara²
1. National Institute for Materials Science, Tsukuba, Japan; 2. Japan Atomic Energy Agency, Tokai, Japan
- YPA-07. Development of Pancake-type Gradiometer Receive Coil for Amplitude Modulated Open-sided Magnetic Particle Imaging.** *M. Tahir*¹, T. Le², T. Cao¹ and J. Yoon¹
1. School of Integrated Technology, Gwangju Institute of Science and Technology, Gwangju, The Republic of Korea; 2. Department of Physiology and Biomedical Engineering, Mayo Clinic, Scottsdale, AZ, United States
- YPA-08. In-situ Magnetizing Holder with Strong In-plane Field for Lorentz Microscopy.** *W. Xia*¹, J. Qin¹, T. Bai¹, X. Sun¹, R. Chen¹, A. Yan¹ and W. Li¹
1. Ningbo Institute of Materials Technology and Engineering, CAS, Ningbo, China

ORAL SESSIONS

Session ZOA EMERGING AND INTERDISCIPLINARY TOPICS IN MAGNETISM I

Mengmeng Yang, Chair
 Anhui University

- ZOA-01. Spin revolution breaks time reversal symmetry of rolling magnets.** *E.Y. Vedmedenko*¹
1. Physics, University of Hamburg, Hamburg, Germany

- ZOA-02. Thermal noise magnetometry as an emerging magnetic characterization technique.** K. Everaert^{1,2}, B. Van Waeyenberge¹, F. Wiekhorst² and J. Leliaert¹ 1. *Dept. of Solid State Sciences, Ghent University, Gent, Belgium;* 2. *Metrology for Magnetic Nanoparticles, Physikalisch-Technische Bundesanstalt, Berlin, Germany*
- ZOA-03. Low-frequency magnetic incremental permeability for the evaluation of thick carburization levels.** Y. Tene Deffo¹, G. Sebald², C. Gallais³, O. Ghibaudo³ and B. Ducharne^{2,4} 1. *Faculty of Engineering and Technology, University of Buea, Buea, Cameroun, Buea, Cameroon;* 2. *ELyTMax, CNRS, Univ Lyon, INSA Lyon, Centrale Lyon, Université Claude Bernard Lyon 1, Tohoku University, Japan, Sendai, Japan;* 3. *Audit et R&T Industriels, SAFRAN TRANSMISSION SYSTEMS, Colombes, France, Colombes, France;* 4. *Univ. Lyon, INSA Lyon, LGEF EA682, Villeurbanne, France, Lyon, France*
- ZOA-04. Applications of thermoplasmonics to nanomagnetic logic. (Invited)** P. Vavassori^{1,2}, M. Menniti¹, P. Gypens³ and J. Leliaert³ 1. *CIC nanoGUNE BRTA, San Sebastian, Spain;* 2. *Ikerbasque, Bilbao, Spain;* 3. *Dept. of Solid State Sciences, Ghent University, Ghent, Belgium*
- ZOA-05. Polarization caloritronics and “ferron” excitations in ferroelectric materials.** P. Tang¹, R. Iguchi², K. Uchida² and G. Bauer^{1,3} 1. *Tohoku University, Sendai, Japan;* 2. *National Institute for Materials Science (NIMS), Tsukuba, Japan;* 3. *University of Groningen, Groningen, Netherlands*
- ZOA-06. Prediction of Magnetocrystalline Anisotropy Constant in FeCoNi Alloys using Machine Learning.** R. Sudo¹ and M. Oogane^{1,2} 1. *Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Japan;* 2. *Center for Science and Innovation in Spintronics (Core Research Cluster), Organization for Advanced Studies, Tohoku University, Sendai, Japan*
- ZOA-07. Tetraazaphthalene based two-dimensional transition metal organic frameworks: Spin-gapless semiconductor, quantum anomalous Hall effect and electrocatalysts for CO₂ reduction.** Y. Wang¹ and W. Mi¹ 1. *Department of Applied Physics, Tianjin University, Tianjin, China*
- ZOA-08. Influence of Magnetic Field on Evaporation of Water and Ionic Solutions.** J. Coey¹, L. Coburn-Moran¹ and J. Quirke¹ 1. *Physics, Trinity College Dublin, Dublin, Ireland*
- ZOA-09. Magnetic-field-assisted photocatalysis of N-TiO₂ nanoparticles.** L. Cervera-Gabalda¹, E. Garaio¹, J. Beato-Lopez¹, J. Pérez-Landazábal¹ and C. Gomez-Polo¹ 1. *Science Dept & INAMAT2, Universidad Publica de Navarra, Pamplona, Spain*

- ZOA-10. Design and Performance of a Compact 3D-Printed Magnetorheological Fluid Damper.** *J. Park¹, Y. Choi¹, A. Flatau¹ and N. Wereley¹* *1. Aerospace Engineering, University of Maryland, College Park, MD, United States*
- ZOA-11. An Electroplated Magnetic NiFe Film Based Electromagnetic Targeting for Interlocking-Nail Broken-Bone Surgery.** *M. Kohli¹, T. Chai¹, I. Chen¹, T. Wong², W. Hsu¹ and T. Chung^{1,3}* *1. Department of Mechanical Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan; 2. Department of Orthopedics, National Taiwan University Hospital Hsinchu Branch, Hsinchu, Taiwan; 3. International College of Semiconductor Technology, National Yang Ming Chiao Tung University, Hsinchu, Taiwan*
- ZOA-12. Holding Performance of an Adaptive Magnetorheological Fluid-Based Robotic Claw.** *Y. Choi¹, C. Hartzell¹ and N. Wereley¹* *1. Aerospace Engineering, University of Maryland, College Park, MD, United States*
- ZOA-13. A wearable magnetic skin system for touchless human-computer interactions.** *J. Zhang^{1,2}, Z. Jin¹, G. Chen¹ and J. Chen^{1,2}* *1. Chinese Academy of Sciences, State Key Laboratory of Transducer Technology, Aerospace Information Research Institute, Beijing, China; 2. University of Chinese Academy of Sciences, School of Electronic, Electrical and Communication Engineering, Beijing, China*
- ZOA-14. Magnetic Bionic Hair Array for Sliding Tactile Sensing and Object Recognition.** *J. Man^{1,2}, Z. Jin¹ and J. Chen^{1,2}* *1. State Key Laboratory of Transducer Technology, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China; 2. School of Electronic, Electrical and Communication Engineering, University of Chinese Academy of Sciences, Beijing, China*

POSTER SESSION

Session ZPA EMERGING AND INTERDISCIPLINARY TOPICS IN MAGNETISM II (Poster Session)

Elena Vedmedenko, Chair
University of Hamburg, Hamburg, Germany

- ZPA-01. Control of non-reciprocal critical current by ferromagnetism.** *H. Narita¹, J. Ishizuka², D. Kan^{1,3}, Y. Shimakawa^{1,3}, Y. Yanase⁴ and T. Ono^{1,3}* *1. Institute for Chemical Research, Kyoto University, Uji, Japan; 2. Niigata University, Niigata, Japan; 3. CSRN, ICR, Kyoto University, Uji, Japan; 4. Physics, Kyoto University, Kyoto, Japan*

- ZPA-02. Spin-current Driven Magnetic Meta-atoms for Time-varying Permeability.** R. Shimizu¹, T. Kodama², N. Kikuchi³, S. Okamoto^{3,4}, S. Ohno¹ and S. Tomita^{1,2}
1. Department of Physics, Tohoku University, Sendai, Japan; 2. Institute for Excellence in Higher Education, Tohoku University, Sendai, Japan; 3. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 4. Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan
- ZPA-03. A New Observation System for Nonlinear Localized Oscillation Using Commercially Available Magnet.** Y. Mogi¹ and M. Kato¹ *1. Electrical and Electronics Systems, Ibaraki University, Ibaraki, Japan*
- ZPA-04. Effect of Instability of Ferrofluid for enhanced EMI shielding in Ku-Band.** Y. Li¹, H. Kuan¹ and H. Hsieh¹
1. Mechanical and Aerospace, Chung-Cheng Institute of Technology, National Defense University, Taoyuan, Taiwan
- ZPA-05. Electride and Magnetic Properties of Ternary Intermetallic Compounds LaTMSi.** A. Dyachenko¹, A. Lukoyanov^{1,2} and V. Anisimov^{1,2} *1. M.N. Mikheev Institute of Metal Physics Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russian Federation; 2. Ural Federal University named after B.N. Yeltsin, Ekaterinburg, Russian Federation*
- ZPA-06. Emergent Magneto-Inductance Effect in Ni₄₅Fe₅₅ Thin Films on Polycarbonate Substrates.** Z. Zhang¹, Y. Matsushima¹, Y. Ohashi¹, M. Matsuzaka¹ and H. Kaiju^{1,2}
1. Faculty of Science and Technology, Keio University, Yokohama, Japan; 2. Center for Spintronics Research Network, Keio University, Yokohama, Japan
- ZPA-07. Enhancement of non-destructive evaluation by combining induction thermography and eddy current testing techniques.** W. Cheng^{1,2} *1. NDE Center, Japan Power Engineering and Inspection Corporation, Yokohama, Japan; 2. Department of Quantum Science and Energy Engineering, Tohoku University, Sendai, Japan*
- ZPA-08. Fabrication of Thermoelectric Ribbon-Shaped Fe₃Al Alloys with Large Anomalous Nernst Effect.** H. Takigawa¹, T. Taguchi¹, T. Takahashi¹, A. Sakai² and S. Nakatsuji²
1. Inorganic Materials Development Dept, Murata Manufacturing Co., Ltd., Nagaokakyo-shi, Japan; 2. Department of Physics, University of Tokyo, Bunkyo-ku, Japan
- ZPA-09. Magnetic MXene: A Machine Learning Model with Small Data.** Y. Khatri¹, V. Atpadkar¹, A. Agarwal¹ and A. Kashyap¹
1. Indian Institute of Technology, Mandi, Mandi, India

- ZPA-10. Magnetite/copolymer Nanosphere Added Soft-magnetic Carbonyl Iron Based Magnetorheological Fluid And Its Damping Performance.** *W. Han¹, G. Wang¹ and F. Yang¹*
1. Energy and Power Engineering, Nanjing University of Science and Technology, Nanjing, China
- ZPA-11. Monitoring Ionic Diffusion from CoB in Molecular layers.** *D.L. Roe¹, A. Caruana², S. Langridge², C. Kinane² and O. Cespedes¹* 1. Physics and Astronomy, University of Leeds, Rotherham, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom
- ZPA-12. Application of Oleic acid functionalized Fe₃O₄ magnetic nanoparticles for adsorption of oil from emulsified solutions.** *G.C. Hermosa¹, L. Fang², C. Liao¹, C. Chang³, C. Chang^{3,5}, S. Wang⁴ and A.A. Sun^{1,5}* 1. Department of Chemical Engineering & Materials Science, Yuan Ze University, Taoyuan, Taiwan; 2. Department of Mechanical and Industrial Engineering, Vanung University, Taoyuan, Taiwan; 3. Division of General Surgery, Far Eastern Memorial Hospital, New Taipei City, Taiwan; 4. Department of Materials and Mineral Resources Engineering, National Taipei University of Technology, Taipei, Taiwan; 5. Graduate School of Biotechnology and Bioengineering, Yuan Ze University, Taoyuan, Taiwan
- ZPA-13. Transmission spectra of magnetic fluids with magnetite nanoparticles in the visible and near-IR regions.** *C.V. Yerin¹ and V.I. Vivchar¹* 1. Physical and Technical Faculty, North Caucasus Federal University, Stavropol, Russian Federation
- ZPA-14. Optically powered milli-scale robot system for nanoliter fluid delivery based on diamagnetic levitation.** *M. Beauchamp¹, S. Yee¹, I. O'Carroll¹, E. Chapman¹ and H. Elbidweihy¹* 1. United States Naval Academy, Annapolis, MD, United States
- ZPA-15. The annealing effect on the superconducting and magnetic properties of FeTe_{0.8}S_{0.2} single crystals grown by the self-flux method.** *S.K. Miglani¹, H. Chauhan¹ and G.D. Varma¹*
1. Physics, Indian Institute of Technology Roorkee, Roorkee, India

- A -

Abad, A. (EOA-10)	65
Aballe, L. (UOA-05)	180
Aballe, L. (XOD-14)	215
Abd-El-Hafiz, S. (KPA-17)	103
Abdel-Mottaleb, M. (EOB-14)	68
Abdel-Mottaleb, M. (ROA-04)	150
Abdelsamie, A. (SOD-03)	159
Abdukayumov, K. (COD-09)	40
Abdukayumov, K. (DOC-01)	52
Abe, H. (POB-02)	131
Abe, M. (GOA-03)	77
Abe, M. (QPB-07)	148
Abe, M. (WPC-01)	206
Abe, S. (POA-11)	130
Abe, S. (POA-12)	130
Abe, S. (PPB-12)	137
Abe, S. (VOB-10)	188
Abe, T. (KPA-05)	101
Abert, C. (BOC-09)	27
Abert, C. (CPA-10)	44
Abert, C. (NOA-01)	116
Abert, C. (SOB-02)	154
Abert, C. (SOD-08)	160
Abert, C. (TOC-01)	173
Abert, C. (TOC-06)	174
Abert, C. (TOC-07)	174
Abiane, H. (MOA-09)	109
Ablets, Y. (EOA-02)	63
Ablets, Y. (EOA-07)	64
Abreu Araujo, F. (NOB-05)	118
Abreu Araujo, F. (SOB-08)	155
Abreu Araujo, F. (TOA-08)	169
Abreu Araujo, F. (XOC-01)	211
Acebrón, M. (XOD-03)	214
Adabifiroozjaei, E. (EOA-07)	64
Adabifiroozjaei, E. (QOA-09)	142
Adabifiroozjaei, E. (WOA-10)	195
Adabifiroozjaei, E. (WOB-08)	197
Adachi, Y. (EPA-06)	69
Adachi, Y. (EPB-11)	72
Adam, J. (SOC-08)	157
Adam, J. (SOD-03)	159
Adelmann, C. (NOA-05)	117
Adelmann, C. (QOA-02)	141
Adelmann, C. (SG-04)	8
Adeyeye, A.O. (SOE-02)	161
Adeyeye, A.O. (SOE-04)	161
Adeyeye, A.O. (TOB-10)	171
Adly, A. (KPA-17)	103
Adly, A.A. (QOB-06)	144
Adrianto, N. (XPC-07)	218
Aeschlimann, M. (BOB-05)	24
Aeschlimann, M. (SOF-03)	163
Aeschlimann, M. (SOF-07)	164
Aeschlimann, M. (TOB-06)	171
Afremov, L. (XPA-08)	220
Afremov, L. (XPA-09)	220
Agarwal, A. (ZPA-09)	228
Agarwal, N. (SOF-05)	164
Ahlawat, A. (UOA-03)	180
Ahmadpour, G. (WPA-11)	203
Ahmed, M.Z. (OPA-03)	127
Ahn, H. (CPA-03)	43
Ahn, H. (EPA-11)	69
Ahn, J. (OPB-09)	128
Ahn, J. (WPB-12)	206
Ahn, M. (EPA-13)	70
Ahn, S. (KPA-23)	104
Ahn, S. (XPB-04)	216
Ahn, S. (XPB-10)	217
Ahrens, V. (SOB-01)	154
Aizawa, T. (OPA-01)	126
Aizawa, T. (OPA-02)	126
Aizu, S. (MOB-07)	112
Ajejas, F. (AOB-09)	12

Ajejas, F. (TOB-03)	170
Ajia, S. (POA-13)	131
Akagi, F. (WPC-05)	206
Akai, H. (SA-06)	2
Akai, H. (UOB-10)	183
Akamatsu, J. (POA-11)	130
Akamatsu, J. (POA-12)	130
Akamatsu, J. (PPB-12)	137
Akamatsu, J. (VOB-10)	188
Akatani, H. (APB-09)	18
Akdogan, O. (WOC-14)	200
Åkerman, J. (AOB-05)	11
Åkerman, J. (BOD-08)	29
Åkerman, J. (BOD-09)	29
Åkerman, J. (DOA-10)	49
Åkerman, J. (DOC-09)	53
Åkerman, J. (DPA-04)	56
Åkerman, J. (DPC-02)	61
Åkerman, J. (NOB-06)	119
Åkerman, J. (POA-01)	129
Åkerman, J. (POA-02)	129
Åkerman, J. (POA-03)	129
Åkerman, J. (SOA-06)	153
Åkerman, J. (SPA-14)	167
Åkerman, J. (TOA-11)	169
Akhundzada, S. (XOA-05)	208
Akin, Y. (ROA-04)	150
Akiyama, T. (KOA-08)	100
Akjouj, A. (SOF-08)	165
Akuru, U.B. (HPA-04)	84
Akuru, U.B. (IOA-02)	87
Akuru, U.B. (IOB-02)	89
Akutagawa, T. (APA-05)	16
Al Saidi, W.Z. (CPA-19)	45
Al Saidi, W.Z. (NPA-05)	121
Al-Mahdawi, M. (POC-12)	135
Al-Mahdawi, M. (YPA-01)	224
Ala-Nissila, T. (COB-02)	34
Alahmed, L. (COC-09)	38
Alam, A. (COC-08)	38
Alaqtash, N. (WOD-13)	202
Alba Venero, D. (COA-05)	33
Alba Venero, D. (XOD-05)	214
Alberteris Campos, M. (EOB-14)	68
Alberteris Campos, M. (ROA-04)	150
Alem, N. (COD-01)	39
Alexander, S. (YOA-03)	221
Alff, L. (XOA-07)	209
Algueta-Miguel, J. (KPA-04)	101
Ali, M. (BOB-11)	25
Ali, M. (OOB-15)	126
Ali, Q. (SA-06)	2
Ali, Q. (SOB-03)	155
Ali, Q. (TOC-12)	175
Ali, Q. (WOA-03)	194
Allen, C.S. (APA-08)	16
Allia, P. (EOB-03)	66
Allwood, D. (WOD-06)	201
Almeida, G. (PPB-08)	136
Almeida, M.D. (EPB-08)	71
Alnaser, H.F. (COE-01)	41
Alonso, J. (EOA-01)	63
Alonso, J. (EOA-10)	65
Alosaimi, N. (OOB-15)	126
Alotaibi, M. (XOA-10)	209
Alotibi, S. (BOB-11)	25
Alsaad, A. (WOD-13)	202
Althammer, M. (BPA-13)	31
Althammer, M. (DOC-11)	53
Alvarado, S.F. (COD-05)	40
Álvarez-Prado, L.M. (TOB-13)	172
Am-Shalom, N. (AOB-11)	12
Am-Shalom, N. (YOA-08)	222
Am-Shalom, N. (YOB-01)	223
Amann, A. (DOA-02)	48
Amano, H. (XPC-01)	217

*Best student presentation award finalist

Amara, Y. (IOA-12)	88	Arun, K. (QPA-11)	146
Amara, Y. (IOB-12)	90	Asada, H. (DPA-09)	57
Amara, Y. (IPA-09)	91	Asada, H. (EPB-04)	71
Amara, Y. (LOA-10)	105	Asahina, E. (HOA-07)	84
Ambriz, I. (EOB-02)	66	Asahina, E. (MOB-06)	111
Amemiya, K. (DOD-02)	54	Asai, M. (VOA-02)	185
Amemiya, K. (NOA-10)	117	Asama, R. (BOA-08)	22
Ameziane, M. (DOE-04)	55	Asami, K. (IOB-10)	90
Ameziane, M. (DOE-06)	56	Asano, H. (CPA-16)	45
Amin, O. (XOB-01)	210	Asari, Y. (VOB-07)	188
Amrusi, S. (POC-02)	133	Asari, Y. (VOB-15)	189
An, K. (SOD-13)	160	Asenjo, A. (SD-01)	5
An, S. (GPB-08)	81	Asfirane, S. (IOA-12)	88
An, S. (GPB-09)	81	Asfirane, S. (IOB-12)	90
Anacleto, P. (SG-02)	8	Asfirane, S. (IPA-09)	91
Anacleto, P. (SG-03)	8	Ashok	
Anacleto, P. (TOB-08)	171	Krishnaswamy, S. (WOB-07) . . .	197
Anacleto, P. (TPA-08)	176	Ashok	
Anadón, A. (COD-07)	40	Krishnaswamy, S. (WOB-12) . . .	197
Anadón, A. (SOA-08)	154	Askarian, I. (MOA-09)	109
Analytis, J. (NOA-04)	117	Asokan, K. (XOD-04)	214
Anane, A. (SB-05)	3	Asselberghs, I. (NOA-05)	117
Anane, A. (SOC-08)	157	Asselberghs, I. (QOA-02)	141
Anane, A. (SOD-03)	159	Assouline, B.J. (AOB-11)	12
Anane, A. (SOD-13)	160	Assouline, B.J. (DOB-10)	51
Anane, A. (SOE-12)	162	Assouline, B.J. (TOA-05)	169
Anane, A. (UOA-04)	180	Assouline, B.J. (YOB-01)	223
Anaya-Lara, O. (KPA-21)	103	Atcheson, G. (DOC-02)	52
Anderson, A.A. (DPC-07)	62	Atcheson, G. (XOB-04)	210
Anderson, I.E. (VOB-13)	188	Athul, S. (QPA-11)	146
Anderson, I.E. (WOA-04)	194	Atkinson, D. (SOE-02)	161
Ando, Y. (AOA-11)	10	Atkinson, D. (TOB-10)	171
Ando, Y. (VPA-04)	190	Atpadkar, V. (ZPA-09)	228
Ando, Y. (VPA-10)	190	Attané, J. (APC-12)	21
Andrade, L.H. (TOB-16)	173	Attané, J. (CPB-13)	48
Andre, V. (EOB-14)	68	Attané, J. (DOB-11)	51
Andreas, B. (DOC-12)	53	Atxitia, U. (CPB-03)	46
Andrejevic, J. (SA-02)	2	Aubert, A. (QOA-07)	142
Andrejevic, N. (SA-02)	2	Aubert, A. (WOB-08)	197
Ang, C.C. (DPA-07)	57	Aubert, A. (WOD-09)	201
Angel, M. (BOB-05)	24	Aubert, A. (YOA-05)	221
Angel, M. (BOC-06)	26	Auffret, S. (APC-12)	21
Angel, M. (NOA-01)	116	Auffret, S. (COA-04)	32
Angel, M. (UOA-05)	180	Auffret, S. (DPC-06)	62
Angelakeris, M. (SC-02)	4	Auffret, S. (NOB-04)	118
Anghel, L. (NOB-09)	119	Augustine, S. (XOD-04)	214
Anghel, L. (PPA-03)	135	Autieri, C. (XOB-10)	211
Anh, L.D. (UOB-01)	181	Avci, C.O. (AOC-01)	13
Anil Kumar, P. (BPA-19)	32	Avdeev, M. (UPA-09)	184
Anisimov, V. (ZPA-05)	228	Awad, A. (DOA-10)	49
Ansalone, P. (TOA-07)	169	Awad, A. (DPA-04)	56
Antonov, V. (APC-01)	19	Awad, A. (NOB-06)	119
Antonov, V. (APC-05)	20	Awad, A. (POA-02)	129
Antonov, V. (APC-06)	20	Awad, A. (SOA-06)	153
Antonov, V. (WPA-11)	203	Awad, A.A. (AOB-05)	11
Antunes de Oliveira, N. (QPA-09) . . .	146	Awad, A.A. (DPC-02)	61
Aoki, Y. (OOA-06)	123	Awano, H. (QOB-10)	144
Aoyama, M. (CPB-06)	47	Awano, H. (QPA-03)	145
Appino, C. (SF-02)	7	Aydin, M. (JOA-05)	94
Arai, K. (VPB-14)	193	Aydin, M. (POB-10)	132
Araki, Y. (ROB-07)	151	Azhar, A. (DPC-07)	62
Arango, I. (AOC-10)	14		
Arata, M. (VOA-02)	185		
Araujo, P. (POC-05)	134		
Araujo, P. (TOC-09)	174		
Arifin, M. (XPC-07)	218		
Arimatsu, K. (MOB-07)	112		
Arita, R. (BOA-04)	22		
Arnay, I. (COD-07)	40		
Arockia Doss, V. (TPC-07)	179		
Arockia Doss, V. (XPC-11)	219		
Arregi, J.A. (ROA-03)	150		
Arregi, J.A. (XOA-01)	208		
Arreguin			
Hernandez, M.d. (QPA-06)	146		
Arroo, D. (SOE-03)	161		

- B -

Baba, S. (KPA-12)	102
Babković, K. (PPC-01)	138
Babu, P. (TOC-10)	174
Back, C.H. (SOC-13)	158
Backes, D. (BOB-05)	24
Baczewski, L.T. (XOB-05)	210
Badura, A. (BOA-09)	22
Bae, J. (GPB-17)	82
Back, G. (PPB-01)	136
Baghel, A. (GPB-15)	82
Bagri, A. (UOA-03)	180
Bai, H. (DOA-01)	48

Bai, J. (HOA-05)	83	Beach, G. (NOA-04)	117
Bai, J. (HPA-20)	87	Beach, G. (VOB-01)	187
Bai, L. (JOA-10)	94	Beato-Lopez, J. (KPA-04)	101
Bai, S. (POB-07)	132	Beato-Lopez, J. (ZOA-09)	226
Bai, T. (YPA-08)	225	Beatrice, C. (SF-03)	7
Bai, X. (LPA-06)	106	Beauchamp, M. (ZPA-14)	229
Bai, Y. (JPB-11)	98	Beaulieu, N. (SOD-13)	160
Bai, Z. (WPA-10)	203	Becherer, M. (SOB-01)	154
Baigutlin, D. (BOB-14)	25	Becherer, M. (SOC-12)	158
Baigutlin, D. (UOB-09)	182	Becker, S. (BOB-03)	24
Bailey, J. (YOA-04)	221	Beckert, S. (BOA-09)	22
Bainsla, L. (DOA-10)	49	Beckert, S. (YOB-06)	223
Bainsla, L. (DPA-04)	56	Beckmann, B. (QOA-09)*	142
Balakrishnan, G. (COA-05)	33	Beckmann, B. (QPA-05)	145
Balakrishnan, G. (COB-01)	34	Beckmann, B. (QPA-12)	146
Balakrishnan, G. (COB-07)	35	Bedanta, S. (ROA-01)	149
Balakrishnan, G. (COB-08)	35	Bednarz, B. (BOB-05)	24
Balakrishnan, G. (COE-10)	43	Bednarz, B. (BOC-06)	26
Balcells, L. (SC-02)	4	Begueret, J. (SG-03)	8
Baldrati, L. (BOB-05)	24	Behera, N. (DOA-10)	49
Baldrati, L. (BOC-06)	26	Behera, N. (DPA-04)	56
Baldrati, L. (SOF-03)	163	Behera, N. (POA-02)	129
Balicas, L. (COC-09)	38	Beigang, R. (DOC-13)	53
Balland, T.S. (DPB-08)	60	Bejarano, M. (SOE-11)	162
Balliet, J. (QOA-02)	141	Belmeguenai, M. (COA-04)	32
Baltz, V. (BOA-09)	22	Belmeguenai, M. (DOD-06)	55
Baltz, V. (BOB-03)	24	Belov, A. (WPA-11)	203
Baltz, V. (COA-07)	33	Ben Youssef, J. (SOD-13)	160
Bandyopadhyay, S. (QPB-13)	149	Ben, T. (FPA-07)	75
Bangar, H. (DPC-10)	62	Benabou, A. (MOB-05)	111
Banu, N. (VOB-12)	188	Bender, P. (XOD-05)	214
Bao, X. (FPA-01)	74	Beneke, G. (BOC-06)	26
Bao, X. (JPA-05)	96	Beneke, G. (COA-10)	33
Bao, X. (JPB-08)	98	Benetti, L. (NOB-03)	118
Bao, X. (MPB-11)	116	Benetti, L. (NOB-05)	118
Bao, X. (QPB-05)	148	Benetti, L. (PPA-03)	135
Bao, X. (WPA-03)	202	Benetti, L. (SG-02)	8
Bao, X. (WPA-08)	203	Benetti, L. (SG-03)	8
Baraduc, C. (COA-04)	32	Benetti, L. (TOB-08)	171
Baraduc, C. (POB-05)	132	Benetti, L. (TPA-08)	176
Barakat, G. (IOA-12)	88	Bentley, P.D. (BOB-13)	25
Barakat, G. (IPA-09)	91	Bentley, P.D. (XOA-10)	209
Barakat, G. (LOA-10)	105	Bentley, P.D. (YOB-07)	224
Barandiaran, J. (PPD-02)	140	Berganza, E. (SD-01)	5
Bardotti, L. (XOC-11)	213	Bergenti, I. (XOA-10)	209
Baringthon, L. (COD-04)	39	Berger, F. (EOB-01)	66
Barker, J. (BPA-17)	31	Bergeret, F. (AOC-10)	14
Barker, J. (SOB-04)	155	Berja, A. (UOA-05)	180
Barman, A. (XOC-06)	212	Berja, A. (XOD-14)	215
Barra, A. (BOB-03)	24	Bernardi, P. (WOD-03)	200
Barrera, G. (EOB-03)	66	Bernevig, B. (SA-02)	2
Barreteau, C. (UPA-09)	184	Bernstein, N. (AOB-11)	12
Barry, J.R. (OOA-05)	123	Bernstein, N. (DOB-10)	51
Barry, P.S. (SB-03)	3	Bernstein, N. (TOA-05)	169
Barsoum, M. (QPA-05)	145	Bernstein, N. (YOA-08)	222
Bartasyte, A. (QOB-03)	143	Bernstein, N. (YOB-01)	223
Barthelemy, A. (SOD-03)	159	Berritta, M. (BOD-07)	29
Barthélémy, D. (EOA-08)	65	Bertacco, R. (SG-05)	8
Barton, L. (XOB-01)	210	Bertolini, G. (XOA-10)	209
Barwal, V. (AOA-04)	9	Bessonov, V. (APB-02)	17
Basso, V. (TOA-07)	169	Beye, M. (SOF-05)	164
Battle, X. (SC-01)	4	Bharadwaj, V. (COB-03)	35
Bauer, G. (DOA-07)	49	Bhardwaj, V. (COC-08)	38
Bauer, G. (DOB-07)	51	Bhatnagar- Schöffmann, T. (COA-11)	33
Bauer, G. (SB-01)	3	Bhatnagar- Schöffmann, T. (DOD-06)	55
Bauer, G. (TOA-12)	170	Bhatt, R.C. (BPA-16)	31
Bauer, G. (TOB-17)	173	Bhattacharjee, P.P. (XPA-10)	220
Bauer, G. (ZOA-05)	226	Bhattacharya, A. (DPA-05)	57
Bauer, J. (SPA-06)	166	Bhowmik, D. (NOB-10)	119
Bauernfeind, V. (UPA-07)	184	Bhukta, M. (COB-03)	35
Bayazit, G. (LOA-05)	104	Bhukta, M. (COB-13)	36
Bazrov, M. (APC-01)	19	Bhuktare, S. (BOC-04)	26
Bazrov, M. (APC-05)	20	Bi, L. (CPB-04)	46
Bazrov, M. (APC-06)	20	Bi, L. (QOB-12)	145
Bazrov, M. (XPC-08)	218		
Béa, H. (COA-04)	32		

*Best student presentation award finalist

Bi, S. (JPB-14)	99	Bortolotti, P. (TOB-09)	171
Bi, Y. (HPA-17)	86	Borza, F. (VPA-02)	189
Bi, Y. (JPB-02)	97	Bossini, D. (BOB-01)	23
Bian, F. (FPA-05)	75	Boughanmi, W. (MOB-05)	111
Bian, G. (AOA-03)	9	Boukari, H. (COC-11)	39
Bian, M. (COC-10)	38	Boukari, H. (DOC-01)	52
Bian, W. (JOA-02)	94	Boulle, O. (COA-04)	32
Bianchi, N. (GPB-02)	81	Boulle, O. (TOA-01)	168
Bianchin, L. (WOD-08)	201	Bourcin, G. (ROA-07)	150
Bibes, M. (APC-12)	21	Bourcin, G. (SOD-06)	159
Bibes, M. (DOB-11)	51	Bourdarot, F. (SOE-08)	162
Bibes, M. (SOD-03)	159	Bourgault, A.J. (IOB-05)	89
Biela, J. (MOA-01)	108	Bourhill, J. (SOD-06)	159
Biela, J. (MOA-06)	109	Bouzehouane, K. (COA-02)	32
Billoni, O. (VOB-04)	187	Bouzehouane, K. (SOD-03)	159
Bin, Z. (CPB-04)	46	Bovensiepen, U. (SOF-05)	164
Binda, F. (COD-05)	40	Boventer, I. (SOD-03)	159
Biniskos, N. (SOE-08)	162	Boventer, I. (SOE-12)	162
Birch, M. (COB-01)	34	Bowman, R.M. (SOA-02)	153
Birch, M. (COE-10)	43	Boyu, Z. (AOA-07)	10
Bird, J. (COC-10)	38	Boyu, Z. (BOD-02)	28
Bird, J. (KOA-05)	100	Boyu, Z. (NOA-06)	117
Bird, J. (KPA-18)	103	Boyu, Z. (XPB-07)	216
Bird, T. (XOA-10)	209	Bozhko, D.A. (SOC-02)	156
Bittner, F. (WOB-02)	196	Bracikowski, N. (FOA-12)	74
Björling, A. (XOB-01)	210	Bracikowski, N. (IOA-10)	88
Blanco		Bradley, H. (NPA-12)	122
Rodríguez, J.Á. (XOD-05)	214	Bradley, J. (XOA-10)	209
Blanco, J. (VPA-05)	190	Braganca, P.M. (NOB-11)	119
Blanco, J. (VPA-08)	190	Brahlek, M. (COC-09)	38
Blanco, J. (VPA-12)	191	Bran, C. (SD-01)	5
Blanter, Y. (SB-01)	3	Brandao Veiga, P. (DPC-06)	62
Blanter, Y. (TOA-12)	170	Brandt, L. (DOA-11)	50
Bläßer, J. (BOD-03)	28	Branford, W.R. (SOE-03)	161
Blonski, P.S. (COC-05)	37	Brataas, A. (COE-09)	42
Blügel, S. (COE-09)	42	Braun, T. (WOB-05)	196
Blügel, S. (SOE-08)	162	Breiss, H. (PPB-04)	136
Boeglin, C. (SOF-05)	164	Brems, M.A. (COA-10)	33
Boehnert, T. (NOB-03)	118	Brems, M.A. (CPA-13)	45
Boehnert, T. (POB-03)	131	Brereton, B. (COB-07)	35
Boehnert, T. (SG-02)	8	Brereton, B. (COB-08)	35
Boehnert, T. (TPA-08)	176	Breth, L. (SOB-03)	155
Boekelheide, Z. (EPB-06)	71	Breth, L. (TOC-11)	175
Bogach, A. (UOB-08)	182	Brik, M. (DOB-10)	51
Bogy, D.B. (OOA-07)	123	Brouwer, P. (DOA-11)	50
Böhnert, T. (TPA-09)	176	Bruce, C. (KOA-05)	100
Bojoi, R. (MOA-04)	109	Bruce, C. (KPA-18)	103
Bokor, J. (BOD-01)	28	Brückel, T. (SOE-08)	162
Bollapragada, V. (OOA-01)	122	Bruckner, F. (CPA-10)	44
Bollero, A. (WOD-03)	200	Bruckner, F. (SOB-02)	154
Bollero, A. (WOD-08)	201	Bruckner, F. (TOC-01)	173
Bollero, A. (WOD-09)	201	Bruckner, F. (TOC-06)	174
Bollero, A. (WOD-15)	202	Bruckner, F. (TOC-07)	174
Bollero, A. (XOD-03)	214	Brueckl, H. (TOC-11)	175
Bolyachikin, A. (WOA-09)	195	Brun, T. (POB-05)	132
Bolyachkin, A. (OOA-02)	123	Brunt, D. (VOB-12)	188
Bolyachkin, A. (QOA-06)	142	Brykin, L. (XPA-09)	220
Bolyachkin, A. (SF-04)	7	Bu, F. (FPA-09)	76
Bolyachkin, A. (WOA-02)	194	Buchelnikov, V. (BOB-14)	25
Bolyachkin, A. (WOB-12)	197	Buchelnikov, V. (UOB-09)	182
Bonanni, A. (UPA-07)	184	Buda-Prejbeanu, L.D. (COA-04)	32
Bondarenko, A. (TOA-12)	170	Buda-Prejbeanu, L.D. (DPC-06)	62
Bonell, F. (COC-11)	39	Buda-Prejbeanu, L.D. (NOB-04)	118
Bonell, F. (COD-09)	40	Buda-Prejbeanu, L.D. (OOB-10)	125
Bonell, F. (COE-04)	41	Buda-Prejbeanu, L.D. (OPB-05)	128
Bonell, F. (COE-08)	42	Buda-Prejbeanu, L.D. (SOA-01)	153
Bonell, F. (DOC-01)	52	Budai, N.D. (YOB-04)*	223
Bonetti, S. (SOD-01)	158	Budinska, B. (SOD-08)	160
Bonnard, C. (FPA-13)	76	Bugnet, M. (XOC-11)	213
Bony, B. (APB-06)	18	Bull, C. (APA-08)	16
Borah, J. (EOA-09)	65	Bureš, R. (VOB-11)	188
Borders, W. (NOB-11)	119	Burghard, M. (COE-10)	43
Borkowski, R. (COE-09)	42	Burgos Parra, E.O. (DOC-01)	52
Bortolotti, P. (SG-03)	8	Burkhardt, C. (WOB-03)	196
Bortolotti, P. (SOD-03)	159	Burnell, G. (BOB-11)	25
Bortolotti, P. (SOE-12)	162	Burnell, G. (OOB-15)	126

*Best student presentation award finalist

Burnell, G. (SOB-06).....	155
Burton, J. (CPB-14).....	48
Bussiere, A. (OOB-14).....	125
Byczynski, G. (IOB-05).....	89
Byerly, K. (VPA-01).....	189

- C -

C. Denardin, J. (TOA-03).....	168
Caballero-Calero, O. (XOC-02)....	212
Cabanas, A. (VOA-04).....	185
Cabrera, D. (EOA-03).....	64
Caçoilo, N. (OOB-10).....	125
Caçoilo, N. (OPB-05).....	128
Cagnon, L. (COA-04).....	32
Cahaya, A.B. (DPC-07).....	62
Cai, H. (NOB-13).....	120
Cai, H. (NPA-14).....	122
Cai, H. (NPA-16).....	122
Cai, H. (OPB-06).....	128
Cai, H. (OPB-07).....	128
Cai, H. (OPB-08).....	128
Cai, J. (DPA-10).....	57
Cai, K. (DPA-03).....	56
Cai, K. (OOB-08).....	125
Cai, K. (OOB-13).....	125
Cai, K. (OOB-16).....	126
Cai, K. (OPB-10).....	128
Cai, W. (GPA-02).....	78
Cai, W. (GPA-03).....	78
Cai, W. (GPA-04).....	78
Cai, W. (OOB-07).....	125
Cai, W. (POA-01).....	129
Cai, Z. (HOA-04).....	83
Cai, Z. (IOB-03).....	89
Cai, Z. (POB-09).....	132
Calavalle, F. (DOC-03).....	52
Calvo, R. (COE-02).....	41
Camarero, J. (COD-07).....	40
Camley, R.E. (SOC-03).....	156
Campiglio, P. (POC-07).....	134
Campion, R. (XOB-01).....	210
Campos-Gaona, D. (KPA-21).....	103
Camsari, K. (SD-04).....	5
Canero-Infante, I. (XOC-11).....	213
Cantu, R. (QOB-05).....	144
Cao, A. (CPA-07).....	44
Cao, C. (WOD-14).....	202
Cao, G. (IOB-09).....	89
Cao, G. (IOB-11).....	90
Cao, G. (IPB-10).....	93
Cao, J. (APB-01).....	17
Cao, J. (DPB-12).....	60
Cao, J. (XOA-03).....	208
Cao, K. (OOB-05).....	124
Cao, K. (OOB-07).....	125
Cao, K. (POA-01).....	129
Cao, R. (TPA-07).....	176
Cao, S. (BOB-03).....	24
Cao, T. (YPA-07).....	225
Cao, Y. (DPB-12).....	60
Cao, Y. (RPA-05).....	152
Cao, Y. (SOE-10).....	162
Cao, Z. (GOA-01).....	77
Cao, Z. (TPA-02).....	175
Capua, A. (AOB-11).....	12
Capua, A. (DOB-10).....	51
Capua, A. (TOA-05).....	169
Capua, A. (YOA-08).....	222
Capua, A. (YOB-01).....	223
Carbono, D. (XOB-01).....	210
Carbonio, R. (VOB-04).....	187
Cardoso, S. (AOC-09).....	14
Cardoso, S. (POC-05).....	134
Cardoso, S. (TOC-09).....	174
Caretta, L.M. (NOA-04).....	117
Carley, R. (SOF-05).....	164

Carlotti, G. (CPA-14).....	45
Caro Patiño, J. (QPA-09).....	146
Caron, L. (QOA-08).....	142
Caron, L. (QOB-01).....	143
Carpenter, R. (DOE-02).....	55
Carpenter, R. (DPA-03).....	56
Carpenter, R. (OOB-06).....	124
Carpenter, R. (OOB-12).....	125
Carpenter, R. (TOB-04).....	170
Carpentieri, M. (NOB-02).....	118
Carpentieri, M. (NOB-08).....	119
Carpentieri, M. (POA-05).....	130
Carpentieri, M. (PPD-03).....	140
Carrière, M. (EOB-01).....	66
Carter-Gartside, J. (SOE-03).....	161
Carter, A. (POC-07).....	134
Caruana, A. (ZPA-11).....	229
Carva, K. (BOD-07).....	29
Casanova, F. (AOC-10).....	14
Casanova, F. (COE-02).....	41
Casanova, F. (COE-03).....	41
Casanova, F. (DOC-03).....	52
Casas, B. (COC-09).....	38
Castel, V.M. (ROA-07).....	150
Castel, V.M. (SOD-06).....	159
Castellanos-Reyes, J.Á. (YOB-08).....	224
Castoldi, A. (SOF-05).....	164
Cavassila, S. (EOA-08).....	65
Cavoit, C. (POB-05).....	132
Cecil, T.W. (SB-03).....	3
Cecil, T.W. (SOD-07).....	159
Celebi, D. (WOC-14).....	200
Čelko, L. (ROA-03).....	150
Cen, Y. (NOB-01).....	118
Cervera-Gabalda, L. (ZOA-09).....	226
Cespedes, O. (BOB-11).....	25
Cespedes, O. (OOB-15).....	126
Cespedes, O. (XOA-09).....	209
Cespedes, O. (ZPA-11).....	229
Cestarollo, L. (QOB-05)*.....	144
Ceylan, D. (LOA-01).....	104
Cha, H. (WOA-11).....	195
Cha, K. (GPB-08).....	81
Cha, K. (JPB-07).....	98
Cha, S. (QOA-11).....	143
ChaBour, F. (IPA-09).....	91
Chae, K. (XOD-04).....	214
Chai, F. (GPA-02).....	78
Chai, T. (ZOA-11).....	227
Chai, X. (FPA-05).....	75
Chakhalian, J. (UOB-04).....	181
Chandra, C.K. (EOA-02).....	63
Chang, C. (CPB-01).....	46
Chang, C. (DPB-09).....	60
Chang, C. (DPB-17).....	61
Chang, C. (EPA-12).....	70
Chang, C. (HPA-03).....	84
Chang, C. (WPB-11).....	205
Chang, C. (XPA-05).....	219
Chang, C. (ZPA-12).....	229
Chang, C.L. (SB-03).....	3
Chang, H. (JPB-17).....	99
Chang, H. (WPA-05).....	203
Chang, H. (WPA-06).....	203
Chang, H.W. (ROB-02).....	151
Chang, H.W. (WPB-11).....	205
Chang, J. (KOA-04).....	100
Chang, J. (KOA-06).....	100
Chang, T. (DOA-04).....	48
Chang, T. (HPA-07).....	85
Chang, T. (IPB-05).....	92
Chang, T. (JPB-16).....	99
Chang, W.C. (WPA-05).....	203
Chang, W.C. (WPA-06).....	203
Chang, W.C. (WPB-11).....	205
Chang, Y. (BPA-02).....	29

*Best student presentation award finalist

Channagoudra, G. (UOA-03).....	180	Chen, R. (COB-11).....	36
Chantrell, R.W. (BPA-07).....	30	Chen, R. (CPA-15).....	45
Chantrell, R.W. (NPA-04).....	121	Chen, R. (WOC-10).....	199
Chantrell, R.W. (SC-02).....	4	Chen, R. (YPA-08).....	225
Chantrell, R.W. (SOB-05).....	155	Chen, S. (APB-12).....	19
Chantrell, R.W. (TOC-05).....	174	Chen, S. (BOC-08).....	27
Chantrell, R.W. (TPC-05).....	179	Chen, S. (BOD-06).....	28
Chantrell, R.W. (WOD-01).....	200	Chen, S. (EOB-14).....	68
Chantrell, R.W. (WPA-14).....	204	Chen, S. (ROA-04).....	150
Chao, P. (IOB-06).....	89	Chen, T. (BOA-02).....	21
Chao, S. (DPB-09).....	60	Chen, T. (BOA-04).....	22
Chao, Y. (COC-01).....	37	Chen, W. (APB-08).....	18
Chapman, E. (ZPA-14).....	229	Chen, W. (DOB-09).....	51
Chareyron, B. (GOA-05).....	77	Chen, W. (IOA-11).....	88
Chata'ni, K. (POA-08).....	130	Chen, W. (IPB-04).....	92
Chatterjee, R. (COC-08).....	38	Chen, X. (BOA-05).....	22
Chau, K. (IPA-02).....	90	Chen, X. (DOA-01).....	48
Chau, K. (IPB-03).....	92	Chen, X. (FOA-10).....	73
Chau, K. (LPA-03).....	106	Chen, X. (JPA-16).....	97
Chau, K. (MOA-13).....	110	Chen, X. (YOA-03).....	221
Chau, K. (MOA-17).....	110	Chen, Y. (GPA-14).....	79
Chauhan, H. (ZPA-15).....	229	Chen, Y. (GPA-15).....	80
Chauhan, H.C. (COB-05).....	35	Chen, Y. (JPB-17).....	99
Chauleau, J. (ROB-05).....	151	Chen, Y. (LPA-04).....	106
Chauleau, J. (SOF-04).....	163	Chen, Y. (SD-02).....	5
Chaurasiya, A. (AOB-05).....	11	Chen, Y. (TPC-06).....	179
Chaurasiya, A. (DOA-10).....	49	Chen, Y. (UOA-07).....	181
Chaurasiya, A. (SOA-06).....	153	Chen, Y. (VPA-14).....	191
Che, P. (SOD-03).....	159	Chen, Y. (XOC-08).....	212
Che, S. (VOB-02).....	187	Chen, Y. (XOD-08).....	215
Cheenkundil, R. (SPA-06).....	166	Chen, Y. (XPC-04).....	218
Chekhov, A. (DOA-11).....	50	Chen, Z. (DPA-10).....	57
Chelvane, A. (QOA-12).....	143	Chen, Z. (JPB-06).....	98
Chelvane, A. (QPA-01).....	145	Chen, Z. (KOA-04).....	100
Chen, A. (COD-03).....	39	Chen, Z. (XOA-11).....	209
Chen, A. (RPA-07).....	152	Chenattukuzhiyil, S. (COE-02).....	41
Chen, B. (POA-14).....	131	Cheng, C. (DOA-04).....	48
Chen, B. (XPC-04).....	218	Cheng, C. (OOB-11).....	125
Chen, C. (COB-12).....	36	Cheng, E. (EPB-10).....	72
Chen, C. (COC-01).....	37	Cheng, G. (SD-02).....	5
Chen, C. (JOA-14).....	95	Cheng, H. (AOA-07).....	10
Chen, C. (POB-06).....	132	Cheng, H. (COB-11).....	36
Chen, C. (TPC-01).....	178	Cheng, H. (CPA-07).....	44
Chen, C. (TPC-07).....	179	Cheng, H. (XPB-07).....	216
Chen, C. (XPB-08).....	217	Cheng, K. (POA-04).....	129
Chen, D. (IOB-08).....	89	Cheng, K. (PPA-02).....	135
Chen, D. (PPC-04).....	138	Cheng, K. (PPB-13).....	137
Chen, D. (WPB-02).....	204	Cheng, L. (KOA-04).....	100
Chen, G. (JPB-17).....	99	Cheng, M. (HPA-19).....	86
Chen, G. (ZOA-13).....	227	Cheng, M. (LPA-13).....	107
Chen, H. (BOB-03).....	24	Cheng, P. (QPA-14).....	147
Chen, H. (IOB-06).....	89	Cheng, Q. (OOA-07).....	123
Chen, H. (WPA-01).....	202	Cheng, R. (BOC-05).....	26
Chen, I. (ZOA-11).....	227	Cheng, S. (MPB-04).....	115
Chen, J. (APA-01).....	15	Cheng, W. (POB-11).....	133
Chen, J. (CPB-11).....	47	Cheng, W. (ZPA-07).....	228
Chen, J. (DOB-07).....	51	Cheng, X. (COC-10).....	38
Chen, J. (DOD-05).....	54	Cheng, X. (YOB-09).....	224
Chen, J. (DPB-03).....	59	Chérif, S. (COA-04).....	32
Chen, J. (DPC-04).....	62	Chernov, A. (NOA-03).....	117
Chen, J. (FPA-09).....	76	Cheung, S. (TOC-04).....	173
Chen, J. (KPA-20).....	103	Chevalier, A. (PPB-04).....	136
Chen, J. (MOA-12).....	110	Chevalier, A. (WOD-02).....	200
Chen, J. (MOA-16).....	110	Chevalier, A. (WPC-04).....	206
Chen, J. (OOB-01).....	124	Cheynis, F. (DOB-11).....	51
Chen, J. (ZOA-13).....	227	Chi, B. (RPA-01).....	152
Chen, J. (ZOA-14).....	227	Chi, Z. (COE-02).....	41
Chen, K. (DOA-04).....	48	Chi, Z. (COE-03).....	41
Chen, K. (MOA-07).....	109	Chiba, D. (BPA-09).....	30
Chen, L. (FPA-07).....	75	Chiba, M. (PPB-03).....	136
Chen, M. (BPA-02).....	29	Chiba, M. (QPB-07).....	148
Chen, M. (HPA-15).....	86	Chiba, T. (DPC-05).....	62
Chen, M. (HPA-18).....	86	Chiba, T. (UOB-01).....	181
Chen, M. (OOB-11).....	125	Chien, C. (DOA-06).....	49
Chen, P. (ROB-02).....	151	Chikaki, S. (EOB-08).....	67
Chen, R. (APC-02).....	20	Chikaki, S. (EOB-09).....	67
Chen, R. (COA-03).....	32	Chirac, T. (ROB-05).....	151

*Best student presentation award finalist

Chiriac, H. (EPA-07)	69	Churemart, J. (TOC-05)	174
Chiriac, H. (VOA-08)	186	Churemart, J. (TPC-05)	179
Chiriac, H. (VPA-07)	190	Churemart, P. (BPA-07)	30
Cho, H. (FPA-17)	76	Churemart, P. (TOC-05)	174
Cho, H. (GPB-01)	80	Churemart, P. (TPC-05)	179
Cho, J. (APB-02)	17	Churykanova, M. (VOA-05)	186
Choe, S. (APB-14)	19	Chuvilin, A. (AOC-10)	14
Choe, S. (DPA-17)	58	Chuvilin, A. (COE-02)	41
Choe, S. (DPB-01)	59	Chuvilin, A. (DOC-03)	52
Choe, S. (NOB-14)	120	Ciccarelli, C. (COD-08)	40
Choe, S. (TOB-14)	172	Ciccarelli, C. (SPA-05)	166
Choe, S. (TPA-03)	176	Cilasun, H. (NOB-12)	120
Choi-Yim, H. (WOA-11)	195	Cittanti, D. (MOA-04)	109
Choi, C. (WOB-09)	197	Ciubotaru, F. (NOA-05)	117
Choi, G. (APB-07)	18	Ciubotaru, F. (QOA-02)	141
Choi, G. (APB-10)	19	Ciubotaru, F. (SG-04)	8
Choi, G. (BPA-01)	29	Clarke, B. (VOA-10)	186
Choi, G. (FPA-02)	75	Clarke, B. (XOB-09)	211
Choi, H. (WOA-11)	195	Claro, M. (NOB-03)	118
Choi, J. (FPA-03)	75	Claro, M. (SG-02)	8
Choi, J. (FPA-17)	76	Claro, M. (SG-03)	8
Choi, J. (GPA-18)	80	Claro, M. (TPA-08)	176
Choi, J. (GPB-01)	80	Claude, R. (VOB-13)	188
Choi, J. (GPB-05)	81	Claussen, N. (SA-02)	2
Choi, J. (HPA-05)	85	Clot, E. (SOD-13)	160
Choi, J. (HPA-11)	85	Cobas, E. (COD-02)	39
Choi, J. (HPA-12)	86	Coburn-Moran, L. (ZOA-08)	226
Choi, J. (LPA-08)	107	Coccoconcelli, M. (SG-05)	8
Choi, J. (PPB-10)	137	Coe, J. (BOA-12)	23
Choi, P. (WPA-12)	204	Coe, J. (XOB-04)	210
Choi, W. (AOC-10)	14	Coe, J. (ZOA-08)	226
Choi, W. (APC-04)	20	Collin, S. (AOB-09)	12
Choi, W. (DPC-11)	62	Collin, S. (APB-06)	18
Choi, Y. (APB-10)	19	Collings, J.B. (WOD-01)	200
Choi, Y. (YOA-02)	221	Collings, J.B. (WPA-14)	204
Choi, Y. (ZOA-10)	227	Cores, B. (DOB-11)	51
Choi, Y. (ZOA-12)	227	Corodeanu, S. (VOA-08)	186
Chong, Y. (LOA-02)	104	Corodeanu, S. (VPA-07)	190
Chopdekar, R.V. (YOA-03)	221	Corte-Leon, P. (QOA-10)	143
Chopin, C. (NOB-05)	118	Corte-Leon, P. (VOA-05)	186
Chopin, C. (SOB-08)	155	Corte-Leon, P. (VPA-05)	190
Chopin, C. (TOA-08)	169	Corte-Leon, P. (VPA-08)	190
Chou, C. (BOA-03)	21	Corte-Leon, P. (VPA-12)	191
Choudhary, R.J. (UOA-03)	180	Cortés-Ortuño, D. (COB-01)	34
Choueikani, F. (COE-08)	42	Cosset-Cheneau, M. (APC-12)	21
Chow, Y. (DPB-09)	60	Cosset-Cheneau, M. (CPB-13)	48
Chow, Y. (XPA-05)	219	Cosset-Cheneau, M. (DOB-11)	51
Chowdhury, B. (PPA-01)	135	Costea, S.D. (APA-09)	16
Chowdhury, M. (SC-04)	4	Cotofana, S. (NOA-05)	117
Chowdhury, N. (DPC-10)	62	Cotofana, S. (SG-04)	8
Chowdhury, S. (SD-04)	5	Couet, S. (DOE-02)	55
Chshiev, M. (COA-04)	32	Couet, S. (DPA-03)	56
Chshiev, M. (COC-07)	38	Couet, S. (NOA-05)	117
Chshiev, M. (COC-11)	39	Couet, S. (OOB-06)	124
Chshiev, M. (COD-09)	40	Couet, S. (OOB-08)	125
Chshiev, M. (COE-08)	42	Couet, S. (OOB-12)	125
Chu, Y. (SOB-07)	155	Couet, S. (OOB-13)	125
Chuang, P. (VPA-14)	191	Couet, S. (QOA-02)	141
Chuang, P. (XPC-04)	218	Couet, S. (SG-04)	8
Chuang, T. (BPA-05)	30	Couet, S. (TOB-04)	170
Chuang, W. (SPA-06)	166	Courtin, J. (COE-08)	42
Chuang, Y. (SPA-07)	166	Crivello, J. (UPA-09)	184
Chubykalo-Fesenko, O. (SC-02)	4	Cros, V. (AOB-09)	12
Chubykalo-Fesenko, O. (SD-01)	5	Cros, V. (APB-06)	18
Chumak, A. (SOC-04)	156	Cros, V. (COA-02)	32
Chumak, A. (SOD-08)	160	Cros, V. (COA-11)	33
Chumak, A. (SOD-10)	160	Cros, V. (COB-05)	35
Chumak, A. (SPA-11)	167	Cros, V. (SOD-13)	160
Chumak, A. (SPA-17)	168	Cros, V. (SOE-12)	162
Chumak, O. (XOB-05)	210	Cros, V. (TOB-03)	170
Chung, H. (AOB-06)	11	Cros, V. (TOB-09)	171
Chung, H. (APB-12)	19	Crotti, D. (DOE-02)	55
Chung, H.J. (NPA-08)	121	Crupi, V. (NOB-08)	119
Chung, S. (BOD-09)	29	Csaba, G. (SB-05)	3
Chung, T. (POB-06)	132	Csaba, G. (SOB-01)	154
Chung, T. (ZOA-11)	227	Csaba, G. (SOC-12)	158
Churemart, J. (BPA-07)	30	Cuccurullo, S. (SG-05)	8

*Best student presentation award finalist

Dias, A. (XPB-06)	216
Díaz, E. (BOD-01)	28
Díaz, E. (SOA-04)	153
Díaz, E. (SOA-08)	154
Díaz, J. (TOB-13)	172
Dieny, B. (DPC-06)	62
Dieny, B. (EOB-01)	66
Dieny, B. (NOB-04)	118
Dieny, B. (OOB-10)	125
Dieny, B. (OPB-05)	128
Dimier, T. (MOA-01)	108
Dimier, T. (MOA-06)	109
Dimoulas, A. (COE-05)	41
Dinakar, D. (UPA-03)	183
Ding, H. (DPB-12)	60
Ding, H. (LOA-03)	104
Ding, H. (LPA-16)	108
Ding, H. (MOB-09)	112
Ding, J. (BOC-10)	27
Ding, S. (BOB-05)	24
Ding, S. (DOB-06)	51
Ding, S. (GPA-13)	79
Ding, Y. (WOC-10)	199
Ding, Y. (WPB-13)	206
Dion, T.C. (SOE-03)	161
Dirba, I. (EOA-02)	63
Dirba, I. (EOA-07)	64
Disch, S. (SC-03)	4
Divan, R. (SB-03)	3
Divan, R. (SOD-07)	159
Divi, H. (TPB-02)	177
Divi, H. (UPA-03)	183
Djouadi, Y. (IPB-11)	93
Dobák, S. (VOB-08)	188
Dobák, S. (VOB-11)	188
Dobrovolskiy, O. (SOD-08)	160
Dobrovolskiy, O. (TOB-02)	170
Dohi, T. (AOB-01)	11
Dohi, T. (COB-03)	35
Dohi, T. (COB-13)	36
Doi, M. (WPB-03)	204
Doi, M. (WPB-08)	205
Doi, M. (WPC-09)	207
Doi, M. (WPC-14)	207
Doi, M. (XPA-01)	219
Dolan, E. (COE-03)	41
Domenjoud, M. (QOB-09)	144
Dong, C. (WPB-13)	206
Dong, J. (BOA-06)	22
Dong, J. (CPB-07)	47
Dong, T. (LPA-15)	107
Dong, T. (MOB-10)	112
Dong, Z. (GPA-17)	80
Dong, Z. (GPB-10)	82
Dong, Z. (MPA-13)	114
Donges, A. (SOF-06)	164
Donnelly, C. (NOA-01)	116
Donnelly, C. (TOC-07)	174
Döring, F. (SOF-05)	164
Dörr, F. (AOC-09)	14
dos Santos Dias, M. (SOE-08)	162
dos Santos, F.J. (SOE-08)	162
Dosenovic, D. (COC-11)	39
Dosenovic, D. (COD-09)	40
Dosenovic, D. (COE-08)	42
Dotsenko, A. (WPA-11)	203
Dou, C. (APA-01)	15
Dou, C. (CPB-11)	47
Dou, C. (DPC-04)	62
Dou, R. (MPA-11)	114
Dou, R. (MPA-14)	114
Dowling, R.L. (PPD-06)	140
Downey, B. (QOA-01)	141
Dozono, H. (POA-14)	131
Drossel, W. (WOB-02)	196
Drucker, N.C. (SA-02)	2
Du, A. (COA-12)	34

Du, A. (CPA-07)	44
Du, A. (OOB-07)	125
Du, A. (OPB-02)	128
Du, A. (POA-01)	129
Du, H. (CPA-07)	44
Du, H. (JPA-04)	96
Du, J. (BOD-04)	28
Du, J. (BPA-06)	30
Du, J. (DOE-05)	56
Du, J. (DPA-10)	57
Du, J. (XOA-03)	208
Du, Y. (BOB-13)	25
Du, Y. (HPA-10)	85
Du, Y. (IPA-04)	90
Du, Y. (JPA-10)	96
Du, Z. (POB-07)	132
Duan, J. (TOC-02)	173
Dubreuil, M. (ROA-07)	150
Dubs, C. (SOC-04)	156
Dubs, C. (SOD-08)	160
Dubs, C. (SPA-11)	167
Dubs, C. (SPA-17)	168
Ducevic, A. (SOB-02)	154
Ducevic, A. (TOC-01)	173
Ducharne, B. (KPA-22)	103
Ducharne, B. (MOB-02)	111
Ducharne, B. (MOB-03)	111
Ducharne, B. (MOB-04)	111
Ducharne, B. (ZOA-03)	226
Ducruet, C. (POB-05)	132
Duine, R.A. (DOC-10)	53
Duine, R.A. (SOE-09)	162
Dunin-Borkowski, R.E. (AOB-09)	12
Dunin-Borkowski, R.E. (BOD-03)	28
Dunin-Borkowski, R.E. (COA-02)	32
Dunin-Borkowski, R.E. (DOD-06)	55
Dupuis, V. (XOC-11)	213
Dupuis, V. (XPB-06)	216
Durin, G. (TOA-07)	169
Durner, C.A. (OOB-09)	125
Durner, C.A. (XOA-04)	208
Dusch, Y. (SOF-08)	165
Dutta, R. (SOC-11)	157
Dutta, T. (CPA-14)	45
Duttagupta, S. (CPB-09)	47
Duttagupta, S. (DPA-05)	57
Dyachenko, A. (ZPA-05)	228
Dzubinska, A. (QPA-06)	146
Dzubinska, A. (QPA-11)	146

- E -

Ebata, T. (VOB-09)	188
Ebata, T. (VPB-06)	192
Ebels, U. (BOB-03)	24
Ebels, U. (NOB-04)	118
Ebels, U. (NOB-09)	119
Ebels, U. (PPA-03)	135
Echevarría-Bonet, C. (XOD-05)	214
Eda, N. (EOB-10)	67
Edmonds, K. (XOB-01)	210
Edström, A. (YOB-08)	224
Egawa, G. (ROB-03)	151
Egawa, G. (ROB-04)	151
Egbu, J. (SF-06)	7
Eggert, B. (QOA-05)	142
Eguchi, T. (DPB-04)	59
Ehresmann, A. (XOA-05)	208
Eimer, S. (AOA-07)	10
Eimer, S. (XPB-07)	216
Eisebitt, S. (SOF-04)	163
Eizadi Sharifabad, M. (EOA-03)	64
El Kanj, A. (SOE-12)	162
El-Atab, N. (NPA-09)	121
El-Ghazaly, A. (QOB-05)	144
El-Melegy, T. (QPA-05)	145
Elbidweihy, H. (ZPA-14)	229

*Best student presentation award finalist

Elder, K.R. (COB-02)	34	Fan, D. (LPA-07)	106
Elhanoty, M.F. (SOF-05)	164	Fan, H. (GPA-08)	79
Elizabeth, S. (TPB-10)	178	Fan, R. (COB-08)	35
Elm, M. (XOC-09)	212	Fan, X. (CPB-08)	47
Elyasi, M. (DOA-07)	49	Fang, C. (DPB-13)	60
Elyasi, M. (DOB-07)	51	Fang, L. (EPA-12)	70
Elyasi, M. (SB-01)	3	Fang, L. (ZPA-12)	229
Elyasi, M. (TOB-17)	173	Fang, S. (PPC-14)	139
Emdi, G. (DPA-01)	56	Fang, Y. (UOA-02)	180
Emori, S. (DOC-05)	52	Fang, Y. (WOA-13)	195
Endo, A. (KPA-10)	102	Fang, Y. (WOC-07)	199
Endo, A. (KPA-12)	102	Fangohr, H. (SOF-05)	164
Endo, A. (KPA-16)	103	Farcis, L. (NOB-04)	118
Endo, A. (MPB-01)	115	Fariborzi, H. (NPA-09)	121
Endo, R. (HPA-01)	84	Farkhani, H. (NOB-03)	118
Endo, Y. (MPA-04)	113	Farkhani, H. (TPA-09)	176
Endo, Y. (PPB-11)	137	Farle, M. (QPA-05)	145
Endo, Y. (QPB-10)	148	Farmer, B. (YOA-03)	221
Endo, Y. (SPA-04)	166	Farooq, H. (IOA-10)	88
Endo, Y. (TPB-04)	177	Fassatoui, A. (COA-04)	32
Endo, Y. (TPC-08)	179	Fassbender, J. (SOD-01)	158
Endo, Y. (VOB-05)	187	Fassbender, J. (SOE-11)	162
Endo, Y. (VOB-14)	189	Fatima, A. (IOB-05)	89
Endo, Y. (VPB-03)	192	Favaro, D. (DOE-02)	55
Endo, Y. (VPB-08)	192	Favaro, D. (TOB-04)	170
Endo, Y. (VPB-14)	193	Fedel, S. (COD-05)	40
Endo, Y. (XPC-05)	218	Felser, C. (SA-03)	2
Endoh, T. (AOC-04)	13	Felser, C. (YOB-06)	223
Ener, S. (WOB-08)	197	Feng, H. (WPA-04)	203
Ener, S. (WOD-03)	200	Feng, H. (WPB-05)	205
Ener, S. (WOD-08)	201	Feng, J. (VOB-02)	187
Ener, S. (WOD-09)	201	Feng, K. (GPA-15)	80
Eng, L. (COC-10)	38	Feng, K. (GPA-17)	80
Engel, R.Y. (SOF-05)	164	Feng, R. (NPA-11)	121
Enokido, Y. (WOA-06)	195	Feng, Y. (CPA-14)	45
Enokizono, M. (IOA-04)	87	Feng, Y. (JPA-11)	96
Enokizono, M. (IPA-01)	90	Feng, Y. (LOA-09)	105
Enokizono, M. (VPA-13)	191	Fernández Barquín, L. (EOA-01) . . .	63
Enokizono, M. (YOA-11)	222	Fernández	
Erdinger, F. (SOF-05)	164	Barquín, L. (XOD-05)	214
Eriksson, F. (XPA-07)	220	Fernandez	
Eriksson, O. (SOF-05)	164	Gonzalez, C. (NOA-01)	116
Eriksson, S. (LOA-06)	104	Fernandez	
Eriksson, S. (LPA-19)	108	Gonzalez, C. (XOD-14)	215
Eriksson, S. (WOD-10)	201	Fernandez	
Erkovan, M. (AOC-09)	14	Gubieda, M. (EOA-01)	63
Ernoul, M. (TOB-09)	171	Fernandez	
Eroglu, A. (PPA-01)	135	Gubieda, M. (EOA-10)	65
Eschenlohr, A. (SOF-01)	163	Fernandez Gubieda, M. (SC-06)	5
Eschenlohr, A. (SOF-05)	164	Fernández-	
Escoda-Torroella, M. (SC-01)	4	Calzado, A. (WOD-03)	200
Espanet, C. (SE-04)	6	Fernandez, L. (TOB-16)	173
Estradé, S. (XOD-01)	213	Ferrara, E. (SF-02)	7
Estrader, M. (XOD-01)	213	Ferrara, E. (SF-03)	7
Evans, R.F. (COA-07)	33	Ferrara, E. (VOB-12)	188
Evans, R.F. (CPB-03)	46	Ferreira, R. (NOB-03)	118
Evans, R.F. (NPA-04)	121	Ferreira, R. (NOB-05)	118
Evans, R.F. (SOB-05)	155	Ferreira, R. (POB-03)	131
Evans, R.F. (WOD-01)	200	Ferreira, R. (PPA-03)	135
Evans, R.F. (WPA-14)	204	Ferreira, R. (SG-02)	8
Evans, R.F. (YOB-07)	224	Ferreira, R. (SG-03)	8
Everaert, K. (ZOA-02)	226	Ferreira, R. (TOB-08)	171
Evers, M. (SOF-06)	164	Ferreira, R. (TPA-08)	176
Everschor-Sitte, K. (COA-09)	33	Ferreira, R. (TPA-09)	176
Exl, L. (SOB-03)	155	Fert, A. (AOB-09)	12
		Fert, A. (AOC-11)	14
		Fert, A. (COA-02)	32
		Fessant, A. (ROA-07)	150
		Figueiredo-Prestes, N. (COA-02) . . .	32
		Figueiredo-Prestes, N. (COD-04) . . .	39
		Figueiredo-Prestes, N. (COE-05) . . .	41
		Figueroa, A.I. (COE-06)	42
		Filatova, A. (EOA-07)	64
		Filianina, M. (BOB-05)	24
		Fillion, C. (COA-04)	32
		Filnov, S. (BOB-03)	24
		Filnov, S. (BPA-14)	31

- F -

*Best student presentation award finalist

Finizio, S. (TOC-07)	174	Fujimoto, K. (PPC-13)	139
Finizio, S. (YOA-04)	221	Fujimoto, M. (EPB-02)	70
Finocchio, G. (BOB-05)	24	Fujimoto, M. (EPB-03)	70
Finocchio, G. (COA-01)	32	Fujimoto, M. (YPA-03)	224
Finocchio, G. (CPA-14)	45	Fujimoto, M. (YPA-05)	225
Finocchio, G. (NOB-02)	118	Fujioka, M. (APA-05)	16
Finocchio, G. (NOB-08)	119	Fujisaki, K. (MOA-05)	109
Finocchio, G. (POA-05)	130	Fujisaki, K. (POA-14)	131
Finocchio, G. (PPD-03)	140	Fujita, N. (PPB-11)	137
Fiorillo, F. (SF-02)	7	Fujita, T. (QOB-10)	144
Fiorillo, F. (SF-03)	7	Fujita, T. (XOD-02)	214
Fiorillo, F. (VOB-12)	188	Fujita, Y. (APC-10)	20
Fiorini, C. (SOF-05)	164	Fujita, Y. (XPC-01)	217
Fischbacher, J. (SA-06)	2	Fujiwara, K. (AOA-11)	10
Fischbacher, J. (SOB-03)	155	Fujiwara, K. (BOB-13)	25
Fischbacher, J. (TOC-11)	175	Fujiwara, K. (DOB-08)	51
Fischbacher, J. (TOC-12)	175	Fujiwara, K. (MOB-01)	111
Fischbacher, J. (WOA-03)	194	Fujiwara, S. (BOB-12)	25
Fischer, J. (BPA-13)	31	Fujiwara, T. (WOC-06)	199
Fischer, J. (COA-04)	32	Fujiwara, T. (WPB-07)	205
Fischer, J. (POB-05)	132	Fukami, S. (BOA-03)	21
Fischer, P. (SOF-05)	164	Fukami, S. (CPB-09)	47
Fitzgerald, S. (BPA-17)	31	Fukami, S. (SB-01)	3
Flajšman, L. (DOE-04)	55	Fukami, T. (LOA-04)	104
Flajšman, L. (DOE-06)	56	Fukasawa, T. (CPA-16)	45
Flajšman, L. (SOF-09)	165	Fukuda, I. (WPA-15)	204
Flajšman, L. (TPB-12)	178	Fukuda, S. (FOA-15)	74
Flament, C. (WOB-11)	197	Fukuda, T. (YPA-04)	225
Flatau, A. (ZOA-10)	227	Fukuma, Y. (DPA-09)	57
Flauger, P. (BOC-09)	27	Fukuma, Y. (NPA-11)	121
Foerster, M. (BOB-05)	24	Fukumizu, H. (DPA-02)	56
Foerster, M. (BOC-06)	26	Fukunaga, H. (VPB-05)	192
Foerster, M. (NOA-01)	116	Fukunaga, H. (WPA-09)	203
Foerster, M. (UOA-05)	180	Fukunaga, H. (WPA-13)	204
Foerster, M. (XOD-14)	215	Fukunaga, H. (WPA-15)	204
Foggiatto, A.L. (YOA-10)	222	Fukunaga, H. (WPB-01)	204
Foggiatto, A.L. (YPA-04)	225	Fukunaga, H. (WPC-06)	207
Fong, X. (NOB-01)	118	Fukunaga, H. (WPC-08)	207
Forghani, B. (FOA-05)	73	Fukunaga, H. (XPA-11)	220
Forlin, E. (WOD-08)	201	Fukunaga, H. (XPB-12)	217
Förster, J. (SOC-10)	157	Fukuoka, M. (MOA-14)	110
Fossberg, O. (XOA-10)	209	Fukuoka, M. (MOB-06)	111
Fraile Rodríguez, A. (SC-01)	4	Fukushima, A. (TOB-09)	171
Franchina Vergel, N. (DOE-02)	55	Fukushima, D. (WPC-06)	207
Franke, K.J. (QOB-07)	144	Fukushima, D. (WPC-08)	207
Franke, L. (DOC-13)	53	Fukushima, T. (SA-06)	2
Franke, L. (EPB-01)	70	Fukushima, T. (UOB-10)	183
Frauenheim, T. (APB-08)	18	Fulara, H. (DOA-10)	49
Freimuth, F. (DPC-11)	62	Fulara, H. (DPC-02)	61
Freitas, P. (POC-05)	134	Fulara, H. (POA-02)	129
Frömter, R. (COB-03)	35	Fullerton, E. (DOA-03)	48
Frömter, R. (COB-13)	36	Fumagalli, P. (AOC-09)	14
Frömter, R. (DPC-11)	62	Funai, K. (OPA-09)	127
Frost, W.J. (OOB-12)	125	Funato, T. (DPC-12)	63
Frottier, T. (APC-12)	21	Furui, M. (KPA-10)	102
Frottier, T. (CPB-13)	48	Furukawa, M. (OOA-08)	123
Frottier, T. (DOB-11)	51	Furukawa, W. (UOA-09)	181
Fruchart, O. (OOB-10)	125	Fushimi, M. (EOB-08)	67
Fruchart, O. (OPB-05)	128	Fushimi, M. (EOB-09)	67
Fu, D. (IPB-06)	92	Fushimi, M. (EOB-13)	67
Fu, D. (KPA-14)	102	Fusil, S. (ROB-05)	151
Fu, E. (WPA-10)	203	Fusil, S. (SOD-03)	159
Fu, J. (NOB-13)	120	Futagawa, M. (XPC-06)	218
Fu, R. (LPA-15)	107	Futagawa, M. (XPC-12)	219
Fu, T. (XPA-05)	219	Futagawa, N. (YPA-03)	224
Fu, W. (HPA-17)	86	Futagawa, N. (YPA-05)	225
Fuhrmann, F. (BOB-03)	24	Futamoto, M. (VOA-06)	186
Fuhrmann, F. (BOB-05)	24	Futamoto, M. (VPB-04)	192
Fuhrmann, F. (BPA-14)	31	Futamoto, M. (VPB-10)	193
Fujieda, S. (QPB-06)	148	Fuzer, J. (VOB-08)	188
Fujieda, S. (QPB-09)	148	Fuzer, J. (VOB-11)	188
Fujieda, S. (YPA-04)	225		
Fujii, S. (SOA-09)	154		
Fujii, S. (YOB-02)	223		
Fujii, Y. (TOB-07)	171		
Fujikawa, S. (APB-09)	18		
Fujimoto, C. (WOC-06)	199		

- G -

G. Suresh, K. (TOC-10)	174
G. Suresh, K. (UOB-05)	182
Gabay, A. (WPB-06)	205

*Best student presentation award finalist

Gai, L. (EOB-04)	66	Gerlich, L. (XOA-04)	208
Galceran, R. (COE-04)	41	Geuzaine, C. (SE-03)	6
Galindez Ruales, E. (BOB-03)	24	Gherca, D. (VPA-02)	189
Galindez Ruales, E. (BPA-14)	31	Ghibaud, O. (ZOA-03)	226
Gallais, C. (ZOA-03)	226	Ghorai, S. (LOA-06)	104
Gallardo, R. (SOD-01)	158	Ghorai, S. (WOD-10)	201
Gallardo, R. (SPA-09)	167	Ghorbanighoshchi, S. (WOC-14)	200
Gama Monteiro, M. (OOB-06)	124	Gieniusz, R. (XOB-10)	211
Gama Monteiro, M. (TOB-04)	170	Gilbert, D. (SD-06)	5
Gambardella, P. (COD-05)	40	Gillon, F. (VOB-03)	187
Gambardella, P. (DOB-06)	51	Giordano, A. (CPA-14)	45
Gambardella, P. (OOB-13)	125	Giordano, A. (POA-05)	130
Gan, Y. (IOB-11)	90	Giraud, A. (IOA-08)	88
Gandarias, L. (EOA-01)	63	Gkouzia, G. (XOA-07)	209
Gandarias, L. (EOA-10)	65	Glessner, M. (FOA-03)	73
Gandia, D. (EOA-01)	63	Gliga, S. (TOB-01)	170
Gandia, D. (EOA-10)	65	Glowinski, H. (XPB-11)	217
Gandia, D. (SC-06)	5	Go, D. (APB-10)	19
Ganesan, R. (TPB-10)	178	Go, D. (APC-02)	20
Gao, D. (CPB-04)	46	Go, D. (COE-09)	42
Gao, G. (MPB-11)	116	Go, G. (DPA-12)	58
Gao, J. (FOA-01)	72	Gobbi, M. (COE-02)	41
Gao, J. (GPB-11)	82	Gobbi, M. (COE-03)	41
Gao, J. (IPB-09)	93	Gobbi, M. (DOC-03)	52
Gao, J. (IPB-12)	93	Göbel, B. (COB-10)	36
Gao, J. (JOA-06)	94	Godel, F. (TOB-03)	170
Gao, J. (JPA-11)	96	Goennenwein, S. (BOA-09)	22
Gao, J. (QPA-07)	146	Goennenwein, S. (SOF-06)	164
Gao, S. (FOA-05)	73	Goetz, S. (IPA-02)	90
Gao, X. (QPB-05)	148	Gohda, Y. (ROA-02)	149
Gao, X. (WPA-03)	202	Gohda, Y. (ROA-05)	150
Gao, X. (WPA-08)	203	Gokhale, V. (QOA-01)	141
Gao, Y. (FOA-05)	73	Golebiewski, M. (SOE-01)	161
Gao, Y. (LOA-09)	105	Golebiewski, M. (SPA-12)	167
Gao, Y. (MPB-08)	116	Golias, E. (BOD-03)	28
Gao, Y. (POA-14)	131	Golibrzuch, M. (SOC-12)	158
Gao, Y. (PPC-11)	139	Golovchan, A.V. (QPA-08)	146
Gao, Y. (PPC-13)	139	Gomes, G. (TOB-16)	173
Gao, Y. (QPA-07)	146	Gomes, G. (XOA-08)	209
Gao, Y. (TPC-04)	179	Gómez Roca, A. (XOD-01)	213
Gao, Z. (LPA-15)	107	Gomez-Polo, C. (KPA-04)	101
Garaio, E. (ZOA-09)	226	Gomez-Polo, C. (ZOA-09)	226
García Prieto, A. (EOA-10)	65	Gomez, G. (YOA-05)	221
García Sánchez, F. (AOC-11)	14	Gomonay, O. (BOA-09)	22
García Sánchez, F. (TOA-07)	169	Gomonay, O. (BOB-03)	24
García-Arribas, A. (EOA-01)	63	Gomonay, O. (BOB-05)	24
García-Arribas, A. (PPD-02)	140	Gomonay, O. (BOC-06)	26
García-Gómez, A. (VPA-08)	190	Gomonay, O. (BPA-14)	31
García-Gómez, A. (VPA-12)	191	Gomonay, O. (SOE-12)	162
García-Prieto, A. (EOA-01)	63	Gomonay, O. (SOF-03)	163
García-Prieto, A. (SC-06)	5	Gomonay, O. (XOA-01)	208
Garcia, J. (EOA-08)	65	Gomonay, O. (XOB-01)	210
Garcia, J.H. (COC-07)	38	Gonçalves, S.T. (PPB-02)	136
Garcia, V. (ROB-05)	151	Gonçalves, S.T. (PPB-08)	136
Garcia, V. (SOD-03)	159	Gong, Y. (DPA-10)	57
Garello, K. (APC-12)	21	Gong, Z. (MOB-10)	112
Garello, K. (OOB-14)	125	Gong, Z. (SOB-07)	155
Garesci, F. (PPD-03)	140	Gonzales, S. (XOC-11)	213
Gargiani, P. (BOB-11)	25	Gonzalez Villegas, A. (VPA-08)	190
Gargiani, P. (OOB-15)	126	Gonzalez Villegas, A. (VPA-12)	191
Gas, K. (UOB-02)	181	Gonzalez, J. (VPA-08)	190
Gas, K. (UPA-07)	184	Gonzalez, J. (VPA-12)	191
Gaudin, G. (COA-04)	32	Gonzalez, V. (AOB-05)	11
Gautam, R. (VOA-07)	186	Gonzalez, V. (DOA-10)	49
Gautam, S. (XOD-04)	214	Gonzalez, V. (DPC-02)	61
Gaviko, V. (QPA-15)	147	Gonzalez, V. (NOB-06)	119
Gavilán, H. (SC-02)	4	Gonzalez, V. (SPA-14)	167
Geilen, M. (QOA-02)	141	Goodall, R. (WOD-06)	201
George, J. (AOB-09)	12	Gopalan, R. (WOB-01)	196
George, J. (APB-06)	18	Gopman, D.B. (OOB-03)	124
George, J. (COD-04)	39	Gorai, A. (POA-07)	130
George, J. (COD-09)	40	Gorchon, J. (BOD-01)	28
George, J. (COE-05)	41	Gorchon, J. (SOA-01)	153
Georgiou, V. (NOB-11)	119	Gorchon, J. (SOA-04)	153
Geprägs, S. (BPA-13)	31	Gorchon, J. (SOA-08)	154
Geprägs, S. (DOC-11)	53	Gort, R. (SOF-05)	164
Gerasimova, N. (SOF-05)	164	Goto, H. (XPC-12)	219

*Best student presentation award finalist

Goto, M. (CPA-01)	43	Guang, Y. (COA-01)	32
Goto, S. (XPA-12)	220	Guanghai, S. (OOB-16)	126
Goto, T. (QOB-13)	145	Gubieda, A.G. (EOA-10)	65
Goto, T. (QPB-01)	147	Gückelhorn, J. (DOC-11)	53
Goto, T. (SPA-01)	165	Gudin, A. (COD-07)	40
Gotoh, Y. (PPC-03)	138	Gueckstock, O. (DOA-11)	50
Gotoh, Y. (PPC-06)	138	Gueneau, C. (COA-04)	32
Gotoh, Y. (PPC-07)	138	Guerrero, R. (COD-07)	40
Gotoh, Y. (PPC-11)	139	Guettinger, J. (DPC-14)	63
Gotoh, Y. (PPC-12)	139	Guillemard, C. (COE-06)	42
Gotoh, Y. (PPC-13)	139	Guillet, Q. (COC-11)	39
Gotoh, Y. (PPD-09)	141	Guillet, T. (COE-04)	41
Gottschall, T. (QOA-07)	142	Gunduz Akdogan, N. (WOC-14)	200
Gottschall, T. (QOA-09)	142	Gunnink, P.M. (SOE-09)	162
Gottschall, T. (QPA-12)	146	Günzing, D. (XOA-07)	209
Gouder, T. (XPA-06)	220	Guo, J. (DPB-03)	59
Goya, G.F. (EOA-05)	64	Guo, S. (SOA-03)	153
Graczyk, P. (TOA-09)	169	Guo, T. (BOB-13)	25
Gradhand, M. (COE-09)	42	Guo, Y. (APB-01)	17
Graeser, M. (EOA-06)	64	Guo, Y. (BOC-05)	26
Grammer, M. (DOC-11)	53	Guo, Y. (FPA-04)	75
Granados Miralles, C. (UOA-05)	180	Guo, Y. (FPA-08)	75
Granados, D. (XOD-03)	214	Guo, Y. (JOA-09)	94
Gränäs, O. (SOF-05)	164	Guo, Y. (JPB-02)	97
Granato, E. (COB-02)	34	Guo, Y. (LOA-08)	105
Granz, S. (OOA-04)	123	Guo, Y. (LPA-20)	108
Grau, L. (WOB-03)	196	Guo, Y. (NOB-13)	120
Greaves, S. (NPA-01)	120	Guo, Z. (BOD-02)*	28
Greaves, S. (NPA-03)	120	Guo, Z. (OOB-07)	125
Greil, J. (SOB-01)	154	Guo, Z. (PPC-02)	138
Greil, J. (SOC-12)	158	Gupta, M. (NOA-05)	117
Grenèche, J. (WOD-03)	200	Gupta, M. (UOA-03)	180
Grenier, S. (WOC-13)	200	Gupta, P. (NOB-10)	119
Grezes, C. (APC-12)	21	Gupta, P. (POA-03)	129
Grezes, C. (CPB-13)	48	Gupta, S. (DPA-09)	57
Griffin, D. (EOB-14)	68	Gupta, S. (NPA-11)	121
Griffin, E. (SE-01)	6	Gupta, S. (UPA-09)	184
Griffo, A. (FOA-10)	73	Gupta, V. (COE-01)	41
Griggs, W. (COA-03)	32	Gurieva, T. (OOB-09)	125
Griggs, W. (CPA-15)	45	Gurieva, T. (XOA-04)	208
Grigoras, M. (VPA-02)	189	Gusakova, D. (COA-07)	33
Grimaldi, A. (NOB-08)	119	Gusenbauer, M. (SA-06)	2
Grimaldi, A. (POA-05)	130	Gusenbauer, M. (SOB-03)	155
Groen, I. (AOC-10)	14	Gusenbauer, M. (TOC-12)	175
Groen, I. (COE-02)	41	Gutfleisch, O. (EOA-02)	63
Groiss, H. (UPA-07)	184	Gutfleisch, O. (EOA-07)	64
Grollier, J. (COA-11)	33	Gutfleisch, O. (QOA-05)	142
Grollier, J. (NOB-04)	118	Gutfleisch, O. (QOA-07)	142
Grollier, J. (SG-03)	8	Gutfleisch, O. (QOA-09)	142
Grollier, J. (TOB-03)	170	Gutfleisch, O. (QPA-05)	145
Grollier, J. (TOB-09)	171	Gutfleisch, O. (QPA-12)	146
Gross, R. (BPA-13)	31	Gutfleisch, O. (VOB-06)	187
Gross, R. (DOC-11)	53	Gutfleisch, O. (WOA-10)	195
Grosz, A. (POC-02)	133	Gutfleisch, O. (WOB-05)	196
Grubbs, M. (KOA-05)	100	Gutfleisch, O. (WOB-08)	197
Gruber, R. (CPA-13)	45	Gutfleisch, O. (WOD-03)	200
Gruner, M. (QOA-05)	142	Gutfleisch, O. (WOD-08)	201
Gruner, M. (QOA-09)	142	Gutfleisch, O. (WOD-09)	201
Gruszecki, P. (SOC-09)	157	Gutfleisch, O. (YOA-05)	221
Gruszecki, P. (SPA-12)	167	Gutiérrez, J. (PPD-02)	140
Gruszecki, P. (TPB-05)	177	Guyader, L. (SOF-05)	164
Grutter, A.J. (COD-01)	39	Guyon, O. (GOA-05)	77
Grygoruk, V. (DPC-03)	61	Guzman, R. (POC-11)	134
Grygoruk, V. (SOA-05)	153	Guzowska, U. (XOB-10)	211
Gu, C. (TPC-03)	179	Gypens, P. (ZOA-04)	226
Gu, H. (NPA-15)	122		
Gu, M. (PPB-06)	136		
Gu, X. (PPD-05)	140		
Gu, X. (SB-02)	3		
Gu, Y. (KPA-20)	103		
Gu, Y. (MOA-12)	110		
Gu, Y. (MOA-16)	110		
Guan, S. (WPA-03)	202		
Guan, S. (WPA-08)	203		
Guan, W. (POA-14)	131		
Guan, W. (PPC-11)	139		
Guan, W. (TPC-04)	179		

- H -

Habib, M. (OOB-15)	126
Hadimani, R.L. (EPB-01)	70
Hadimani, R.L. (EPB-07)	71
Hadimani, R.L. (EPB-10)	72
Hadimani, R.L. (QPA-04)	145
Hadjipanayis, G. (WPB-06)	205
haidar, o. (SOF-08)	165
Haji Mohammadi, M. (MOA-09)	109
Hajiri, T. (CPA-16)	45

*Best student presentation award finalist

Hakam, A. (PPA-03)	135	Hauet, T. (SOD-13)	160
Haldar, A. (CPA-17)	45	Hauf, S. (SOF-05)	164
Haldar, A. (DPC-13)	63	Hayakawa, Y. (APC-09)	20
Haldar, A. (SOE-04)	161	Hayashi, D. (SPA-08)	166
Haldar, A. (TOB-05)	171	Hayashi, K. (APA-05)	16
Haldar, A. (TOB-12)	172	Hayes, M. (VOA-10)	186
Haldar, A. (XPA-10)	220	Hayes, M. (XOB-09)	211
Hall, C. (WOD-08)	201	Hazra, B.K. (DPB-13)	60
Hamada, N. (IOA-01)	87	He, B. (CPA-04)	44
Hamada, Y. (DOC-12)	53	He, C. (AOA-09)	10
Hamadeh, A. (NOB-02)	118	He, C. (COC-02)	37
Hamara, D.F. (COD-08)	40	He, C. (DPA-06)	57
Hamaya, K. (DOA-08)	49	He, C. (DPA-11)	58
Hamaya, K. (ROA-05)	150	He, C. (JPA-01)	95
Hamaya, K. (ROA-06)	150	He, J. (IPB-10)	93
Hamaya, K. (TOB-15)	172	He, K. (COC-10)	38
Hamaya, K. (XOB-08)	211	He, L. (AOA-03)	9
Hameyer, K. (JOA-01)	93	He, L. (APB-08)	18
Hamrl, J. (QOB-02)	143	He, L. (DPA-10)	57
Hamzehbahmani, H. (MOB-04)	111	He, L. (XOA-03)	208
Hamzehbahmani, H. (TPC-04)	179	He, P. (IOB-09)	89
Han, C. (JPB-13)	99	He, R. (IOB-08)	89
Han, C. (WPB-06)	205	He, S. (MPB-02)	115
Han, D. (DPC-11)	62	He, W. (AOC-03)	13
Han, D. (NPA-13)	122	He, Y. (BOA-12)	23
Han, D. (OPB-09)	128	He, Y. (EOB-04)	66
Han, F. (SA-02)	2	He, Z. (HPA-10)	85
Han, F. (TPB-09)	178	He, Z. (IPA-04)	90
Han, H. (CPA-03)	43	He, Z. (IPB-10)	93
Han, J. (BOA-03)	21	He, Z. (JPA-10)	96
Han, L. (VOB-06)	187	Hebrard, L. (POC-04)	133
Han, Q. (IOB-04)	89	Heck, M. (APA-11)	17
Han, Q. (LOA-11)	105	Hecquet, M. (IOA-10)	88
Han, R. (APB-04)	17	Hehn, M. (BOD-01)	28
Han, R. (APB-05)	18	Hehn, M. (BOD-02)	28
Han, R. (XOB-06)	211	Hehn, M. (NOA-06)	117
Han, T. (RPA-02)	152	Hehn, M. (SOA-01)	153
Han, T. (RPA-06)	152	Hehn, M. (SOA-04)	153
Han, W. (ZPA-10)	229	Hehn, M. (SOA-08)	154
Han, X. (AOB-12)	12	Hehn, M. (SPA-05)	166
Han, X. (AOC-03)	13	Heiliger, C. (XOC-09)	212
Han, X. (APC-07)	20	Heinonen, O.G. (TOB-01)	170
Han, X. (COA-01)	32	Heins, C. (SOE-11)	162
Han, X. (CPA-04)	44	Heinz, B. (QOA-02)	141
Han, X. (RPA-01)	152	Heinz, B. (SOC-04)	156
Hane, Y. (FOA-06)	73	Heistracher, P.T. (TOC-06)	174
Hang, J. (GPA-13)	79	Hellwig, O. (SOD-01)	158
Hanke, M. (COE-06)	42	Hemm, S. (POC-11)	134
Hansen, K. (SOF-05)	164	Hemmida, M. (YOA-06)	222
Hao, C. (MPA-11)	114	Hendren, W.R. (SOA-02)	153
Hao, Z. (WOD-14)	202	Hennecke, M. (SOF-04)	163
Hara, T. (APC-08)	20	Henrotte, F. (SE-03)	6
Harmeyer, K. (IOA-04)	87	Herbst, A. (SOF-06)	164
Harmon, S. (VOB-12)	188	Herfort, J. (COE-06)	42
Harms, J.S. (DOC-10)	53	Herling, F. (COE-02)	41
Harms, J.S. (SOE-09)	162	Herling, F. (COE-03)	41
Harper, A. (EOA-03)	64	Hermosa, G.C. (EPA-12)	70
Hartzell, C. (ZOA-12)	227	Hermosa, G.C. (ZPA-12)	229
Hasan, M. (XOC-05)	212	Herper, H.C. (WOD-12)	202
Hasan, M.M. (NPA-06)	121	Herrera Diez, L. (COA-11)	33
Hasebe, S. (APC-08)	20	Herrera Diez, L. (DOD-06)	55
Hasegawa, A. (VOA-02)	185	Herrera, G. (XOC-11)	213
Hasegawa, T. (WPC-12)	207	Herrgen, P. (BOB-05)	24
Hashi, S. (QPB-07)	148	Herrgen, P. (SOF-03)	163
Hashimoto, K. (CPA-01)	43	Herrmann, I.K. (EOA-06)	64
Hashimoto, Y. (DOB-01)	50	Hertel, J. (XOA-04)	208
Hastings, T. (YOA-03)	221	Hertel, R. (SOE-01)	161
Hata, S. (QOB-08)	144	Hertel, R. (SPA-06)	166
Hatanaka, S. (WPB-08)	205	Heuer, W. (APA-09)	16
Hatate, A. (NOA-10)	117	Heya, A. (FOA-14)	74
Hatayama, M. (NOA-09)	117	Heya, A. (FOA-15)	74
Hatoum, M. (IOA-12)	88	Heya, A. (IOA-03)	87
Hatoum, M. (LOA-10)	105	Heya, A. (IOA-09)	88
Hatton, P. (COA-05)	33	Heya, A. (KOA-03)	100
Hatton, P. (COB-01)	34	Heya, A. (KOA-07)	100
Hatton, P. (COB-07)	35	Hicken, R. (OOB-15)	126
Hatton, P. (COB-08)	35	Hicken, R. (SOA-02)	153

*Best student presentation award finalist

Hicken, R. (SOA-03)	153	Hokuto, E. (VOA-02)	185
Hicken, R. (YOA-02).	221	Holländer, R.B. (TOA-06)	169
Hickey, B.J. (BOB-11).	25	Holloway, K. (EPB-07)	71
Hickey, B.J. (CPB-14)	48	Holobradek, J. (SOD-02).	158
Hickey, B.J. (OOB-15).	126	Homma, T. (XOC-05)	212
Hickin, D. (SOF-05)	164	Homma, T. (XPC-09).	218
Hida, E. (WOC-05)	198	Honda, A. (MPA-03)	113
Hierro-Rodriguez, A. (NOA-01) . . .	116	Honda, J. (PPC-15)	139
Hierro-Rodriguez, A. (TOB-13). . .	172	Honda, S. (BPA-20).	32
Hierro-Rodriguez, A. (TOC-07). . .	174	Honda, S. (CPA-20)	46
Higashi, K. (WPA-15)	204	Honda, Y. (QOB-11)	144
Higashi, Y. (POC-08)	134	Hong-Siang, C. (KOA-06).	100
Higashiike, S. (FPA-06).	75	Hong, J. (BOD-01).	28
Higashino, K. (YPA-03).	224	Hong, J. (NOA-02)	116
Higashino, K. (YPA-05).	225	Hong, J. (OPB-12).	129
Higashiura, A. (XOC-10).	213	Hong, J. (XPB-08).	217
Higo, T. (BOA-07).	22	Hong, M. (GPB-04)	81
Higo, T. (YOB-04).	223	Hong, Y. (WOC-13).	200
Higuchi, K. (WPB-01).	204	Honnali, S. (VOA-11)	186
Hillebrands, B. (DOC-13)	53	Hono, K. (AOA-09)	10
Hillebrands, B. (QOA-02)	141	Hono, K. (QOA-06)	142
Hillebrands, B. (SOC-02)	156	Hono, K. (UOB-07)	182
Hillebrands, B. (SOD-05)	159	Hono, K. (VOA-07).	186
Hillebrands, B. (SOF-07).	164	Hono, K. (WOA-02)	194
Hiller, K. (MOA-10)	110	Hono, K. (WOA-05)	195
Hinata, J. (JOA-04)	94	Hono, K. (WOA-09)	195
Hindenberg, M. (OOB-09).	125	Hono, K. (WOA-12)	195
Hindenberg, M. (XOA-04).	208	Hono, K. (WOB-07)	197
Hioki, T. (BOB-02)	23	Hono, K. (WOB-12)	197
Hioki, T. (DOA-07)	49	Hopkinson, D. (APA-08)	16
Hioki, T. (DOA-09)	49	Hori, M. (JOA-04).	94
Hioki, T. (DOB-01)	50	Horibe, S. (DOA-09)	49
Hioki, T. (DPA-01).	56	Horibe, Y. (VPA-04).	190
Hioki, T. (SB-01)	3	Horiuchi, T. (NOA-10).	117
Hioki, T. (SOC-06).	157	Horng, L. (DPB-17)	61
Hioki, T. (SPA-13).	167	Horng, L. (TPA-07)	176
Hioki, T. (TOB-17)	173	Horng, L. (TPC-07)	179
Hippert, F. (CPB-13)	48	Horng, L. (XPC-11)	219
Hippert, F. (DOB-11).	51	Horvath, A. (SB-05).	3
Hiraki, T. (VPB-08)	192	Hosen, K. (NOA-08)	117
Hiramoto, S. (VOA-03)	185	Hoshi, K. (DOA-07)	49
Hiramoto, S. (VOA-07)	186	Hoshi, K. (DOA-09)	49
Hiramoto, S. (VPA-04)	190	Hoshi, K. (SPA-13)	167
Hiraoka, Y. (YOA-10)	222	Hoshi, K. (TOB-17)	173
Hirata, K. (HOA-01)	83	Hoshika, T. (BOC-07)	27
Hirata, K. (IOB-01)	88	Hoskins, B.D. (NOB-11)	119
Hirata, S. (BPA-18)	31	Hosoda, N. (MOA-05).	109
Hirayama, Y. (APC-10)	20	Hosohata, R. (XPA-11)	220
Hirayama, Y. (OOB-02).	124	Hosohata, R. (XPB-12)	217
Hirayama, Y. (WOC-01)	198	Hosokawa, A. (WOC-03).	198
Hirayama, Y. (WOC-03)	198	Hosokawa, A. (WOC-08).	199
Hirayama, Y. (WOC-11)	199	Hosokawa, H. (POA-12)	130
Hirka, A. (EOB-05)	66	Hosokawa, H. (VOB-10)	188
Hirobe, D. (BOB-02)	23	Hosono, H. (XOD-02)	214
Hirobe, D. (CPB-05)	46	Hosono, M. (VOA-02).	185
Hirohata, A. (CPA-08)	44	Hotta, Y. (XPA-12).	220
Hirohata, A. (DOC-08)	53	Hou, F. (EOB-04).	66
hiro, K. (YPA-06)	225	Hou, J. (BOA-03).	21
Hirst, J. (SOA-07)	154	Hou, X. (POA-14)	131
Hisada, Y. (RPA-03).	152	Hou, Y. (COC-10)	38
Hisatomi, R. (BPA-11).	31	Hou, Y. (EOB-01)	66
Hisatomi, R. (QPB-08)	148	Hou, Z. (COA-12)	34
Hisatomi, R. (SPA-08)	166	Houshmand Sharifi, S. (OOB-06). . .	124
Hisatomi, R. (YOA-01)	221	Hrkac, G. (WOB-10)	197
Hlenschi, C. (VOA-08)	186	Hrton, M. (SOD-02).	158
Hlenschi, C. (VPA-07).	190	Hsiao, C. (BPA-05)	30
Ho, H. (OOB-02).	124	Hsieh, C. (QPA-14)	147
Ho, K. (KOA-06).	100	Hsieh, H. (ZPA-04)	228
Hoez, A. (PPB-04).	136	Hsieh, M. (FPA-16)	76
Hoez, A. (WOD-02).	200	Hsieh, M. (HPA-03).	84
Hoez, A. (WPC-04)	206	Hsieh, M. (JPB-18)	99
Hoffman, A. (SOD-07).	159	Hsin, T. (DOB-04)	50
Hoffmann, M. (OOB-13).	125	Hsu, C. (GPB-16).	82
Hofmann, C. (MOA-10)	110	Hsu, L. (POB-06).	132
Hofmann, D. (XOC-09).	212	Hsu, P. (COC-01).	37
Hohlfeld, J. (SOA-01)	153	Hsu, P. (COC-02).	37
Hohlfeld, J. (SOA-04)	153	Hsu, T. (RPA-02)	152

*Best student presentation award finalist

Ilyakov, I. (SOD-01)	158
Im, M. (CPA-03)	43
Im, S. (GPB-08)	81
Imai, J. (LPA-01)	106
Imai, Y. (APC-09)	20
Imamori, S. (GPA-05)	78
Imamori, S. (KOA-08)	100
Imamori, S. (MOB-01)	111
Imamura, H. (DOE-01)	55
Imamura, K. (XPA-02)	219
Imano, Y. (VPA-06)	190
Imaoka, N. (POA-11)	130
Imaoka, N. (POA-12)	130
Imaoka, N. (PPB-12)	137
Imaoka, N. (VOB-10)	188
Imtiyaz Ali Khan, K. (DPC-10)	62
Imura, K. (RPA-03)	152
Imura, K. (XPB-05)	216
In, C. (DOA-11)	50
Inaba, N. (VPB-04)	192
Inaba, N. (VPB-10)	193
Inaba, N. (WPB-09)	205
Inada, K. (KPA-05)	101
Ingla-Aynes, J. (COE-02)	41
Ingla-Aynes, J. (COE-03)	41
Inoue, H. (AOC-04)	13
Inoue, K. (WOC-06)	199
Inoue, M. (QOB-13)	145
Inoue, M. (QPB-01)	147
Inoue, M. (SPA-01)	165
Inoue, T. (FOA-14)	74
Inoue, T. (FOA-15)	74
Inoue, T. (IOA-03)	87
Inoue, T. (IOA-09)	88
Inoue, T. (KOA-03)	100
Inoue, T. (KOA-07)	100
Inoue, Y. (EOB-09)	67
Ipatov, M. (QOA-10)	143
Ipatov, M. (VOA-05)	186
Ipatov, M. (VPA-05)	190
Ipatov, M. (VPA-08)	190
Ipatov, M. (VPA-12)	191
Iriyama, T. (WOC-05)	198
Ise, T. (NPA-03)	120
Ishibashi, K. (DOB-02)	50
Ishibashi, M. (SPA-08)	166
Ishibashi, T. (QOB-10)	144
Ishibashi, T. (QPB-04)	148
Ishida, S. (FOA-16)	74
Ishida, S. (KPA-02)	101
Ishido, R. (MOA-05)	109
Ishigami, K. (WOA-01)	194
Ishihara, T. (PPC-15)	139
Ishii, T. (VPA-04)	190
Ishii, T. (VPA-10)	190
Ishikawa, E. (VOA-06)	186
Ishikawa, K. (GPA-05)	78
Ishikawa, R. (CPA-01)	43
Ishitobi, M. (MOA-14)	110
Ishitobi, M. (MOB-06)	111
Ishiyama, K. (QOB-13)	145
Ishiyama, K. (QPB-01)	147
Ishiyama, K. (QPB-07)	148
Ishiyama, K. (SPA-01)	165
Ishiyama, K. (YPA-04)	225
Ishizuka, J. (ZPA-01)	227
Ishizuka, Y. (MPA-08)	113
Isobe, T. (PPB-05)	136
Isogami, S. (APA-02)	15
Isogami, S. (BOA-10)	23
Isogami, S. (DOB-05)	50
Isogami, S. (QPB-04)	148
Isogami, S. (UOB-06)	182
Isogami, S. (XPA-02)	219
Isshiki, H. (BOA-04)	22
Isshiki, H. (YOB-04)	223
Istiqomah, N.I. (EPA-09)	69

Istiqomah, N.I. (XPC-07)	218
Isurugi, D. (NPA-01)	120
Itagaki, A. (MPA-08)	113
Itakura, M. (WPB-09)	205
Ito, J. (POC-12)	135
Ito, K. (HOA-02)	83
Ito, K. (HOA-03)	83
Ito, K. (HOA-08)	84
Ito, K. (XOB-03)	210
Ito, N. (VOA-09)	186
Ito, T. (CPA-16)	45
Ito, Y. (EPA-08)	69
Itoh, H. (APA-07)	16
Itoh, H. (CPA-20)	46
Ivanov, B. (BOD-08)	29
Ivanov, B. (TOA-11)	169
Iwahara, N. (UOA-09)	181
Iwai, K. (MPA-01)	112
Iwai, K. (WPC-01)	206
Iwaki, K. (HOA-02)	83
Iwaki, K. (HOA-08)	84
Iwamoto, S. (QPB-02)	147
Iwasaka, M. (EPB-04)	71
Iwasaki, H. (POC-06)	134
Iwasaki, H. (POC-09)	134
Iwasaki, H. (POC-10)	134
Iwasaki, Y. (AOA-02)	9
Iwasaki, Y. (SA-04)	2
Iwata, T. (DPB-04)	59
Izquierdo, M. (SOF-05)	164

- J -

J. Lopes, J. (COE-06)	42
Jaafar, M. (SD-01)	5
Jackson, J. (SOA-07)	154
Jaffrès, H. (AOB-09)	12
Jaffrès, H. (APB-06)	18
Jaffrès, H. (COD-04)	39
Jaffrès, H. (COD-09)	40
Jaffrès, H. (COE-05)	41
Jahjah, W. (ROA-07)	150
Jain, R. (COE-01)	41
Jain, R. (CPB-10)	47
Jaiswal, S. (POC-07)	134
Jakob, G. (AOA-10)	10
Jakob, G. (BOB-03)	24
Jakob, G. (BPA-14)	31
Jakob, G. (COB-13)	36
Jalabert, D. (COE-08)	42
Jalil, M.B. (CPB-02)	46
Jamet, M. (COC-11)	39
Jamet, M. (COD-09)	40
Jamet, M. (COE-04)	41
Jamet, M. (COE-08)	42
Jamet, M. (DOC-01)	52
Jamil, A. (EPB-01)	70
Jana, S. (SOF-04)	163
Jander, A. (QOA-01)	141
Jang, G. (FPA-02)	75
Jang, G. (IOA-06)	88
Jang, J. (NPA-10)	121
Jang, Y. (NOB-14)	120
Jang, Y. (WPA-12)	204
Jannet, G. (POB-05)	132
Jansen, R. (BOC-12)	27
Janssens, W. (DPA-03)	56
Janzen, C. (XOA-05)	208
Jaouen, N. (COB-07)	35
Jay, J. (ROA-07)	150
Jefremovas, E.M. (XOD-05)	214
Jena, J. (COB-10)	36
Jena, S.K. (XOB-10)	211
Jenkins, A. (NOB-03)	118
Jenkins, A. (NOB-05)	118
Jenkins, A. (PPA-03)	135
Jenkins, A. (SG-02)	8

*Best student presentation award finalist

Kang, J. (APB-07)	18	Kawada, K. (PPC-03)	138
Kang, J. (DOD-03).	54	Kawada, K. (PPC-12)	139
Kang, J. (GPA-06)	78	Kawada, N. (MPA-06)	113
Kang, J. (GPB-13)	82	Kawada, N. (POA-09)	130
Kang, J. (GPB-14)	82	Kawada, S. (OPA-07).	127
Kang, J. (OPB-09)	128	Kawada, S. (OPA-09).	127
Kang, M. (DOD-03).	54	Kawagoe, T. (XOA-02)	208
Kang, M. (WPC-13).	207	Kawaguchi, I. (XPC-01)	217
Kang, N. (GPB-03)	81	Kawaguchi, Y. (CPA-11)	44
Kang, P. (OOB-16).	126	Kawahara, K. (MOA-05)	109
Kang, W. (COA-12)	34	Kawahito, Y. (UOB-10)	183
Kang, Y. (EOB-04).	66	Kawai, K. (POA-14)	131
Kani, N. (QOA-09)	142	Kawai, T. (VOA-06)	186
Kanie, K. (QPB-07)	148	Kawai, T. (VPB-04)	192
Kanie, K. (VPB-06)	192	Kawakami, Y. (POA-12)	130
Kanki, T. (DPA-16)	58	Kawakami, Y. (VOB-10)	188
Kano, R. (MPB-01)	115	Kawamura, K. (WPC-02)	206
Kar, G. (DOE-02).	55	Kawashima, K. (DOA-08)	49
Kar, G. (NOA-05)	117	Kawashima, N. (SA-06).	2
Kar, G. (QOA-02)	141	Kayal, S. (BPA-19)	32
Kar, N. (IOB-05)	89	Kazuumi, I. (AOA-05).	9
Kar, N. (LOA-12).	105	Keatley, P.S. (OOB-15)	126
Karampuri, Y. (TPB-02).	177	Keatley, P.S. (QOB-07)	144
Karampuri, Y. (UPA-03)	183	Keatley, P.S. (SOA-02)	153
Karpenkov, D. (UOB-08).	182	Keatley, P.S. (SOA-03)	153
Karpuzcu, U. (NOB-12).	120	Keatley, P.S. (YOA-02)	221
Karube, K. (COB-09).	36	Kehagias, T. (DOC-13)	53
Karube, K. (YOA-06)	222	Kehlberger, A. (XOB-07).	211
Karube, S. (BOC-07)	27	Kennedy, J. (DPA-09)	57
Karube, S. (CPB-06)	47	Kern, K. (COE-10).	43
Karube, S. (SOC-14)	158	Kernion, S. (VPA-01).	189
Kasai, S. (AOA-02)	9	Kevan, S. (YOA-03)	221
Kasai, S. (APA-10).	16	Kézmárki, I. (SOC-11)	157
Kasai, S. (NPA-06).	121	Kézmárki, I. (YOA-06)	222
Kasai, S. (TPB-01).	177	Khademi, M. (DOC-09).	53
Kasai, S. (XPC-09)	218	Khalili, P. (DPC-01).	61
Kasajima, T. (EOB-12)	67	Khalili, P. (PPD-03)	140
Kasajima, T. (POB-08).	132	Khan, F. (HPA-04)	84
Kashyap, A. (ZPA-09)	228	Khan, F. (IOA-02)	87
Kasuya, M. (QPB-07)	148	Khan, F. (IOB-02)	89
Kasuya, M. (VPB-06)	192	Khandelwal, A. (UOA-01).	180
Kateel, V. (OOB-08)	125	Kharitonov, V. (XPA-08)	220
Kateel, V. (OOB-13)	125	Kharitonov, V. (XPC-08)	218
Katine, J. (DPC-01)	61	Kharlan, J. (SOC-09)	157
Katine, J. (YOA-02).	221	Khatri, Y. (ZPA-09)	228
Kato, A. (SA-06)	2	Khizroev, S. (EOB-14).	68
Kato, A. (WOA-01)	194	Khizroev, S. (ROA-04)	150
Kato, A. (WOA-03)	194	Khovaylo, V. (UOB-08).	182
Kato, A. (WOC-13)	200	Khunkitti, P. (JOA-12).	95
Kato, H. (KPA-10).	102	Khymyn, R. (AOB-05)	11
Kato, H. (KPA-12).	102	Khymyn, R. (BOD-08)	29
Kato, H. (KPA-16)	103	Khymyn, R. (DPA-04)	56
Kato, H. (MPB-01)	115	Khymyn, R. (DPC-02).	61
Kato, H. (WPB-09)	205	Khymyn, R. (NOB-06)	119
Kato, M. (KPA-06).	101	Khymyn, R. (POA-02).	129
Kato, M. (KPA-15).	102	Khymyn, R. (SOA-06).	153
Kato, M. (ZPA-03).	228	Khymyn, R. (SPA-14)	167
Kato, T. (APC-10)	20	Khymyn, R. (TOA-11).	169
Kato, T. (EPA-01).	68	Kida, T. (QPB-07)	148
Kato, T. (EPA-09).	69	Kiechle, M. (SOB-01)	154
Kato, T. (KPA-10)	102	Kiechle, M. (SOC-12)	158
Kato, T. (KPA-12)	102	Kijima-Aoki, H. (QOB-11)	144
Kato, T. (KPA-16)	103	Kijima-Aoki, H. (RPA-05).	152
Kato, T. (MPB-01).	115	Kijima-Aoki, H. (XPB-02)	216
Kato, T. (OPB-03)	128	Kijima-Aoki, H. (XPC-05)	218
Kato, T. (POC-03)	133	Kikitsu, A. (POC-08)	134
Kato, T. (XOC-05).	212	Kikkawa, T. (BOB-02).	23
Kato, T. (XPC-07)	218	Kikkawa, T. (DOB-01).	50
Katsuyuki, N. (AOA-05)	9	Kikkawa, T. (SOF-03)	163
Katzer, D. (QOA-01)	141	Kikuchi, H. (PPC-09).	139
Kaul, S.N. (QPB-11)	149	Kikuchi, K. (SOC-14)	158
Kaul, S.N. (TPB-11)	178	Kikuchi, N. (NOA-09).	117
Kaur, P. (QOA-03)	141	Kikuchi, N. (TOB-11)	172
Kautsar, Z. (VOA-07)	186	Kikuchi, N. (VPB-03)	192
Kautsar, Z. (WOA-05)	195	Kikuchi, N. (ZPA-02).	228
Kawabata, S. (EPB-11)	72	Kikuta, T. (XPB-05).	216
Kawachi, S. (XOD-02)	214	Kim, B. (HPA-02)	84

*Best student presentation award finalist

Kim, B. (TPA-05).....	176	Kim, Y. (APB-02)	17
Kim, C. (APB-10)	19	Kim, Y. (HPA-02).....	84
Kim, C. (GPB-13)	82	Kim, Y. (NOB-14)	120
Kim, D. (BPA-02)	29	Kim, Y. (XOC-07)	212
Kim, D. (DPB-01)	59	Kim, Y. (XPC-08)	218
Kim, D. (MPA-02).....	113	Kimel, A. (BOD-05)	28
Kim, D. (MPA-12).....	114	Kimura, A. (APA-02).....	15
Kim, D. (NOB-14).....	120	Kimura, A. (DOB-05)	50
Kim, D. (TPA-03)	176	Kimura, H. (XPA-12).....	220
Kim, D. (WOA-14)	196	Kimura, S. (MPA-06).....	113
Kim, G. (APB-02)	17	Kimura, T. (DPB-02)	59
Kim, G. (XOC-07).....	212	Kimura, T. (DPB-15)	61
Kim, H. (GPA-06)	78	Kimura, T. (SOE-03)	161
Kim, H. (GPB-14)	82	Kinane, C. (ZPA-11)	229
Kim, I. (YOA-09)	222	King, H. (EOB-02).....	66
Kim, J. (GPA-06).....	78	Kinoshita, A. (SA-06)	2
Kim, J. (GPA-09).....	79	Kinoshita, A. (WOA-03)	194
Kim, J. (GPB-08).....	81	Kinoshita, A. (WOC-13)	200
Kim, J. (GPB-09).....	81	Kinugawa, R. (POA-15)	131
Kim, J. (GPB-13).....	82	Kioussis, N. (DPC-01).....	61
Kim, J. (GPB-14).....	82	Kirino, F. (VPB-10)	193
Kim, J. (PPB-09)	137	Kishi, F. (DPA-16)	58
Kim, J. (PPB-10)	137	Kishida, N. (XOC-10)	213
Kim, J. (QOA-11)	143	Kishor Muduli, P. (DPC-10)	62
Kim, J. (SB-05)	3	Kisic, M.G. (PPC-01).....	138
Kim, J. (TPB-02)	177	Kisieleski, J. (XOB-10).....	211
Kim, J. (WOB-14)	198	Kita, E. (EPA-05).....	69
Kim, J. (WPB-04)	205	Kita, E. (PPB-05).....	136
Kim, J. (WPB-12)	206	Kita, N. (MPA-03).....	113
Kim, J. (WPC-13)	207	Kita, Y. (PPD-07).....	141
Kim, J. (XOD-12)	215	Kitagawa, S. (UPA-06)	184
Kim, J. (YOA-09)	222	Kitaguchi, D. (QPB-12).....	149
Kim, K. (APB-10)	19	Kitamoto, Y. (XOC-08)	212
Kim, K. (BPA-15)	31	Kitamoto, Y. (XOD-08)	215
Kim, K. (CPA-03)	43	Kitamura, T. (KPA-10).....	102
Kim, K. (DPA-12)	58	Kitayama, F. (HPA-01)	84
Kim, K. (GPA-09).....	79	Kitayama, F. (KPA-06)	101
Kim, K. (GPA-10).....	79	Kiyotake, H. (IPA-01)	90
Kim, K. (GPB-05)	81	Kladas, A.G. (JOA-13).....	95
Kim, K. (GPB-07)	81	Kladas, A.G. (SE-02).....	6
Kim, K. (GPB-13)	82	Klar, P. (XOC-09)	212
Kim, K. (JPA-13).....	97	Kläui, M. (AOA-10)	10
Kim, K. (MPA-02).....	113	Kläui, M. (AOB-01).....	11
Kim, K. (NPA-13)	122	Kläui, M. (BOB-03).....	24
Kim, K. (OPB-09)	128	Kläui, M. (BOB-05).....	24
Kim, K. (PPB-01)	136	Kläui, M. (BOC-06).....	26
Kim, K. (PPB-06)	136	Kläui, M. (BOD-03).....	28
Kim, K. (PPB-10)	137	Kläui, M. (BPA-14)	31
Kim, K. (SOD-07)	159	Kläui, M. (COA-10).....	33
Kim, K. (TPA-01)	175	Kläui, M. (COB-03).....	35
Kim, K. (TPA-10)	176	Kläui, M. (COB-11).....	36
Kim, K. (VPB-02)	191	Kläui, M. (COB-13).....	36
Kim, M. (APB-14)	19	Kläui, M. (COE-09).....	42
Kim, M. (DPA-17).....	58	Kläui, M. (CPA-13)	45
Kim, M. (DPB-01).....	59	Kläui, M. (DPC-11).....	62
Kim, M. (PPB-09)	137	Kläui, M. (SOF-03)	163
Kim, M. (TOB-14).....	172	Kläui, M. (XOB-07).....	211
Kim, M. (TPA-03)	176	Kleibert, A. (BOB-05)	24
Kim, P. (KPA-13).....	102	Klein, L. (POC-02)	133
Kim, S. (APB-07)	18	Klein, O. (SOD-13)	160
Kim, S. (APC-04)	20	Klewe, C. (DOC-05)	52
Kim, S. (DPA-15).....	58	Klewe, C. (SOA-02)	153
Kim, S. (EPA-13).....	70	Klima, J. (SOD-02)	158
Kim, S. (NOA-04).....	117	Knauer, S. (SOD-08)	160
Kim, S. (SOE-05).....	161	Knauer, S. (SPA-11).....	167
Kim, S. (TPA-01).....	175	Knauer, S. (SPA-17).....	168
Kim, S. (TPA-06).....	176	Knight, A. (MOA-09)	109
Kim, T. (APB-02).....	17	Knox, C.S. (CPB-14)	48
Kim, T. (WOA-14).....	196	Ko, H. (DPA-12)	58
Kim, W. (DOE-02).....	55	Ko, K. (APB-10)	19
Kim, W. (GPA-12).....	79	Ko, M. (XOC-07).....	212
Kim, W. (GPB-03).....	81	Ko, S. (OPB-09).....	128
Kim, W. (GPB-04).....	81	Ko, S. (TPA-10)	176
Kim, W. (MPA-02).....	113	Kobayashi, H. (OPA-01)	126
Kim, W. (TOB-04).....	170	Kobayashi, I. (KPA-10)	102
Kim, W. (WPA-12).....	204	Kobayashi, K. (CPA-11)	44
Kim, W. (YOA-09)	222	Kobayashi, N. (QOB-11).....	144

*Best student presentation award finalist

Kobayashi, N. (QPB-02)	147	Kono, K. (WPA-13)	204
Kobayashi, N. (RPA-04)	152	Kononenko, I. (CPA-13)	45
Kobayashi, N. (RPA-05)	152	Konoto, M. (DOE-01)	55
Kobayashi, N. (VPB-14)	193	Konoto, M. (DOE-03)	55
Kobayashi, N. (XOC-10)	213	Koo, J. (KPA-23)	104
Kobayashi, S. (MPA-05)	113	Koo, M. (FPA-14)	76
Kobayashi, S. (XPA-12)	220	Kools, T.J. (XOB-07)	211
Kobayashi, S. (XPB-01)	216	Koopmans, B. (AOC-11)	14
Kobayashi, S. (XPC-01)	217	Koopmans, B. (APA-11)	17
Kobayashi, T. (POB-01)	131	Koopmans, B. (XOB-07)	211
Kobayashi, Y. (BOA-10)	23	Koplak, O. (SG-05)	8
Kobayashi, Y. (BOB-13)	25	Koraltan, S. (CPA-10)	44
Kobayashi, Y. (BPA-11)	31	Koraltan, S. (DPC-14)	63
Kobayashi, Y. (BPA-12)	31	Koraltan, S. (SOD-08)	160
Kobe, S. (WOB-03)	196	Koraltan, S. (TOC-07)	174
Koch, D. (QOA-09)	142	Körber, L. (SOD-01)	158
Koch, D. (QPA-05)	145	Körber, L. (SOE-11)	162
Koch, D. (WOA-10)	195	Korcia, M. (YOA-08)	222
Kocsis, V. (SOC-11)	157	Kornelius, N. (VOA-11)	186
Koda, T. (SPA-04)	166	Kornelius, N. (WOD-07)	201
Koda, T. (TPC-08)	179	Kornell, A. (SA-06)	2
Kodama, S. (OPA-01)	126	Kornell, A. (SOB-03)	155
Kodama, S. (OPA-02)	126	Korochentsev, V. (WPA-11)	203
Kodama, T. (TOB-11)	172	Kosaka, D. (PPC-05)	138
Kodama, T. (ZPA-02)	228	Kosaka, N. (XOD-13)	215
Kodama, Y. (MPA-04)	113	Kosaka, S. (APA-03)	15
Koenig, M. (NOA-01)	116	Kosaka, T. (MOA-02)	108
Koga, T. (MPA-08)	113	Kosaki, H. (DOD-05)	54
Koganezawa, S. (OPA-07)	127	Kosel, J. (APA-09)	16
Koganezawa, S. (OPA-09)	127	Kosogor, A. (QPB-15)	149
Koguchi, T. (QOB-13)	145	Kostylev, M. (PPD-06)	140
Koguchi, T. (QPB-01)	147	Kostylev, M. (SPA-02)	165
Koguchi, T. (SPA-01)	165	Kota, Y. (DPB-14)	60
Koh, D. (OPB-09)	128	Kota, Y. (UOB-06)	182
Kohda, M. (APB-07)	18	Kotsugi, M. (TPC-02)	179
Kohda, M. (BOC-07)	27	Kotsugi, M. (YOA-10)	222
Kohda, M. (CPB-06)	47	Kotsugi, M. (YPA-04)	225
Kohda, M. (NPA-13)	122	Kou, X. (DOA-01)	48
Kohda, M. (SOC-14)	158	Kounalakis, M. (TOA-12)	170
Kohli, M. (POB-06)	132	Kounta, I. (BOA-09)	22
Kohli, M. (ZOA-11)	227	Kováč, F. (VOB-08)	188
Kohno, H. (APC-09)	20	Kovács, A. (AOB-09)	12
Kohno, H. (BOD-10)	29	Kovács, A. (BOD-03)	28
Kohno, H. (BPA-18)	31	Kovács, A. (COE-09)	42
Kohno, H. (DPB-05)	59	Kovács, A. (DOD-06)	55
Kohno, R. (SOD-13)	160	Kovacs, A. (SA-06)	2
Kohvakka, K. (COB-02)	34	Kovacs, A. (SOB-03)	155
Koike, K. (WPB-09)	205	Kovacs, A. (TOC-11)	175
Koike, Y. (SOD-11)	160	Kovacs, A. (TOC-12)	175
Kojima, F. (PPC-05)	138	Kovacs, A. (WOA-03)	194
Kojima, H. (KPA-01)	101	Kovacs, A. (WOC-13)	200
Kokado, S. (APA-03)	15	Kovács, A. (XOA-07)	209
Kokado, S. (UPA-08)	184	Kovalev, O.E. (QPA-08)	146
Kolesnikov, A. (AOC-08)	14	Kovalev, S. (SOD-01)	158
Kollár, P. (VOB-08)	188	Kovar, A. (VOB-13)	188
Kollár, P. (VOB-11)	188	Koyama, K. (CPB-06)	47
Kolosvetov, A. (NOA-03)	117	Koyama, M. (LOA-04)	104
Komatsubara, K. (PPC-11)	139	Koyama, T. (BPA-09)	30
Kometani, H. (HOA-01)	83	Koyanagi, Y. (KPA-01)	101
Komine, T. (APA-05)	16	Kozlov, A. (APC-01)	19
Komine, T. (DPC-05)	62	Kozlov, A. (BPA-04)	30
Komissarov, A. (WPA-11)	203	Kozlov, A. (CPA-06)	44
Komiyama, H. (QPB-08)	148	Kozlov, A. (XOC-07)	212
Komori, M. (IOB-10)	90	Kozlov, A. (XPB-03)	216
Komori, S. (RPA-03)	152	Kozlov, A. (XPC-08)	218
Komori, S. (TOB-15)	172	Kramer, M.J. (VOB-13)	188
Komori, S. (XPB-05)	216	Kramer, M.J. (WOA-04)	194
Komori, T. (NOA-10)	117	Krawczyk, M. (SOC-09)	157
Komuro, K. (POC-03)	133	Krawczyk, M. (SOE-01)	161
Komuro, M. (VOB-07)	188	Krawczyk, M. (SPA-12)	167
Komuro, M. (VOB-15)	189	Krawczyk, M. (TOA-09)	169
Kondo, R. (HPA-01)	84	Krawczyk, M. (TOC-08)	174
Kondo, T. (DPA-02)	56	Kreil, D. (UPA-07)	184
Kondou, K. (BOA-04)	22	Kretzschmar, M. (POB-05)	132
Kondou, K. (BOA-07)	22	Kriegner, D. (BOA-09)	22
Kondou, K. (SOD-04)	159	Kriegner, D. (XOB-01)	210
Kong, L. (OPB-10)	128	Kriegner, D. (YOB-06)	223

*Best student presentation award finalist

Le Menach, Y. (FOA-03)	73	Lee, S. (WOA-14)	196
Le Roy, D. (EOA-08)	65	Lee, T. (BPA-15)	31
Le Roy, D. (XOC-11)	213	Lee, T. (TPA-01)	175
Le Roy, D. (XPB-06)	216	Lee, W. (BPA-01)	29
Le, Q.T. (BOD-09)	29	Lee, W. (TU-03)	1
Le, T. (YPA-07)	225	Lee, W. (WOA-14)	196
Lebrun, R. (BOB-03)	24	Lee, W. (WOB-04)	196
Lebrun, R. (SOD-03)	159	Lee, W. (WPA-12)	204
Lebrun, R. (SOE-12)	162	Lee, Y. (COC-09)	38
Leckron, K. (SOF-02)	163	Lee, Y. (CPB-10)	47
Lederer, M. (XOA-04)	208	Lee, Y. (HPA-05)	85
Lee, B. (EPA-13)	70	Lee, Y. (HPA-12)	86
Lee, C. (CPA-03)	43	Lee, Y. (ROB-06)	151
Lee, C. (QPA-14)	147	Lee, Y. (UOA-06)	181
Lee, D. (IOA-06)	88	Lee, Y. (UPA-11)	184
Lee, G. (NPA-13)	122	Lee, Y. (YOB-06)	223
Lee, G. (WPB-12)	206	Lee, Z. (JPB-18)	99
Lee, H. (APB-10)	19	Lefvre, P. (COD-04)	39
Lee, H. (EPA-13)	70	Legrand, W. (DOB-06)	51
Lee, H. (GPB-05)	81	Lei, G. (FPA-04)	75
Lee, H. (HPA-05)	85	Lei, G. (FPA-08)	75
Lee, H. (HPA-12)	86	Lei, G. (IPB-02)	92
Lee, H. (LPA-08)	107	Lei, G. (JOA-08)	94
Lee, H. (PPB-10)	137	Lei, G. (JPA-03)	95
Lee, H. (WOB-04)	196	Lei, G. (JPA-08)	96
Lee, H. (WPA-12)	204	Lei, G. (JPA-12)	96
Lee, H. (WPB-04)	205	Lei, G. (LOA-08)	105
Lee, J. (FPA-03)	75	Lei, G. (LPA-20)	108
Lee, J. (FPA-17)	76	Lei, N. (APC-13)	21
Lee, J. (GPA-06)	78	Lei, N. (COA-14)	34
Lee, J. (GPA-12)	79	Lei, N. (COB-12)	36
Lee, J. (GPB-01)	80	Lei, N. (DOE-05)	56
Lee, J. (GPB-09)	81	Lei, N. (DPB-12)	60
Lee, J. (GPB-13)	82	Leistner, K. (VOA-11)	186
Lee, J. (GPB-14)	82	Leitao, D. (POC-05)	134
Lee, J. (HPA-02)	84	Leitenstorfer, A. (SOF-06)	164
Lee, J. (HPA-05)	85	Leiviskä, M. (BOA-09)	22
Lee, J. (HPA-11)	85	Leiviskä, M. (COA-07)	33
Lee, J. (HPA-12)	86	Leliaert, J. (COA-09)	33
Lee, J. (KPA-13)	102	Leliaert, J. (ZOA-02)	226
Lee, J. (MOA-07)	109	Leliaert, J. (ZOA-04)	226
Lee, J. (NOB-14)	120	Lemaitre, A. (BOD-01)	28
Lee, J. (OPA-05)	127	Lemaitre, A. (COD-04)	39
Lee, J. (OPB-09)	128	Lemaitre, A. (SOA-08)	154
Lee, J. (WOA-11)	195	Lendinez, S. (TOB-01)	170
Lee, J. (WOA-14)	196	Leng, Q. (OOB-07)	125
Lee, K. (APB-07)	18	Lenne, S. (BOA-12)	23
Lee, K. (BPA-01)	29	Lenne, S. (DOC-02)	52
Lee, K. (COB-11)	36	Lentfert, A. (SOF-07)	164
Lee, K. (COE-09)	42	Lentfert, A. (TOB-06)	171
Lee, K. (DOD-03)	54	Lenz, K. (PPD-06)	140
Lee, K. (DPA-12)	58	Lenz, K. (SOC-10)	157
Lee, K. (DPC-11)	62	Lenz, K. (SOD-01)	158
Lee, K. (FPA-14)	76	Lenz, K. (SPA-06)	166
Lee, K. (NOA-04)	117	Lenz, K. (TOB-13)	172
Lee, K. (OPB-09)	128	Leou, K. (QPA-14)	147
Lee, M. (COA-08)	33	Leow, C.H. (XOD-10)	215
Lee, M. (NOB-14)	120	Lequeux, S. (OOB-14)	125
Lee, M. (YOA-09)	222	Leroux, N. (SG-03)	8
Lee, P. (APB-03)	17	Leroy, F. (DOB-11)	51
Lee, S. (APC-04)	20	Lesniewski, N. (SPA-12)	167
Lee, S. (BPA-02)	29	Lesniewski, N. (TPB-05)	177
Lee, S. (COE-03)	41	Létang, J. (APA-09)	16
Lee, S. (CPB-10)	47	Lete, N. (EOA-01)	63
Lee, S. (DOA-06)	49	Letushev, M. (APC-01)	19
Lee, S. (DOD-03)	54	Letushev, M. (APC-05)	20
Lee, S. (DPA-17)	58	Letushev, M. (APC-06)	20
Lee, S. (DPB-01)	59	Levchenko, K. (SOC-04)	156
Lee, S. (FPA-14)	76	Lew, W. (BOC-11)	27
Lee, S. (GPA-12)	79	Lew, W. (CPB-12)	47
Lee, S. (GPB-17)	82	Lew, W. (DPA-07)	57
Lee, S. (NOA-05)	117	Lewis, C.J. (EPB-10)	72
Lee, S. (OPB-09)	128	Li, A. (WPA-04)	203
Lee, S. (PPB-10)	137	Li, B. (JOA-08)	94
Lee, S. (TOB-14)	172	Li, C. (APA-01)	15
Lee, S. (TPA-01)	175	Li, C. (COD-02)	39
Lee, S. (TPA-06)	176	Li, C. (CPB-11)	47

*Best student presentation award finalist

Li, C. (DPC-04)	62	Li, X. (CPB-07)	47
Li, C. (EOB-02)	66	Li, X. (MOA-03)	109
Li, C. (JOA-06)	94	Li, X. (MOA-11)	110
Li, C. (MOA-07)	109	Li, X. (NOA-02)	116
Li, C. (OPB-11)	129	Li, X. (OPB-12)	129
Li, D. (GPA-03)	78	Li, Y. (BOA-02)	21
Li, D. (HPA-06)	85	Li, Y. (COA-03)	32
Li, D. (IPA-06)	91	Li, Y. (CPA-15)	45
Li, D. (XPC-02)	217	Li, Y. (DOA-04)	48
Li, F. (LOA-03)	104	Li, Y. (DPA-10)	57
Li, F. (LPA-11)	107	Li, Y. (DPA-13)	58
Li, G. (KPA-20)	103	Li, Y. (FPA-10)	76
Li, G. (LOA-02)	104	Li, Y. (GPA-13)	79
Li, G. (MOA-16)	110	Li, Y. (HPA-06)	85
Li, G. (SPA-18)	168	Li, Y. (HPA-15)	86
Li, H. (MPB-11)	116	Li, Y. (HPA-16)	86
Li, H. (NPA-09)	121	Li, Y. (HPA-18)	86
Li, H. (TOA-05)	169	Li, Y. (JOA-02)	94
Li, J. (COC-07)	38	Li, Y. (JOA-08)	94
Li, J. (COC-11)	39	Li, Y. (JPB-09)	98
Li, J. (IPA-06)	91	Li, Y. (LPA-10)	107
Li, J. (IPA-07)	91	Li, Y. (LPA-13)	107
Li, J. (JOA-02)	94	Li, Y. (SB-03)	3
Li, J. (LPA-14)	107	Li, Y. (SE-06)	6
Li, J. (MPB-02)	115	Li, Y. (SOD-07)	159
Li, J. (QPB-05)	148	Li, Y. (VPA-11)	191
Li, J. (WPA-03)	202	Li, Y. (VPB-13)	193
Li, J. (WPA-08)	203	Li, Y. (WPA-01)	202
Li, K. (BOC-03)	26	Li, Y. (XOA-03)	208
Li, K. (JPA-11)	96	Li, Y. (ZPA-04)	228
Li, K. (MPB-05)	115	Li, Y.W. (FOA-02)	72
Li, K. (MPB-09)	116	Li, Y.Y. (OPB-04)	128
Li, K. (POB-07)	132	Li, Z. (AOA-04)	9
Li, L. (COC-06)	37	Li, Z. (AOA-05)	9
Li, L. (JOA-02)	94	Li, Z. (APB-08)	18
Li, L. (JOA-10)	94	Li, Z. (BOD-04)	28
Li, L. (MOB-11)	112	Li, Z. (FPA-05)	75
Li, L. (VPB-11)	193	Li, Z. (FPA-10)	76
Li, M. (APA-01)	15	Li, Z. (IOB-05)	89
Li, M. (CPB-11)	47	Li, Z. (IOB-08)	89
Li, M. (OPB-11)	129	Li, Z. (IPB-07)	93
Li, M. (SA-01)	1	Li, Z. (LOA-12)	105
Li, M. (SA-02)	2	Li, Z. (LPA-04)	106
Li, M.T. (PPD-04)	140	Li, Z. (LPA-05)	106
Li, P. (AOA-03)	9	Li, Z. (LPA-12)	107
Li, P. (COC-09)	38	Li, Z. (MPB-11)	116
Li, P. (COD-01)	39	Li, Z. (ROB-05)	151
Li, P. (PPC-04)	138	Li, Z. (SF-04)	7
Li, P. (XOB-07)	211	Li, Z. (TPB-03)	177
Li, Q. (GPB-02)	81	Li, Z. (UPA-02)	183
Li, Q. (WOC-07)	199	Li, Z. (VOB-06)	187
Li, R. (OPB-12)	129	Li, Z. (VPB-09)	193
Li, S. (BOB-13)	25	Li, Z. (XOA-03)	208
Li, S. (COA-12)	34	Li, Z. (XPC-02)	217
Li, S. (CPA-07)	44	Li, Z. (YOB-03)	223
Li, S. (GPA-01)	78	Liang, H. (DOA-06)	49
Li, S. (IPB-03)	92	Liang, J. (BOA-11)	23
Li, S. (JPA-05)	96	Liang, J. (CPB-10)	47
Li, T. (BPA-05)	30	Liang, N. (DPB-17)	61
Li, T. (EOB-04)	66	Liang, P. (EOB-14)	68
Li, T. (MPB-05)	115	Liang, P. (ROA-04)	150
Li, T. (MPB-09)	116	Liang, X. (CPA-02)	43
Li, T. (POB-07)	132	Liang, X. (GPB-11)	82
Li, W. (BPA-06)	30	Liang, X. (HPA-20)	87
Li, W. (DOE-05)	56	Liang, X. (IPA-03)	90
Li, W. (FPA-10)	76	Liang, X. (IPB-09)	93
Li, W. (GPA-13)	79	Liang, X. (IPB-12)	93
Li, W. (GPB-11)	82	Liang, Z. (MOA-12)	110
Li, W. (IPB-09)	93	Liao, B. (BPA-05)	30
Li, W. (IPB-12)	93	Liao, C. (EPA-12)	70
Li, W. (LOA-12)	105	Liao, C. (MOA-07)	109
Li, W. (LPA-12)	107	Liao, C. (MPB-05)	115
Li, W. (OPB-02)	128	Liao, C. (MPB-09)	116
Li, W. (WOA-13)	195	Liao, C. (ZPA-12)	229
Li, W. (WPA-04)	203	Liao, L. (XOD-12)	215
Li, W. (YPA-08)	225	Liao, T. (MOA-07)	109
Li, X. (BPA-02)	29	Liao, T. (QOA-08)	142

*Best student presentation award finalist

Liao, W. (BOA-02)	21	Liu, C. (GPA-14)	79
Liao, X. (WOB-08)	197	Liu, C. (GPA-15)	80
Liedtke, A. (COE-09).	42	Liu, C. (GPA-17)	80
Ligmajer, F. (SOD-02).	158	Liu, C. (GPB-06)	81
Lill, J. (QOA-05)	142	Liu, C. (GPB-10)	82
Lim, E. (APC-04).	20	Liu, C. (IOA-05)	87
Lim, G.J. (BOC-11)	27	Liu, C. (IOB-06)	89
Lim, G.J. (DPA-07)	57	Liu, C. (IPB-02).	92
Lim, M. (GPA-09)	79	Liu, C. (IPB-03).	92
Lim, M. (GPA-10)	79	Liu, C. (IPB-04).	92
Lim, M. (GPA-18)	80	Liu, C. (JOA-08)	94
Lim, M. (GPB-07)	81	Liu, C. (JPA-03).	95
Lim, M. (GPB-08)	81	Liu, C. (JPA-04).	96
Lim, M. (GPB-09)	81	Liu, C. (JPA-08).	96
Lim, M. (JPA-13).	97	Liu, C. (JPA-12).	96
Lim, M. (JPB-07).	98	Liu, C. (JPA-15).	97
Lim, M. (KPA-13)	102	Liu, C. (JPB-02).	97
Lim, P. (QOB-13).	145	Liu, C. (JPB-12).	99
Lim, P. (QPB-01)	147	Liu, C. (MPA-13).	114
Lim, S. (AOB-06)	11	Liu, D. (LPA-17)	108
Lim, S. (APB-12).	19	Liu, F. (GPA-03)	78
Lim, S. (NPA-08).	121	Liu, F. (GPA-04)	78
Lim, Y. (DOC-05)	52	Liu, F. (WPB-05).	205
Lima Jr., E. (EOA-05)	64	Liu, G. (HOA-05)	83
Lin, C. (BOC-03).	26	Liu, G. (HPA-20).	87
Lin, C. (VPA-14)	191	Liu, G. (IPA-03).	90
Lin, C. (XPC-04)	218	Liu, H. (OOB-05).	124
Lin, D.J. (APB-12).	19	Liu, H. (OOB-07).	125
Lin, H. (JPB-09).	98	Liu, H. (QPA-07)	146
Lin, H. (LPA-10)	107	Liu, J. (BPA-06).	30
Lin, J. (SOA-04)	153	Liu, J. (DOE-05)	56
Lin, J.G. (UOA-07)	181	Liu, J. (DPB-03).	59
Lin, K. (BPA-02)	29	Liu, J. (HOA-05)	83
Lin, K. (SPA-06)	166	Liu, J. (JPB-08)	98
Lin, K. (UPA-11)	184	Liu, J. (MPB-08)	116
Lin, L. (FPA-16).	76	Liu, J. (SOC-05).	156
Lin, P. (WPA-06)	203	Liu, L. (BOA-03).	21
Lin, T. (APC-13)	21	Liu, L. (FOA-05)	73
Lin, T. (COC-02)	37	Liu, L. (FPA-08).	75
Lin, T. (ROB-02)	151	Liu, L. (LOA-08).	105
Lin, X.L. (APA-11)	17	Liu, L. (LPA-20)	108
Lin, X.L. (NOA-06).	117	Liu, L. (OOB-01).	124
Lin, Y. (BOC-01)	26	Liu, L. (WOC-10).	199
Lin, Y. (COC-01)	37	Liu, L. (WPB-13).	206
Lin, Y. (COC-02)	37	Liu, L. (XOB-06).	211
Lin, Y. (CPB-10)	47	Liu, M. (GPB-12).	82
Lin, Y. (DOA-06).	49	Liu, M. (QPB-05).	148
Lin, Y. (DOB-04).	50	Liu, P. (QPB-14)	149
Lin, Y. (DPB-07)	59	Liu, Q. (APB-08).	18
Lin, Y. (EPA-02).	68	Liu, Q. (XOA-03)	208
Lin, Y. (OOB-11)	125	Liu, R. (TPC-03).	179
Lin, Y. (XPC-11)	219	Liu, S. (COA-12).	34
Lind, E. (LOA-06).	104	Liu, S. (CPB-04).	46
Lind, E. (WOD-10)	201	Liu, S. (GPB-10)	82
Lindner, J. (PPD-06)	140	Liu, S. (MPA-13).	114
Lindner, J. (SOC-10)	157	Liu, S. (MPA-14).	114
Lindner, J. (SOD-01)	158	Liu, S. (OPB-08)	128
Lindner, J. (SOE-11)	162	Liu, T. (QPB-02)	147
Lindner, J. (SPA-09).	167	Liu, W. (AOA-03).	9
Lindner, M. (SOC-13)	158	Liu, W. (IPA-02).	90
Lindner, M. (SOD-08).	160	Liu, W. (IPB-03)	92
Lindner, M. (SPA-11).	167	Liu, W. (QOA-07).	142
Lindner, M. (SPA-17).	168	Liu, W. (WPA-01)	202
Lintzeris, A. (COE-05).	41	Liu, W. (WPA-10).	203
Liparo, M. (ROA-07).	150	Liu, X. (COA-13).	34
Lisovenko, M. (SB-03)	3	Liu, X. (HPA-09)	85
Littlehales, M. (COA-05).	33	Liu, X. (WOC-09)	199
Littlehales, M. (COB-07).	35	Liu, X. (WOC-12)	199
Littlehales, M. (COB-08).	35	Liu, X. (WPC-03)	206
Litvinenko, A. (NOB-06).	119	Liu, Y. (APB-08)	18
Litvinenko, A. (POA-03)	129	Liu, Y. (BOA-02)	21
Litvinenko, A. (SPA-14)	167	Liu, Y. (DOA-04).	48
Litzius, K. (COB-01)	34	Liu, Y. (DOB-09).	51
Litzius, K. (COE-10)	43	Liu, Y. (GPA-14)	79
Liu, B. (DPA-10)	57	Liu, Y. (GPA-16)	80
Liu, B. (MOB-01)	111	Liu, Y. (GPA-17)	80
Liu, C. (GPA-01)	78	Liu, Y. (GPB-10)	82

*Best student presentation award finalist

Magni, A. (TOA-07)	169	Martin-Rubio, C. (XOC-02)	212
Magrez, A. (YOB-05)	223	Martin, F. (COE-09)	42
Mahata, D. (VPB-07)	192	Martin, M. (COA-11)	33
Mahendiran, R. (ROB-06)	151	Martin, V. (VOB-03)	187
Mahendiran, R. (UOA-06)	181	Martins, L. (NOB-05)	118
Mahmoudi, A. (GOA-01)	77	Martins, L. (SG-02)	8
Majidi, M.A. (DPC-07)	62	Martins, L. (SG-03)	8
Majima, Y. (XOD-02)	214	Martins, L. (TOB-08)	171
Major, M. (XOA-07)	209	Martins, L. (TPA-08)	176
Makarova, M. (YPA-02)	224	Martins, M. (TOB-16)	173
Makartsou, U. (SPA-12)	167	Martins, M. (XOA-08)	209
Makartsou, U. (TOC-08)	174	Marty, A. (COC-11)	39
Makihara, K. (KPA-22)	103	Marty, A. (COD-09)	40
Makiuchi, T. (DOA-07)	49	Marty, A. (COE-08)	42
Makiuchi, T. (SB-01)	3	Marty, A. (CPB-13)	48
Makiuchi, T. (TOB-17)	173	Marty, A. (DOB-11)	51
Makovec, D. (WOD-03)	200	Marty, A. (DOC-01)	52
Makuta, H. (WPB-07)	205	Maruyama, T. (KPA-01)	101
Malagó, P. (APA-09)	16	Marzari, N. (SOE-08)	162
Mali, B. (TPB-10)	178	Masago, A. (UOB-10)	183
Malinowski, G. (BOD-02)	28	Mascaraque, A. (XOD-14)	215
Malinowski, G. (NOA-06)	117	Masciocchi, G. (XOB-07)	211
Malinowski, G. (SOA-01)	153	Masell, J. (COB-09)	36
Malinowski, G. (SOA-04)	153	Masell, J. (YOA-06)	222
Malinowski, G. (SOA-08)	154	Masisi, L. (HPA-04)	84
Mallick, S. (COA-02)	32	Maspero, F. (SG-05)	8
Mamiya, H. (VOA-07)	186	Massouras, M. (SB-05)	3
Mamiya, H. (YPA-06)	225	Massouras, M. (SOC-08)	157
Man, J. (ZOA-14)	227	Masuda, H. (AOB-01)	11
Man, O. (XOB-01)	210	Masuda, I. (MOA-14)	110
Manceau, S. (POB-05)	132	Masuda, I. (MOB-06)	111
Mandal, K. (POA-07)	130	Masuda, K. (AOA-04)	9
Mandal, R. (DOB-02)	50	Masuda, K. (AOA-12)	10
Mandal, R. (TPB-01)	177	Masuda, K. (APA-02)	15
Mandrile, F. (MOA-04)	109	Masuda, K. (APA-07)	16
Mandru, A. (CPA-14)	45	Masuda, K. (BOB-13)	25
Mandziak, A. (NOA-01)	116	Masuda, K. (DOB-05)	50
Mandziak, A. (UOA-05)	180	Masuda, K. (DPA-08)	57
Mangin, S. (APB-03)	17	Masumoto, C. (PPB-11)	137
Mangin, S. (BOD-02)	28	Masumoto, H. (QOB-11)	144
Mangin, S. (NOA-06)	117	Masumoto, H. (RPA-04)	152
Mangin, S. (SOA-01)	153	Masumoto, H. (RPA-05)	152
Mangin, S. (SOA-04)	153	Masumoto, H. (XPB-02)	216
Mangin, S. (SOA-08)	154	Masumoto, H. (XPC-05)	218
Mangin, S. (SPA-05)	166	Masuzawa, K. (YPA-04)	225
Manikketh, M. (POC-06)	134	Mateo-Alonso, A. (DOC-03)	52
Manivel Raja, M. (TOB-12)	172	Mathew, A. (NPA-11)	121
Mannen, T. (PPB-05)	136	Mathmann, B. (SOF-08)	165
Mansell, R. (COB-02)	34	Matinaga, F.M. (TOB-16)	173
Mansell, R. (DOE-04)	55	Matos, F. (TOC-09)	174
Mansell, R. (DOE-06)	56	Matsubara, Y. (EPA-01)	68
Mansell, R. (TOA-06)	169	Matsui, H. (DPB-10)	60
Mansell, R. (TPB-12)	178	Matsuki, H. (KPA-05)	101
Mao, H. (BOA-10)	23	Matsumori, H. (MOA-02)	108
Mao, J. (JPB-04)	98	Matsumoto, H. (MPA-09)	113
Mao, Y. (JPA-10)	96	Matsumoto, H. (VOA-02)	185
Marathe, M. (WOD-12)	202	Matsumoto, H. (VOB-05)	187
Marcand, T.A. (FPA-13)	76	Matsumoto, N. (TOB-07)	171
Marcano, L. (EOA-01)	63	Matsumoto, R. (DOE-01)	55
Marcano, L. (EOA-10)	65	Matsumoto, Y. (XPA-11)	220
Marcano, L. (SC-06)	5	Matsumoto, Y. (XPB-12)	217
Marchiori, E. (YOB-05)	223	Matsumura, T. (YPA-02)	224
Margueron, S. (QOB-03)	143	Matsuo, M. (DPC-12)	63
Marignetti, F. (GPB-02)	81	Matsuo, T. (BOA-07)	22
Marimuthu, M. (ROB-06)	151	Matsushima, Y. (ZPA-06)	228
Markó, D. (SPA-06)	166	Matsuura, M. (APB-09)	18
Markó, D. (TOB-13)	172	Matsuura, M. (POA-13)	131
Markou, A. (COD-08)	40	Matsuura, M. (WOC-02)	198
Markovic, D. (SG-03)	8	Matsuura, Y. (WPC-10)	207
Markovic, D. (TOB-03)	170	Matsuzaka, M. (APA-05)	16
Marrows, C. (SOB-06)	155	Matsuzaka, M. (ZPA-06)	228
Martin Valderrama, C. (DOC-12)	53	Mattei, J. (PPB-04)	136
Martin-Cid, A. (WOD-08)	201	Mattei, J. (WOD-02)	200
Martin-Cid, A. (WOD-09)	201	Mattei, J. (WPC-04)	206
Martin-Garcia, B. (COE-03)	41	Mattheis, R. (SPA-09)	167
Martin-Garcia, B. (DOC-03)	52	Matzer, M. (UPA-07)	184
Martin-González, M. (XOC-02)	212	Maucha, L. (SOB-01)	154

*Best student presentation award finalist

Mausser, N.J. (SOC-04)	156	Michon, M. (LOA-02)	104
Mavropoulos, P. (COE-09)	42	Micica, M. (COD-09)	40
Mayoh, D. (COA-05)	33	Miedema, P.S. (SOF-05)	164
Mayoh, D. (COB-01)	34	Miglani, S.K. (ZPA-15)	229
Mayoh, D. (COE-10)	43	Mihajlović, G. (YOA-02)	221
Mayr, S. (SOC-10)	157	Mikami, S. (VPB-08)	192
Mazario, E. (SC-02)	4	Mikami, T. (POA-10)	130
Maziewski, A. (XOB-10)	211	Miki, S. (CPA-01)	43
Maznichenko, I.V. (DOC-03)	52	Milde, P. (COC-10)	38
Mazumdar, C. (UPA-09)	184	Min, J. (GPB-03)	81
Mazza, A. (COC-09)	38	Minamisawa, T. (MPA-06)	113
Mazza, L. (NOB-08)	119	Minuti, A. (EPA-07)	69
Mazzoli, C. (YOA-03)	221	Mio, S. (PPC-03)	138
McCann, S. (SPA-16)	168	Mio, S. (PPC-12)	139
McCarter, M. (YOA-03)	221	Mir, A. (SOF-08)	165
McCauley, M. (XOA-09)	209	Miroshkina, O. (QOA-09)	142
McClelland, J.J. (NOB-11)	119	Misawa, T. (APA-05)	16
McCloskey, P. (VOA-10)	186	Mishra, A. (XOD-07)	214
McCloskey, P. (XOB-09)	211	Mishra, P.K. (BOC-04)	26
McCord, J. (POC-01)	133	Mishra, R. (NOB-01)	118
McDonald, A.H. (COC-01)	37	Mitani, S. (AOA-05)	9
McEleney, C.A. (SOC-03)	156	Mitani, S. (AOA-09)	10
McHenry, M. (SF-06)	7	Mitani, S. (APA-07)	16
McMorran, B. (YOA-03)	221	Mitani, S. (APA-10)	16
McNamee, C.E. (XOD-13)	215	Mitani, S. (DOC-06)	52
Medina Dueñas, J.E. (COC-07)	38	Mitani, S. (DPA-06)	57
Medwal, R. (DPA-09)	57	Mitani, S. (DPA-11)	58
Medwal, R. (NPA-11)	121	Mitani, S. (DPC-09)	62
Meer, H. (BOB-05)	24	Mitarai, H. (IOA-01)	87
Meer, H. (BOC-06)	26	Mitarai, H. (WPA-02)	202
Meer, H. (SOF-03)	163	Mitsuda, A. (DPB-15)	61
Mehta, U.M. (EPB-10)	72	Mitsuda, H. (LOA-04)	104
Mei, Z. (OPB-10)	128	Mitsue, M. (XPC-03)	217
Mello, T.H. (PPB-08)	136	Mitsui, S. (KPA-09)	102
Mendisch, S. (SOB-01)	154	Mitsui, T. (BOB-13)	25
Menéndez, E. (ROA-03)	150	Mitsumata, C. (TPC-02)	179
Meng, F. (MPB-06)	115	Mitsumata, C. (YOA-10)	222
Meng, F. (NOA-05)	117	Mitsumata, C. (YPA-04)	225
Meng, F. (SG-04)	8	Mitsuya, K. (HOA-07)	84
Meng, H. (DPA-10)	57	Miura, A. (APA-03)	15
Meng, K. (APA-01)	15	Miura, A. (DOA-05)	49
Meng, K. (CPB-11)	47	Miura, T. (POA-06)	130
Meng, K. (DPB-03)	59	Miura, Y. (AOA-05)	9
Meng, K. (DPC-04)	62	Miura, Y. (AOA-12)	10
Meng, K. (OPB-11)	129	Miura, Y. (APA-07)	16
Meng, Q. (APB-08)	18	Miura, Y. (BOB-13)	25
Meng, W. (VPA-11)	191	Miura, Y. (DPA-06)	57
Meng, Y. (SOC-01)	156	Miura, Y. (DPA-08)	57
Menniti, M. (ZOA-04)	226	Miura, Y. (UOB-07)	182
Mentink, J. (COA-10)	33	Miura, Y. (WOD-05)	201
Meo, A. (BPA-07)	30	Miura, Y. (WPC-09)	207
Meo, A. (PPD-03)	140	Miura, Y. (XOA-06)	208
Meo, A. (TOC-05)	174	Miwa, S. (BOA-01)	21
Meo, A. (TPC-05)	179	Miwa, S. (BOA-07)	22
Merbouche, H. (SOD-13)	160	Miwa, S. (DOD-02)	54
Mercadier, L. (SOF-05)	164	Miwa, S. (DOD-05)	54
Mercer, T. (SPA-16)	168	Miyahara, S. (KPA-05)	101
Mercurio, G. (SOF-05)	164	Miyaji, K. (MPA-06)	113
Mertig, I. (COB-10)	36	Miyaji, K. (SG-06)	8
Mertig, I. (DOC-03)	52	Miyaji, K. (VPB-14)	193
Mewes, C. (COC-09)	38	Miyakawa, M. (UOB-10)	183
Mewes, T. (COC-09)	38	Miyake, T. (SA-06)	2
Mewes, T. (TOB-16)	173	Miyamoto, K. (APA-02)	15
Meyer, D. (QOA-01)	141	Miyamoto, K. (DOB-05)	50
Mezani, S. (FPA-13)	76	Miyamoto, M. (QPB-03)	147
Mezani, S. (SE-05)	6	Miyanaga, Y. (EPA-01)	68
Mhaskar, A. (EPB-07)	71	Miyashita, H. (QOB-13)	145
Mi, W. (CPB-08)	47	Miyashita, H. (QPB-01)	147
Mi, W. (HOA-04)	83	Miyata, R. (MPA-06)	113
Mi, W. (IOB-03)	89	Miyatake, T. (VOA-07)	186
Mi, W. (POB-09)	132	Miyazaki, R. (KPA-16)	103
Mi, W. (XOA-11)	209	Miyazaki, S. (WOA-06)	195
Mi, W. (ZOA-07)	226	Miyazaki, T. (CPB-06)	47
Miao, G. (COC-10)	38	Miyazaki, T. (MOA-05)	109
Miao, X. (QOA-08)	142	Miyazaki, T. (MPA-04)	113
Michalicka, J. (XOB-01)	210	Miyazaki, T. (QPB-10)	148
Michez, L. (BOA-09)	22	Miyazaki, T. (TPB-04)	177

*Best student presentation award finalist

Miyazaki, T. (VOB-14)	189	Mori, N. (VPA-04)	190
Miyazaki, T. (VPB-08)	192	Mori, N. (VPA-10)	190
Miyazawa, Y. (POA-06)	130	Mori, Y. (WPB-03)	204
Mizrahi, A. (NOB-04)	118	Mori, Y. (WPB-08)	205
Mizrahi, A. (SG-03)	8	Mori, Y. (XPA-01)	219
Mizrahi, A. (TOB-03)	170	Morii, K. (WOC-05)	198
Mizuguchi, M. (TPC-02)	179	Morioka, N. (POB-02)	131
Mizuguchi, M. (XOB-03)	210	Morishita, H. (POB-02)	131
Mizukami, S. (APA-06)	16	Morita, T. (BPA-09)	30
Mizukami, S. (DOB-02)	50	Moriwaki, T. (XPC-01)	217
Mizukami, S. (SOD-11)	160	Moriyama, T. (BOA-10)	23
Mizukami, S. (WOD-05)	201	Moriyama, T. (BPA-11)	31
Mizuno, T. (MPA-05)	113	Moriyama, T. (BPA-12)	31
Mizuno, T. (SF-05)	7	Moriyama, T. (DPB-11)	60
Mizuochi, N. (POB-02)	131	Moriyama, T. (QPB-08)	148
Mizutori, Y. (YOA-10)	222	Moriyama, T. (SPA-08)	166
Mizutori, Y. (YPA-04)	225	Moriyama, T. (YOA-01)	221
Mizzell, G. (TPC-01)	178	Moriyoshi, C. (VOA-03)	185
Mlynczak, E. (NOA-01)	116	Morley, N. (VOA-01)	185
Mo, C. (IPB-05)	92	Morley, N. (WOD-06)	201
Moalic, M. (TOC-08)	174	Morley, S. (YOA-03)	221
Mochizuki, M. (COA-08)	33	Mortazavizadeh, S. (KPA-21)	103
Mochizuki, S. (DPB-11)	60	Motomatsu, T. (MPA-08)	113
Modak, R. (AOB-01)	11	Motomura, T. (WPA-09)	203
Modak, R. (DOC-04)	52	Motozuka, S. (VPA-04)	190
Mogi, Y. (ZPA-03)	228	Motozuka, S. (VPA-10)	190
Mohamad-Assaad, M. (BOB-05)	24	Motyčková, L. (XOA-01)	208
Mohammed, O.A. (IPA-08)	91	Moukhader, R. (NOB-02)	118
Mohan, J.R. (NPA-11)	121	Moutafis, C. (COA-03)	32
Mohand		Moutafis, C. (CPA-15)	45
Oussaid, W.M. (MOB-05)	111	Moya, C. (SC-01)	4
Mohanty, J.R. (SPA-03)	165	Mozhikunnath Das, S. (TPB-12)	178
Mohapatra, J. (QPB-14)	149	Msiska, R. (COA-09)	33
Mokrousov, Y. (APC-02)	20	Mu, J. (KOA-02)	100
Mokrousov, Y. (COC-09)	38	Mu, Z. (BOA-05)	22
Mokrousov, Y. (COE-09)	42	Mudgal, R. (AOB-10)	12
Mokrousov, Y. (DPC-11)	62	Muduli, P. (DPC-10)	62
Mokrousov, Y. (SOF-03)	163	Muduli, P.K. (AOB-10)	12
Molina-Luna, L. (EOA-07)	64	Muduli, P.K. (NOB-10)	119
Molina-Luna, L. (QOA-09)	142	Muduli, P.K. (POA-03)	129
Molina-Luna, L. (WOA-10)	195	Muela, A. (EOA-01)	63
Molina-Luna, L. (WOB-08)	197	Mugyema, M. (LOA-07)	105
Momma, R. (DOB-02)	50	Mukai, S. (VPA-04)	190
Mondal, R. (DPC-13)	63	Mukai, S. (VPA-10)	190
Mondal, R. (TOB-05)	171	Mukhachev, R.D. (QPA-15)	147
Montero, C.M. (WOD-03)	200	Mukhopadhyay, A. (SOC-07)	157
Montero, C.M. (WOD-15)	202	Muliawan, W. (XOC-08)	212
Moody, S.H. (COA-05)	33	Mulkers, J. (COA-09)	33
Moody, S.H. (COB-07)	35	Müller, J. (OOB-09)	125
Moody, S.H. (COB-08)	35	Mullurkara, S. (UOA-02)	180
Mook, A. (SOE-09)	162	Muneta, I. (COC-03)	37
Moon, J. (COD-02)	39	Muneyama, E. (EPB-04)	71
Moon, J. (EPA-13)	70	Muni, B. (WOB-01)	196
Moon, K. (TPA-01)	175	Muñoz	
Moore, T.A. (CPA-05)	44	Rodriguez, C. (WOD-08)	201
Moore, T.A. (QOB-07)	144	Murakami, K. (IOB-10)	90
Moorsom, T. (BOB-11)	25	Murakami, R. (OPA-03)	127
Moorsom, T. (OOB-15)	126	Murakami, T. (XPB-01)	216
Moorsom, T. (XOA-09)	209	Murakami, Y. (COB-06)	35
Mopoung, K. (XPA-07)	220	Murakami, Y. (ROA-06)	150
Mora-Hernández, A. (POC-04)	133	Murakami, Y. (XOD-02)	214
Moradi, F. (NOB-03)	118	Muramatsu, K. (FOA-05)	73
Moradi, F. (TPA-09)	176	Muramatsu, K. (MPB-08)	116
Morales		Muramatsu, K. (POA-14)	131
Fernandey, P. (NOA-01)	116	Muramatsu, K. (PPC-11)	139
Morales, M.d. (SC-02)	4	Muramatsu, K. (TPC-04)	179
Morassi, M. (COD-04)	39	Murapaka, C. (CPA-17)	45
Morassi, M. (SOA-08)	154	Murapaka, C. (DPC-09)	62
Morel, L. (MOB-02)	111	Murapaka, C. (DPC-13)	63
Morel, R. (EOB-01)	66	Murapaka, C. (TOB-05)	171
Moreno		Murapaka, C. (TOB-12)	172
Maldonado, A.C. (EOA-05)	64	Murapaka, C. (XPA-10)	220
Mori, K. (PPB-05)	136	Murmu, P. (DPA-09)	57
Mori, K. (QOB-13)	145	Muroga, S. (POA-10)	130
Mori, K. (QPB-01)	147	Muroga, S. (PPB-07)	136
Mori, K. (SPA-01)	165	Muroga, S. (SPA-04)	166
Mori, M. (SPA-15)	167	Muroga, S. (TPC-08)	179

*Best student presentation award finalist

Ni, C. (WPB-06)	205
Ni, F. (IPB-07)	93
Ni, F. (LPA-05)	106
Niapos, E. (ROA-03)	150
Nicolas, A. (EOB-01)	66
Nicolas, H. (POC-04)	133
Nicolas, H. (POC-11)	134
Nidhi, K. (MOA-07)	109
Niehoff, T. (QOA-09)	142
Niguchi, N. (HOA-01)	83
Niguchi, N. (IOB-01)	88
Nii, K. (XPC-01)	217
Niimi, M. (QPB-04)	148
Niimi, Y. (BOA-08)	22
Niimi, Y. (COE-07)	42
Nikitin, A.A. (SOD-12)	160
Ning, S. (JOA-12)	95
Nirmala, R. (QOA-12)	143
Nirmala, R. (QPA-01)	145
Nishida, M. (XPC-06)	218
Nishida, S. (OOA-08)	123
Nishii, J. (APA-05)	16
Nishikawa, D. (SOA-09)	154
Nishikawa, M. (OPA-06)	127
Nishikawa, T. (POB-02)	131
Nishikawa, T. (WPC-12)	207
Nishikura, R. (OOA-08)	123
Nishimura, T. (DPA-16)	58
Nishina, R. (QPB-10)	148
Nishio-Hamane, D. (BOA-07)	22
Nishitani, T. (CPA-20)	46
Nishitsuji, J. (POA-12)	130
Nishitsuji, J. (VOB-10)	188
Nita, P. (UOA-05)	180
Nitta, H. (MOA-05)	109
Nitta, J. (APB-07)	18
Nitta, J. (BOC-07)	27
Nitta, J. (NPA-13)	122
Niu, S. (HPA-17)	86
Niu, S. (IPA-10)	91
Niu, S. (IPA-11)	91
Niu, S. (IPB-07)	93
Niu, S. (IPB-08)	93
Niu, S. (LPA-05)	106
Niu, Y. (BOD-03)	28
Niwa, S. (PPC-13)	139
Nlebedim, C.I. (GPB-15)	82
Nlebedim, C.I. (WOC-09)	199
Nlebedim, C.I. (WOC-12)	199
Node, E. (WOB-13)	198
Noé, P. (CPB-13)	48
Noé, P. (DOB-11)	51
Noël, P. (APC-12)	21
Noël, P. (COD-05)	40
Noël, P. (DOB-06)	51
Noguchi, S. (JPA-09)	96
Nogués, J. (XOD-01)	213
Noky, J. (SA-03)	2
Nomoto, T. (BOA-04)	22
Nomura, H. (CPA-01)	43
Nomura, H. (TPB-08)	178
Nomura, K. (DOB-08)	51
Nonaka, H. (QOB-10)	144
Nongjai, R. (DPA-09)	57
Noro, S. (XPA-02)	219
Noujima, M. (VOB-07)	188
Noujima, M. (VOB-15)	189
Novak, V. (XOB-01)	210
Novosad, V. (SB-03)	3
Novosad, V. (SD-03)	5
Novosad, V. (SOD-07)	159
Novoselov, K.S. (CPB-03)	46
Nowak, U. (BOD-07)	29
Nowak, U. (COB-13)	36
Nowak, U. (SOF-06)	164
Nozaki, T. (AOA-06)	9
Nozaki, T. (DOE-01)	55

Nozaki, T. (DOE-03)	55
Nozaki, Y. (DPA-06)	57
Nozaki, Y. (DPA-11)	58
Nozaki, Y. (TOB-15)	172
Nozaki, Y. (YOB-02)	223
Nuber, U. (EOA-07)	64
Numata, M. (YOA-09)	222
Nunez, J.P. (QPA-04)	145
Nussle, T. (SOB-04)	155
Nutter, P. (APA-08)	16

- O -

O'Brien, J. (XOB-04)	210
O'Carroll, I. (ZPA-14)	229
O'Grady, K. (OOB-12)	125
O'Grady, K. (POC-07)	134
Obana, H. (EPA-10)	69
Obayashi, I. (YOA-10)	222
Obayashi, T. (DPB-11)	60
Obinata, S. (DPB-02)	59
Obinata, S. (DPB-15)	61
Oda, K. (MOA-08)	109
Odagawa, T. (CPB-06)	47
Odawara, S. (PPD-09)	141
Oezelt, H. (SA-06)	2
Oezelt, H. (SOB-03)	155
Oezelt, H. (TOC-11)	175
Oezelt, H. (TOC-12)	175
Oezelt, H. (WOA-03)	194
Oezelt, H. (WOC-13)	200
Ogawa, K. (KPA-10)	102
Ogawa, K. (KPA-12)	102
Ogawa, K. (KPA-16)	103
Ogawa, K. (MPB-01)	115
Ogawa, K. (XOD-09)	215
Ogawa, M. (APC-08)	20
Ogawa, M. (DPB-08)	60
Ogawa, T. (APA-03)	15
Ogawa, T. (EOA-11)	65
Ogawa, T. (NPA-01)	120
Ogawa, T. (XOC-04)	212
Ogawa, T. (XOD-09)	215
Ogawa, T. (XOD-13)	215
Ogawa, T. (XPC-03)	217
Ogawa, Y. (DPB-05)	59
Ogawa, Y. (VOA-09)	186
Ogishima, N. (POA-14)	131
Ognev, A. (AOC-08)	14
Ognev, A. (APB-02)	17
Ognev, A. (APC-01)	19
Ognev, A. (APC-05)	20
Ognev, A. (APC-06)	20
Ognev, A. (CPA-06)	44
Ognev, A. (WPA-11)	203
Ognev, A. (XOC-07)	212
Ognev, A. (XPC-08)	218
Ognev, A. (XPC-10)	218
Oguchi, N. (XPC-09)	218
Oh, J. (DPA-12)	58
Ohara, K. (XPC-01)	217
Ohashi, S. (FOA-16)	74
Ohashi, S. (FPA-06)	75
Ohashi, S. (KPA-01)	101
Ohashi, S. (KPA-02)	101
Ohashi, S. (KPA-09)	102
Ohashi, Y. (IOA-09)	88
Ohashi, Y. (ZPA-06)	228
Ohguchi, H. (GPA-05)	78
Ohinata, T. (MOB-07)	112
Ohishi, Y. (QPB-09)	148
Ohkoshi, S. (POA-15)	131
Ohkubo, H. (VOA-02)	185
Ohkubo, T. (AOA-06)	9
Ohkubo, T. (AOA-09)	10
Ohkubo, T. (DPA-06)	57
Ohkubo, T. (DPA-11)	58

*Best student presentation award finalist

Ohkubo, T. (QOA-06)	142	Omari, K. (XOB-01)	210
Ohkubo, T. (SF-04)	7	Onishi, N. (VPA-06)	190
Ohkubo, T. (VOA-03)	185	Onishi, Y. (DPA-14)	58
Ohkubo, T. (VOA-07)	186	Ono, N. (SF-04)	7
Ohkubo, T. (WOA-02)	194	Ono, N. (VOB-05)	187
Ohkubo, T. (WOA-05)	195	Ono, N. (VPB-03)	192
Ohkubo, T. (WOA-09)	195	Ono, S. (DOD-06)	55
Ohkubo, T. (WOA-12)	195	Ono, S. (XPA-03)	219
Ohkubo, T. (WOB-07)	197	Ono, T. (AOC-08)	14
Ohkubo, T. (WOB-12)	197	Ono, T. (APC-01)	19
Ohkubo, T. (YOA-10)	222	Ono, T. (BOA-10)	23
Ohno, H. (BOA-03)	21	Ono, T. (BPA-11)	31
Ohno, S. (TOB-11)	172	Ono, T. (BPA-12)	31
Ohno, S. (ZPA-02)	228	Ono, T. (DPB-11)	60
Ohnuma, M. (QOB-11)	144	Ono, T. (QPB-08)	148
Ohnuma, S. (RPA-04)	152	Ono, T. (SPA-08)	166
Ohnuma, S. (RPA-05)	152	Ono, T. (XOB-02)	210
Ohodnicki, P. (UOA-02)	180	Ono, T. (XPC-09)	218
Ohodnicki, P. (VPA-01)	189	Ono, T. (YOA-01)	221
Ohresser, P. (XOC-11)	213	Ono, T. (ZPA-01)	227
Ohshima, T. (POB-02)	131	Onoda, H. (DOE-01)	55
Ohta, H. (WPB-09)	205	Onoda, S. (POB-02)	131
Ohta, R. (VPA-09)	190	Onodera, R. (EPA-05)	69
Ohta, T. (COE-07)	42	Onsal, M. (JOA-05)	94
Ohtake, M. (VOA-06)	186	Onsal, M. (POB-10)	132
Ohtake, M. (VPB-04)	192	Ontoso, N. (AOC-10)	14
Ohtake, M. (VPB-10)	193	Ontoso, N. (COE-02)	41
Ohtake, M. (XPA-02)	219	Ontoso, N. (COE-03)	41
Ohwada, K. (APA-02)	15	Onuma, T. (SF-04)	7
Ohwada, K. (DOB-05)	50	Onuma, T. (VPB-09)	193
Oikawa, K. (IOA-01)	87	Onuma, T. (WOA-01)	194
Oka, C. (QOB-08)	144	Oogane, M. (AOA-11)	10
Oka, M. (IOA-04)	87	Oogane, M. (POC-12)	135
Oka, M. (IPA-01)	90	Oogane, M. (YPA-01)	224
Oka, M. (YOA-11)	222	Oogane, M. (ZOA-06)	226
Okabayashi, J. (ROA-05)	150	Ootera, Y. (DPA-02)	56
Okabayashi, J. (WOD-05)	201	Ooyama, H. (POA-09)	130
Okabayashi, J. (XOA-06)	208	Opel, M. (BPA-13)	31
Okada, S. (WOB-13)	198	Opel, M. (DOC-11)	53
Okada, S. (WOB-14)	198	Oppeneer, P. (BOD-07)	29
Okada, S. (WPC-07)	207	Ortega, D. (EOA-03)	64
Okada, T. (DOA-08)	49	Ortner, M. (APA-09)	16
Okada, T. (QPB-06)	148	Orue, I. (EOA-01)	63
Okada, T. (QPB-09)	148	Orue, I. (SC-06)	5
Okada, Y. (COE-07)	42	Oshima, D. (APC-10)	20
Okamoto, J. (HOA-01)	83	Oshima, D. (EPA-09)	69
Okamoto, J. (IOB-01)	88	Oshima, D. (OPB-03)	128
Okamoto, K. (IOA-04)	87	Oshima, D. (POC-03)	133
Okamoto, S. (NOA-09)	117	Oshima, D. (XOC-05)	212
Okamoto, S. (SF-04)	7	Oshima, D. (XPC-07)	218
Okamoto, S. (TOB-11)	172	Osmushko, I. (WPA-11)	203
Okamoto, S. (VOB-05)	187	Osorio, M.R. (XOD-03)	214
Okamoto, S. (VOB-14)	189	Ostanin, S. (DOC-03)	52
Okamoto, S. (VPB-03)	192	Ostler, T. (SOA-07)	154
Okamoto, S. (VPB-09)	193	Ostler, T. (SPA-18)	168
Okamoto, S. (WOA-01)	194	Ota, S. (EPA-10)	69
Okamoto, S. (ZPA-02)	228	Ota, S. (EPA-11)	69
Okamoto, Y. (OPA-06)	127	Ota, S. (XPC-06)	218
Okano, M. (SOA-09)	154	Ota, S. (XPC-12)	219
Okawa, Y. (WPC-07)	207	Ota, Y. (QPB-02)	147
Okazaki, H. (KPA-10)	102	Otani, Y. (BOA-04)	22
Okazaki, K. (HOA-01)	83	Otani, Y. (BOA-07)	22
Okazaki, R. (POA-12)	130	Otani, Y. (OOB-09)	125
Okazaki, R. (VOB-10)	188	Otani, Y. (SB-04)	3
Okubo, S. (WPB-09)	205	Otani, Y. (SOD-04)	159
Okubo, T. (MPB-01)	115	Otani, Y. (XOD-12)	215
Okuda, T. (APA-02)	15	Otani, Y. (YOB-04)	223
Okuda, T. (DOB-05)	50	Otero, E. (XOC-11)	213
Okumura, Y. (PPC-12)	139	Otrokov, M.M. (COD-06)	40
Okuno, H. (COC-11)	39	Otska, S. (VOA-02)	185
Okuno, H. (COD-09)	40	Otsuka, K. (WPA-09)	203
Okuno, H. (COE-08)	42	Otxoa, R. (WOD-01)	200
Ollefs, K. (QOA-05)	142	Otyepka, M. (COC-05)	37
Ollefs, K. (SOF-05)	164	Ouerghi, A. (COD-09)	40
Ollefs, K. (XOA-07)	209	Ourdani, D. (COA-04)	32
Ollefs, K. (YOA-05)	221	Ourdani, D. (DOD-06)	55
Olsthoorn, B. (YOA-04)	221	Ouyang, G. (VOB-13)	188

*Best student presentation award finalist

Ouyang, G. (WOA-04)	194
Ovari, T.A. (VOA-08)	186
Ovari, T.A. (VPA-07)	190
Ovcharov, R. (BOD-08)	29
Ovcharov, R. (TOA-11)	169
Overboom, T. (FOA-07)	73
Owari, N. (VPB-06)	192
Oyake, T. (XPB-01)	216
Oyama, D. (EPA-06)	69
Oyama, D. (EPB-11)	72
Oyarzún, S. (DOC-01)	52
Oyoshi, K. (UOB-06)	182
Ozaki, K. (POA-12)	130
Ozaki, K. (VOB-10)	188
Ozaki, K. (WOB-14)	198
Ozaki, K. (WOC-01)	198
Ozawa, A. (DOB-08)	51
Ozdemir, S. (XOA-09)	209
Ozden, M.G. (VOA-01)	185
Ozeki, T. (ROB-04)	151

- P -

P, S.P. (SPA-03)	165
Pace, M. (SOF-05)	164
Pachat, R. (DOD-06)	55
Pacheco, A. (NOA-01)	116
Pacheco, A. (TOC-07)	174
Pachlhofer, J. (TOC-11)	175
Padrun, M. (VPA-03)	189
Paetzold, L. (XOA-05)	208
Pai, C. (BOA-02)	21
Pai, C. (DOA-04)	48
Pai, C. (DOB-09)	51
Paikaray, B. (CPA-17)	45
Paikaray, B. (XPA-10)	220
Paiz, p. (EOB-02)	66
Pakala, M. (OPB-09)	128
Pal, P.K. (XOC-06)	212
Palakkal, J. (XOA-07)	209
Paleo, C. (XPB-06)	216
Palma, J. (TOA-03)	168
Palmero, E.M. (WOD-03)	200
Palmero, E.M. (WOD-08)	201
Palmero, E.M. (WOD-15)	202
Palmero, E.M. (XOD-03)	214
Pan, B. (COA-12)	34
Pan, C. (BOC-01)	26
Pan, C. (DPB-16)	61
Pan, D. (OPB-03)	128
Pan, D. (XOB-06)	211
Pan, F. (DOA-01)	48
Pan, H. (GOA-02)	77
Pan, Y. (QPA-07)	146
Pan, Y. (TPA-02)	175
Pandurangi, A.K. (EPB-10)	72
Pang, H. (LPA-03)	106
Pang, H. (MOA-13)	110
Pang, H. (MOA-17)	110
Panhale, S. (MOA-10)	110
Paniago, R. (XOA-08)	209
Panigrahi, B. (TOB-12)	172
Panre, A.M. (XPC-07)	218
Pantasri, W. (TOC-05)	174
Pantasri, W. (TPC-05)	179
Papaioannou, E. (DOC-13)	53
Papp, A. (SB-05)	3
Papp, A. (SOB-01)	154
Papp, A. (SOC-12)	158
Papp, D.R. (NPA-04)	121
Papp, D.R. (SOB-05)	155
Pappu, Y. (DPC-13)	63
Parent, G. (FOA-03)	73
Park, A.M. (TPA-01)	175
Park, B. (APB-07)	18
Park, B. (BPA-01)	29

Park, B. (DOD-03)	54
Park, B. (NPA-13)	122
Park, B. (OPB-09)	128
Park, B. (PPB-10)	137
Park, C. (OPB-09)	128
Park, D. (KPA-13)	102
Park, H. (APB-10)	19
Park, H. (DPA-12)	58
Park, I. (MPB-03)	115
Park, J. (APB-02)	17
Park, J. (APB-07)	18
Park, J. (DPA-17)	58
Park, J. (FPA-02)	75
Park, J. (GPA-09)	79
Park, J. (GPA-10)	79
Park, J. (GPB-05)	81
Park, J. (KPA-07)	101
Park, J. (NOB-14)	120
Park, J. (OPB-09)	128
Park, J. (PPB-01)	136
Park, J. (TPA-10)	176
Park, j. (WOB-09)	197
Park, J. (ZOA-10)	227
Park, K. (PPB-09)	137
Park, K. (WOC-11)	199
Park, M. (BPA-15)	31
Park, M. (IPA-05)	91
Park, S. (GPA-09)	79
Park, S. (GPB-07)	81
Park, S. (GPB-09)	81
Park, S. (KPA-13)	102
Park, W. (NPA-10)	121
Parkin, S. (COB-04)	35
Parkin, S. (COB-10)	36
Parkin, S. (DPB-13)	60
Parkin, S. (XOA-04)	208
Partini, J. (EPA-09)	69
Pascal, J. (POC-04)	133
Pascal, J. (POC-11)	134
Pasquale, M. (VOB-12)	188
Patel, A. (TOC-10)	174
Patel, A.K. (UOB-05)	182
Pathak, P. (VPB-12)	193
Patra, C. (CPB-09)	47
Patra, D. (XOD-11)	215
Pattabi, A. (BOD-01)	28
Patterson, J. (CPB-13)	48
Patterson, J. (DOB-11)	51
Pavese, G. (SG-05)	8
Pavlidis, V. (COA-03)	32
Pavlidis, V. (CPA-15)	45
Payen, L. (EOA-08)	65
Paz, E. (POB-03)	131
Paz, E. (POC-05)	134
Paz, E. (SG-02)	8
Pearson, J.E. (SB-03)	3
Pearson, J.E. (SOD-07)	159
Pecheux, A. (QOB-09)	144
Pechlivanidou, M. (JOA-13)	95
Pei, R. (FPA-10)	76
Pei, R. (HPA-06)	85
Pei, R. (IPA-06)	91
Pei, R. (IPA-07)	91
Pei, R. (LPA-12)	107
Pei, R. (LPA-13)	107
Pei, R. (LPA-14)	107
Pei, R. (VPB-13)	193
Pei, Y. (JPB-04)	98
Peinhaupt, S. (SPA-11)	167
Peiró, F. (XOD-01)	213
Peng, K. (KOA-06)	100
Peng, L. (YOA-06)	222
Peng, S. (BPA-03)	30
Peng, S. (BPA-06)	30
Peng, S. (COB-11)	36
Peng, S. (DOE-05)	56

*Best student presentation award finalist

Peng, S. (OOB-07).....	125	Popescu, H. (COB-07).....	35
Peng, S. (OPB-02).....	128	Porro, M. (SOF-05).....	164
Peng, Y. (BOD-02).....	28	Posti, R. (AOC-06).....	13
Peng, Y. (CPA-04).....	44	Pourkeivannour, S. (FPA-15).....	76
Penn, A. (VOB-01).....	187	Pourkeivannour, S. (MPA-01).....	112
Peral, I. (XOD-01).....	213	Powalla, L. (COE-10).....	43
Peremadathil- Pradeep, R. (CPA-14).....	45	Prabhakar, A. (SOC-07).....	157
Perez Del Real, R. (SD-01).....	5	Pradeep, K. (WOB-01).....	196
Perez Del Real, R. (VOA-04).....	185	Pradhan, J. (DPC-13).....	63
Pérez-Landazábal, J. (ZOA-09).....	226	Pradhan, J. (TOB-05).....	171
Perez, L. (XOD-14).....	215	Prasad, B. (UOA-01).....	180
Perna, P. (COD-07).....	40	Prasad, N. (NOB-11).....	119
Perna, S. (SB-05).....	3	Prasad, N. (PPA-03).....	135
Persson, J. (SOE-08).....	162	Pratt, A. (XOA-10).....	209
Persson, P. (XPA-07).....	220	Pratt, A. (YOB-07).....	224
Perumal, H. (TOA-02).....	168	Prejbeanu, I. (DPC-06).....	62
Perumal, H. (TPA-04).....	176	Prejbeanu, I. (OOB-10).....	125
Perumal, H. (XPA-10).....	220	Prejbeanu, I. (OPB-05).....	128
Pervishko, A. (AOC-08).....	14	Prejbeanu, I. (POB-05).....	132
Pervishko, A. (APB-02).....	17	Prejbeanu, I. (POC-04).....	133
Petit-Watlot, S. (COD-07).....	40	Prejbeanu, I. (SOA-01).....	153
Petit, L. (SOA-07).....	154	Prenat, G. (APC-12).....	21
Petrillo, A. (XOB-07).....	211	Prenat, G. (CPB-13).....	48
Petrin, M. (FOA-04).....	73	Prenat, G. (DOB-11).....	51
Petryshynets, I. (VOB-08).....	188	Prendeville, L. (BOA-12).....	23
Pfaff, W. (SOD-07).....	159	Prieto, J. (UOA-05).....	180
Pfeuffer, L. (QOA-09).....	142	Prinsloo, A. (ROA-07).....	150
Pfeuffer, L. (QPA-12).....	146	Priyanka, B. (TOA-02).....	168
Pham, H.N. (AOB-08).....	12	Priyanka, B. (TPA-04).....	176
Pham, H.N. (AOC-02).....	13	Probert, M.I. (SOB-09).....	155
Pham, H.N. (COC-03).....	37	Prusty, M.M. (QPA-01).....	145
Pham, H.N. (COD-03).....	39	Puebla, J. (SB-04).....	3
Pham, H.N. (OOB-02).....	124	Puebla, J. (SOD-04).....	159
Pham, V. (AOC-10).....	14	Puebla, J. (XOD-12).....	215
Pham, V. (COE-02).....	41	Puliafito, V. (NOB-08).....	119
Phan, N. (NOB-09).....	119	Puliafito, V. (PPD-03).....	140
Phan, N. (PPA-03).....	135	Purnode, F. (SE-03).....	6
Phoomatna, R. (BPA-07).....	30	Puspitarum, D.L. (EPA-09).....	69
Phukan, G. (EOA-09).....	65	Puthirath Balan, A. (COE-09).....	42
Phung, A. (HPA-05).....	85	Pylypovskyi, O. (ROB-01).....	151
Pierquin, A. (FOA-12).....	74	Pyo, H. (GPB-03).....	81
Pietruczik, A. (XOB-10).....	211	Pyo, H. (GPB-04).....	81
Pile, R. (FOA-03).....	73		
Pile, S. (SOC-10).....	157		
Pillich, C. (QOA-05).....	142		
Pillsbury, T. (COD-01).....	39		
Piramanayagam, S. (AOB-06).....	11		
Piramanayagam, S. (NPA-08).....	121		
Piroux, L. (XOC-01).....	211		
Pirro, P. (QOA-02).....	141		
Pirro, P. (SOC-04).....	156		
Pirro, P. (SOD-10).....	160		
Pirro, P. (SOE-01).....	161		
Pirro, P. (SOF-07).....	164		
Pirro, P. (TOB-06).....	171		
Pizzini, S. (COA-04).....	32		
Platonov, S. (QPA-15).....	147		
Platunov, M. (AOC-08).....	14		
Plaza, A.E. (SG-05).....	8		
Podmiljsak, B. (WOB-03).....	196		
Poggio, M. (YOB-05).....	223		
Poh, H. (BOC-11).....	27		
Poh, H. (CPB-12).....	47		
Poh, H. (DPA-07).....	57		
Pohl, D. (YOB-06).....	223		
Polakovic, T. (SB-03).....	3		
Polakovic, T. (SOD-07).....	159		
Polewczyk, V. (COE-08).....	42		
Poli, E. (OOB-15).....	126		
Polley, D. (BOD-01).....	28		
Pomyalov, A. (SOC-02).....	156		
Pong, P. (JPB-12).....	99		
Ponomaryov, A. (SOD-01).....	158		
Pontlevy, A. (NOB-02).....	118		
Poole, S. (XOB-01).....	210		

- Q -

Qian, Q. (IPB-10).....	93
Qiang, B. (CPA-16).....	45
Qiao, K. (QOA-04).....	142
Qiao, Z. (LOA-03).....	104
Qin, G. (WOD-08).....	201
Qin, G. (WOD-09).....	201
Qin, H. (APB-04).....	17
Qin, H. (APB-05).....	18
Qin, H. (SOF-09).....	165
Qin, H. (TOA-06).....	169
Qin, H. (XOB-06).....	211
Qin, J. (CPB-04).....	46
Qin, J. (QOB-12).....	145
Qin, J. (YPA-08).....	225
Qin, W. (KOA-01).....	100
Qiu, J. (APB-12).....	19
Qiu, X. (BOC-01).....	26
Qiu, X. (DPB-16).....	61
Qiu, X. (JPA-15).....	97
Qiu, Z. (MPB-05).....	115
Qiu, Z. (MPB-09).....	116
Qiu, Z. (NPA-16).....	122
Qu, D. (DOA-06).....	49
Qu, G. (AOB-03).....	11
Quach, L. (NPA-12).....	122
Quan, L. (JPA-10).....	96
Quan, L. (JPB-11).....	98
Quan, L. (JPB-15).....	99
Querlioz, D. (COA-11).....	33
Querlioz, D. (SG-03).....	8
Querlioz, D. (TOB-09).....	171

Quesada, A. (UOA-05)	180
Quinsat, M. (DPA-02)	56
Quirke, J. (ZOA-08)	226
Quirós, C. (TOB-13)	172

- R -

Raab, K. (AOB-01)	11
Raab, K. (COA-10)	33
Raab, K. (COB-13)	36
Raabe, D. (VOB-06)	187
Raabe, J. (SPA-09)	167
Raabe, J. (TOC-07)	174
Raabe, J. (YOA-04)	221
Rafin, S. (IPA-08)	91
Ragusa, C. (MOA-04)	109
Ragusa, C. (SF-02)	7
Ragusa, C. (SF-03)	7
Rahaman, H. (AOB-06)	11
Rahaman, H. (NPA-08)	121
Rahaman, M. (QPB-11)	149
Rahaman, M. (TPB-11)	178
Rahm, M. (DOC-13)	53
Rahman, M. (SD-02)	5
Rahmanović, E. (FOA-04)	73
Raimondo, E. (POA-05)	130
Raimondo, E. (PPD-03)	140
Raja, M. (QPB-11)	149
Raja, M.M. (TPB-11)	178
Rajabali, M. (AOB-05)	11
Rajabali, M. (DOC-09)	53
Rajabali, M. (POA-02)	129
Rajan, A. (BOB-05)	24
Rajan, A. (BOC-06)	26
Ralph, D.C. (COE-01)	41
Rama-Eiroa, R. (WOD-01)	200
Ramesh, R. (NOA-04)	117
Ramos, R. (BOB-05)	24
Ramos, R. (BOC-06)	26
Ramos, R. (DOB-01)	50
Ramos, R. (SOF-03)	163
Ramsteiner, M. (COE-06)	42
Ramu, M. (AOB-06)	11
Ramu, M. (NPA-08)	121
Ran, S. (TPC-01)	178
Ranjan, A. (DPB-06)	59
Ranjbar, J. (EOA-03)	64
Ranno, L. (COA-04)	32
Rao, S. (DOE-02)	55
Rao, S. (OOB-06)	124
Rao, S. (OOB-08)	125
Rao, S. (TOB-04)	170
Rastogi, A. (BOD-01)	28
Ratha, S. (ROB-03)	151
Raulet, M. (MOB-02)	111
Ravelosona, D. (COA-11)	33
Ravelosona, D. (DOD-06)	55
Rawat, P. (QOA-11)	143
Rawat, R. (DPA-09)	57
Rawat, R. (NPA-11)	121
Rawat, R. (QPB-11)	149
Reddy, V.R. (TPB-11)	178
Regnault, N. (SA-02)	2
Rehman, A. (HPA-02)	84
Reichel, L. (TOC-06)	174
Reichlova, H. (BOA-09)	22
Reiffers, M. (QPA-06)	146
Reiffers, M. (QPA-11)	146
Reifsnyder Hickey, D. (COD-01)	39
Reimann, T. (SOD-08)	160
Reimann, T. (SPA-11)	167
Reimann, T. (SPA-17)	168
Reimers, S. (BOD-03)	28
Reimers, S. (XOB-01)	210
Reiss, D. (DOA-11)	50
Reith, H. (VOA-11)	186
Rellinghaus, B. (YOB-06)	223

Remmo, A. (SC-05)	4
Remy, Q. (SOA-04)	153
Remy, Q. (SPA-05)	166
Remya, U. (QPA-11)	146
Ren, B. (LOA-02)	104
Ren, J. (BOC-02)	26
Ren, L. (OOB-01)	124
Ren, Y. (COE-01)	41
Ren, Z. (TOC-04)	173
Resende, Ú.d. (EPB-08)	71
Resende, Ú.d. (PPB-02)	136
Resende, Ú.d. (PPB-08)	136
Reshetniak, H. (SPA-12)	167
Rethfeld, B. (SOF-03)	163
Reyren, N. (AOB-09)	12
Reyren, N. (APB-06)	18
Reyren, N. (COA-02)	32
Reyren, N. (COA-11)	33
Reyren, N. (COB-05)	35
Reyren, N. (COD-04)	39
Reyren, N. (COE-05)	41
Rezaeiyan, Y. (NOB-03)	118
Rezvani, J. (SOF-05)	164
Rhyee, J. (QOA-11)	143
Riahi, K. (EOA-07)	64
Rial, J. (BOA-09)	22
Richter, J.H. (VPA-03)	189
Riddiford, L. (COD-01)	39
Riedel, C. (SOC-13)	158
Riedel, M. (NOB-12)	120
Riegg, S. (QOA-09)	142
Riegg, S. (WOB-05)	196
Riegg, S. (WOB-08)	197
Riswan, M. (XPC-07)	218
Rivard, C. (QOA-01)	141
Rivas, M. (TU-01)	1
Robredo, I. (COE-02)	41
Rocabert, U. (WOD-09)	201
Rocchino, L. (VOB-12)	188
Roche, S. (COC-07)	38
Rode, K. (BOA-12)	23
Rode, K. (DOC-02)	52
Rode, K. (XOB-04)	210
Rodrigues, D. (CPA-13)	45
Rodrigues, D. (NOB-02)	118
Rodrigues, D. (NOB-08)	119
Rodrigues, D. (PPD-03)	140
Rodriguez, G. (DOC-01)	52
Rodriguez, R. (DOC-01)	52
Roe, D.L. (ZPA-11)	229
Roessli, B. (SOC-11)	157
Rogachev, K. (XPC-08)	218
Rogachev, K. (XPC-10)	218
Rogalev, A. (AOC-08)	14
Rogalev, A. (QOA-05)	142
Rogalev, A. (XOC-11)	213
Rogalev, A. (YOA-05)	221
Rogers, M. (BOB-11)	25
Rogers, M. (OOB-15)	126
Rogers, M. (XOA-09)	209
Rohrmann, H. (VPA-03)	189
Rojas-Sanchez, J. (COD-07)	40
Rojas-Sanchez, J. (SOA-08)	154
Romagnoli, G. (YOB-05)	223
Romary, R. (MOB-05)	111
Romera, M. (TOB-09)	171
Ronayne, W. (DOA-02)	48
Rosa, R.J. (XOA-08)	209
Rosenberg, E. (VOB-01)	187
Rosenkamp, R. (DOE-06)	56
Roshandel, E. (GOA-01)	77
Rösner, B. (SOF-05)	164
Ross, A. (BOB-03)	24
Ross, A. (BOB-05)	24
Ross, A. (SG-03)	8
Ross, C. (NOA-04)	117
Ross, C. (VOB-01)	187

*Best student presentation award finalist

Rotarescu, C. (VPA-07)	190	Saito, T. (WOD-04)	201
Rothembach, N. (SOF-05)	164	Saito, T. (WPC-11)	207
Rothörl, J. (COA-10)	33	Saito, Y. (AOC-04)	13
Rothörl, J. (CPA-13)	45	Saito, Y. (APB-09)	18
Rothschild, A. (AOB-11)	12	Saitoh, E. (BOB-02)	23
Rothschild, A. (YOB-01)	223	Saitoh, E. (BOB-05)	24
Roussigné, Y. (COA-04)	32	Saitoh, E. (BOC-06)	26
Roussigné, Y. (DOD-06)	55	Saitoh, E. (DOA-07)	49
Roussos, J. (QOA-01)	141	Saitoh, E. (DOA-09)	49
Rouzegar, M. (DOA-11)	50	Saitoh, E. (DOB-01)	50
Roy		Saitoh, E. (DPA-01)	56
Chowdhury, R. (CPB-09)	47	Saitoh, E. (SB-01)	3
Roy, S. (DOA-02)	48	Saitoh, E. (SOC-06)	157
Roy, S. (YOA-03)	221	Saitoh, E. (SOF-03)	163
Roy, T. (AOA-08)	10	Saitoh, E. (SPA-13)	167
Roy, T. (SA-05)	2	Saitoh, E. (TOB-17)	173
Royo-Silvestre, I. (KPA-04)	101	Sakaguchi, H. (QOB-10)	144
Rozhansky, I. (TOA-05)	169	Sakaguchi, H. (QPB-04)	148
Rózsa, L. (CPB-03)	46	Sakai, A. (ZPA-08)	228
Ruan, X. (BOD-04)	28	Sakai, S. (BOB-13)	25
Ruan, X. (DPA-10)	57	Sakai, T. (UPA-12)	184
Ruan, X. (XOA-03)	208	Sakakibara, M. (PPD-09)	141
Rubio-Zuazo, J. (COE-06)	42	Sakakura, T. (XPA-12)	220
Ruhwedel, M. (DOC-13)	53	Sakamoto, H. (EPB-13)	72
Ruiz Gómez, S. (NOA-01)	116	Sakamoto, M. (PPC-15)	139
Ruiz Gómez, S. (XOD-14)	215	Sakamoto, S. (DOD-02)	54
Ruiz-Clavijo, A. (XOC-02)	212	Sakamoto, S. (DOD-05)	54
Ruiz-Gomez, S. (TOC-07)	174	Sakamoto, T. (XPC-01)	217
Ruiz, O. (OPA-08)	127	Sakima, S. (VPA-04)	190
Rüßmann, P. (COE-09)	42	Sakima, S. (VPA-10)	190
Rustagi, A. (SD-02)	5	Sakkas, G.K. (SE-02)	6
Rusz, J. (YOB-08)	224	Sakoguchi, A. (OOA-08)	123
Ruta, S. (SOA-07)	154	Sakthivel, S. (QPA-11)	146
Ryba, T. (QPA-06)	146	Sakuma, A. (DPB-14)	60
Rychly-		Sakuma, N. (SA-06)	2
Gruszecka, J.N. (XPB-11)	217	Sakuma, N. (WOA-03)	194
Rycroft, C.H. (SA-02)	2	Sakuma, N. (WOC-13)	200
Ryeong, J. (WOB-04)	196	Sakuraba, Y. (AOA-02)	9
Ryu, J. (APB-07)	18	Sakuraba, Y. (AOA-04)	9
Ryu, J. (NPA-13)	122	Sakuraba, Y. (AOA-05)	9
		Sakuraba, Y. (APA-02)	15
		Sakuraba, Y. (BOB-13)	25
		Sakuraba, Y. (DOA-05)	49
		Sakuraba, Y. (DOB-05)	50
		Sakuraba, Y. (DOC-04)	52
		Sakuraba, Y. (DPA-04)	56
		Sakuraba, Y. (POC-06)	134
		Sakuraba, Y. (POC-10)	134
		Sakurada, S. (WOC-02)	198
		Sakuragi, M. (WPA-13)	204
		Sakurai, H. (BOB-08)	24
		Sakurai, J. (QOB-08)	144
		Sala, G. (DOB-06)	51
		Salahelddeen, M. (QOA-10)	143
		Salahuddin, S. (QOB-03)	143
		Salama, S. (SOC-08)	157
		Salama, S. (SOD-03)	159
		Salikhov, R. (SOD-01)	158
		Salimy, S. (OOB-14)	125
		Salomoni, D. (NOB-04)	118
		Samanta, A. (DOA-02)	48
		Samardak, A. (APB-02)	17
		Samardak, A. (APC-01)	19
		Samardak, A. (APC-06)	20
		Samardak, A. (CPA-06)	44
		Samardak, A. (WPA-11)	203
		Samardak, A. (XOC-07)	212
		Samardak, A. (XPB-03)	216
		Samardak, A. (XPC-08)	218
		Samardak, A. (XPC-10)	218
		Samardak, A.S. (AOC-08)	14
		Samardak, A.S. (APB-02)	17
		Samardak, A.S. (APC-05)	20
		Samardak, A.S. (XOC-07)	212
		Samardak, A.S. (XPC-08)	218
		Samardak, A.S. (XPC-10)	218
		Samardak, V.Y. (AOC-08)	14

- S -

S, S. (QPB-11)	149
Sa, J. (IOA-06)	88
Sabariego, R. (MOB-02)	111
Sabariego, R. (MOB-04)	111
Sabirianov, R. (COC-10)	38
Sabirianov, R. (WOD-13)	202
Sabon, P. (POB-05)	132
Sack, R. (SC-04)	4
Sadashiva, A. (NOB-10)	119
Sadhashivam, M. (WOB-01)	196
Sadowski, J. (UOB-02)	181
Saerbeck, T. (XOA-05)	208
Safeer, C. (COE-03)	41
Sagasta, E. (AOC-10)	14
Saha, S. (QPB-13)	149
Sahoo, B. (DOA-03)	48
Sai, R. (VOA-10)	186
Sai, R. (XOB-09)	211
Sai, T. (OPA-01)	126
Saighi, S. (SG-03)	8
Sait, C.R. (SOA-02)	153
Saito, H. (BOC-12)	27
Saito, H. (OPA-04)	127
Saito, H. (XOD-09)	215
Saito, H. (YPA-02)	224
Saito, M. (NPA-06)	121
Saito, M. (XOC-05)	212
Saito, M. (XPC-09)	218
Saito, S. (NPA-01)	120
Saito, S. (NPA-02)	120
Saito, S. (OPA-01)	126
Saito, S. (VOB-09)	188
Saito, S. (XOD-13)	215
Saito, T. (NPA-01)	120

*Best student presentation award finalist

Samardak, V.Y. (WPA-11)	203	Sato, T. (VPA-09).	190
Samarth, N. (COD-01).	39	Sato, T. (VPB-14).	193
Samartsev, A. (SOF-05).	164	Sato, Y. (MPA-09)	113
Samatham, S. (TOC-10).	174	Sato, Y. (PPB-07).	136
Samatham, S. (UOB-05)	182	Sato, Y. (VOB-05)	187
Sameshima, H. (BOB-08)	24	Satoh, T. (DPB-11).	60
Sameshima, H. (BOB-09)	25	Satone, R. (APC-11)	21
Sanada, Y. (ROA-06)	150	Satone, R. (COB-06)	35
Sanchez		Satone, R. (CPA-12).	45
Llamazares, J.L. (QPA-06).	146	Satz, A. (DPC-14)	63
Sanchez-Tejerina, L. (BOB-05)	24	Savary, M. (SE-04)	6
Sankar, R. (BPA-02).	29	Saw, A.K. (QPA-04).	145
Sankaran, K. (DOE-02)	55	Sawamoto, A. (WPC-03).	206
Sano, K. (QOB-08)	144	Sawano, K. (DOA-08).	49
Sant, R. (COE-08)	42	Sawano, K. (XOB-08).	211
Santana-Otero, A. (EOA-03)	64	Sawicki, M. (UOB-02).	181
Santhosh, P. (UOA-08)	181	Sawicki, M. (UPA-07)	184
Santhosh, P. (UPA-01)	183	Sbiaa, R. (AOB-06)	11
Santos, E. (CPB-03).	46	Schäfer, K. (WOB-05).	196
Santos, E. (SOA-03)	153	Schäfer, L. (WOA-10)	195
Santos, J. (EPB-06)	71	Schaffer, S. (SOB-03)	155
Santos, P.M. (TOC-09).	174	Schaffers, T. (TOA-06)	169
Santos, T. (NOB-11).	119	Schauerte, B. (JOA-01)	93
Santoso, I. (XPC-07)	218	Schefer, T. (PPD-06)	140
Sanz González, R. (XOC-02).	212	Scheibel, F. (QOA-07).	142
Sanz González, R. (XOD-14)	215	Scheibel, F. (QPA-12)	146
Sanz Hernandez, D. (COA-11)	33	Scheibler, S. (EOA-06)	64
Sanz Hernandez, D. (SG-03)	8	Scheike, T. (AOA-09)	10
Sanz Hernandez, D. (TOB-03).	170	Scheike, T. (APA-10).	16
Sapatnekar, S. (NOB-12).	120	Scheike, T. (DPA-11)	58
Sapkota, A. (COC-09)	38	Scherz, A. (SOF-05).	164
Sarfo, T. (DOC-08)	53	Scheuer, L. (DOC-13)	53
Sarker, M. (SPA-10).	167	Scheuer, L. (SOF-07).	164
Sarpi, B. (BOD-03)	28	Scheuer, L. (TOB-06)	171
Sasada, I. (PPD-01)	140	Scheufele, M. (DOC-11)	53
Sasada, I. (PPD-08)	141	Schick, D. (SOF-04)	163
Sasaki, I. (VPA-04)	190	Schilling, M. (SC-04).	4
Sasaki, I. (VPA-10)	190	Schlappa, J. (SOF-05)	164
Sasaki, I. (XPC-03)	217	Schlegel, J. (SOF-06).	164
Sasaki, R. (YOA-01)	221	Schlit, R. (DOB-06).	51
Sasaki, S. (CPB-14)	48	Schlit, R. (SOD-13)	160
Sasaki, S. (KPA-05)	101	Schmalzl, K. (SOE-08)	162
Sasaki, T. (AOA-02)	9	Schmitt, C. (BOB-03)	24
Sasaki, T. (AOA-04)	9	Schmitt, C. (BOB-05)	24
Sasaki, T. (AOA-05)	9	Schmitt, C. (BOC-06)	26
Sasaki, T. (DOB-05).	50	Schmitt, C. (BPA-14).	31
Sasaki, T. (WOA-12)	195	Schmitt, C. (SOF-03).	163
Sasaki, T. (WPC-02)	206	Schmitt, M. (COE-09)	42
Sasaki, Y. (APA-05)	16	Schmitt, M. (CPA-13)	45
Sasaki, Y. (BOA-10)	23	Schmoll, D. (SOD-08).	160
Sasaki, Y. (TPB-01)	177	Schmoll, D. (SPA-11).	167
Sasayama, T. (EOB-11)	67	Schmool, D.S. (SPA-06)	166
Sasayama, T. (PPC-02)	138	Schmool, D.S. (TOB-13)	172
Sasayama, T. (YPA-03)	224	Schmoranzzerová, E. (BOA-09)	22
Sasayama, T. (YPA-05)	225	Schneider, H. (SOF-02)	163
Sassi, Y. (AOB-09).	12	Schneider, H. (SOF-03)	163
Sassi, Y. (COA-02).	32	Schneider, K. (SF-06)	7
Sassi, Y. (COA-11).	33	Schneider, M. (SOC-04)	156
Sato, A. (EPB-13)	72	Schneider, S. (YOB-06).	223
Sato, F. (KPA-05).	101	Schnitzspan, L. (AOA-10).	10
Sato, H. (APA-02)	15	Schoeffmann, P. (XOC-11)	213
Sato, K. (APA-04)	15	Schöffmann, P. (DOD-06)	55
Sato, K. (NOA-09).	117	Scholl, A. (YOA-03)	221
Sato, M. (MPA-05).	113	Scholz, T. (COE-09).	42
Sato, M. (POA-13).	131	Schrefl, T. (SA-06).	2
Sato, M. (VPB-10).	193	Schrefl, T. (SOB-03)	155
Sato, S. (VPB-06)	192	Schrefl, T. (TOC-11)	175
Sato, S. (WOB-13).	198	Schrefl, T. (TOC-12)	175
Sato, S. (YPA-04).	225	Schrefl, T. (WOA-03)	194
Sato, T. (APA-03).	15	Schrefl, T. (WOB-10).	197
Sato, T. (MPA-06)	113	Schrefl, T. (WOC-13).	200
Sato, T. (POA-09)	130	Schreiber, F. (BOB-05)	24
Sato, T. (QPB-03).	147	Schreiber, F. (BOC-06)	26
Sato, T. (SF-05)	7	Schulman, A. (SG-02)	8
Sato, T. (SG-06)	8	Schulman, A. (SG-03)	8
Sato, T. (VOB-09)	188	Schulman, A. (TOB-08).	171

*Best student presentation award finalist

Schulman, A. (TPA-08)	176	Shan, W. (HPA-08).	85
Schultheiss, H. (AOB-05)	11	Shang, W. (EOB-08)	67
Schultheiss, H. (SOE-11).	162	Shao, D. (BOC-10)	27
Schultheiss, K. (SB-06)	3	Shao, Q. (SOC-05).	156
Schultheiss, K. (SOE-11).	162	Shao, Q. (TOC-04).	173
Schultheiss, K. (SPA-09)	167	Shao, Y. (DPC-01)	61
Schultz, M. (POC-02)	133	Shao, Z. (GPA-08)	79
Schulz, F. (COB-01).	34	Sharma, H. (XOB-03)	210
Schulz, F. (COE-10).	43	Sharma, R. (NOB-01)	118
Schütz, G. (COB-01)	34	Shashank, U. (DPA-09)	57
Schütz, G. (COE-10)	43	Shatilov, V. (BPA-04).	30
Schütz, G. (SPA-09).	167	Shatilov, V. (CPA-06).	44
Schwarz, M. (TOC-11)	175	Shaw, C. (WPB-11)	205
Schwenke, P. (BPA-13)	31	Shayanfar, N. (QPA-12).	146
Scott, J.N. (SOA-02)	153	She, D. (COD-04)	39
Scott, J.R. (TOB-10)	171	Shen, B. (QPA-07).	146
Seangwong, P. (JOA-12)	95	Shen, D. (JPA-14)	97
Sebald, G. (KPA-22)	103	Shen, F. (GPB-02)	81
Sebald, G. (MOB-03).	111	Shen, H. (PPD-05).	140
Sebald, G. (ZOA-03)	226	Sheng, L. (DOB-07).	51
Sebe, N. (AOB-09)	12	Sheng, L. (SB-01)	3
Sebe, N. (CPB-13).	48	Shepley, P. (QOB-07).	144
Seddon, S. (COC-10).	38	Sheppard, C. (ROA-07).	150
Sedek, R. (WOB-11)	197	Shi, B. (EOB-04)	66
Seibel, C. (SOF-03)	163	Shi, B. (EPA-02)	68
Seifert, S. (NOA-01)	116	Shi, B. (PPD-04)	140
Seifert, T. (DOA-11)	50	Shi, D. (WPB-02).	204
Seino, S. (QPB-06)	148	Shi, G. (NOB-01).	118
Seino, S. (QPB-09)	148	Shi, K. (OOB-07).	125
Seki, M. (SPA-10)	167	Shi, K. (POA-01)	129
Seki, T. (AOB-01)	11	Shi, L. (LOA-03)	104
Seki, T. (BOB-04)	24	Shi, S. (OOA-05).	123
Seki, T. (DOB-08)	51	Shi, T. (OPB-07)	128
Seki, T. (DOC-06)	52	Shi, Y. (WOB-06).	197
Seki, T. (DPB-08).	60	Shibata, Y. (APA-04)	15
Seki, T. (XOB-05)	210	Shibauchi, T. (TPC-04)	179
Sekiguchi, K. (DPB-04).	59	Shibuya, T. (EOB-12)	67
Sekino, M. (EOB-08).	67	Shibuya, T. (POB-08).	132
Sekino, M. (EOB-09).	67	Shieh, J. (BOC-03).	26
Sekino, M. (EOB-13).	67	Shigei, N. (MPA-08)	113
Sekino, M. (EPB-09)	71	Shigeta, H. (PPD-07).	141
Selema, A. (IOB-02)	89	Shih, C. (COC-01).	37
Semboshi, S. (UOB-10).	183	Shih, P. (IPB-04)	92
Seneor, P. (COA-11).	33	Shih, Y. (RPA-06).	152
Seo, K. (MPB-03)	115	Shikano, S. (UOA-09)	181
Seong-Hyub, L. (APB-14).	19	Shikano, S. (XPA-03).	219
Sepehri-Amin, H. (OOA-02)	123	Shikayama, T. (VPA-04)	190
Sepehri-Amin, H. (QOA-06)	142	Shikayama, T. (VPA-10)	190
Sepehri-Amin, H. (SF-04)	7	Shikoh, E. (DPA-14)	58
Sepehri-Amin, H. (VOA-07)	186	Shikoh, E. (DPA-16)	58
Sepehri-Amin, H. (WOA-02)	194	Shiku, K. (PPC-06)	138
Sepehri-Amin, H. (WOA-05)	195	Shillaber, L. (MOA-03)	109
Sepehri-Amin, H. (WOA-09)	195	Shim, W. (TOB-14)	172
Sepehri-Amin, H. (WOB-07).	197	Shima, M. (DPB-10)	60
Sepehri-Amin, H. (WOB-12).	197	Shima, M. (XPA-03)	219
Sepehri-Amin, H. (YOA-10)	222	Shima, M. (XPC-09)	218
Serantes, D. (SC-02)	4	Shima, T. (WPB-03).	204
Serdeha, I. (DPC-03)	61	Shima, T. (WPB-08).	205
Serdeha, I. (SOA-05)	153	Shima, T. (WPC-09).	207
Serdyuk, Y. (IOA-08).	88	Shima, T. (WPC-14).	207
Seredina, M. (UOB-08)	182	Shima, T. (XPA-01)	219
Serga, A.A. (SOC-02)	156	Shimakawa, Y. (ZPA-01)	227
Serga, A.A. (SOD-05)	159	Shimatsu, T. (NOA-09)	117
Serha, R. (SOD-05)	159	Shimba, K. (WPA-02)	202
Serha, R. (SOD-08)	160	Shimizu, H. (BOB-02).	23
Serha, R. (SPA-11).	167	Shimizu, H. (DOA-07).	49
Serpico, C. (SB-05)	3	Shimizu, H. (DOA-09).	49
Sethi, P. (TOB-03)	170	Shimizu, H. (SOC-06)	157
Sgarro, P. (APC-12)	21	Shimizu, H. (TOB-17)	173
Sgarro, P. (CPB-13)	48	Shimizu, K. (OOA-03).	123
Sgarro, P. (DOB-11).	51	Shimizu, K. (XPB-01)	216
Sha, G. (PPD-07)	141	Shimizu, R. (ZPA-02)	228
Sha, L. (MPA-10).	114	Shimizu, T. (SF-01)	7
Shafer, P. (DOC-05)	52	Shimohama, T. (XPC-01).	217
Shafer, P. (SOA-02)	153	Shimura, K. (MPA-05).	113
Shahee, A. (COE-09)	42	Shin, H. (FPA-14)	76

*Best student presentation award finalist

Shin, H. (GPA-18)	80	Siewierska, K.E. (XOB-04)	210
Shin, H. (HPA-05)	85	Sikola, T. (SOD-02)	158
Shin, J. (DPA-17)	58	Silva, M. (LOA-06)	104
Shin, J. (LPA-08)	107	Silva, M. (LPA-19)	108
Shin, J. (TOB-14)	172	Silva, M. (WOD-10)	201
Shin, K. (FPA-03)	75	Silvester, B. (SE-01)	6
Shin, K. (FPA-17)	76	Simensen, H. (COE-09)	42
Shin, K. (GPB-01)	80	Simeonidis, K. (SC-02)	4
Shin, K. (GPB-05)	81	Simizu, S. (SF-06)	7
Shin, K. (HPA-05)	85	Simon, G. (ROA-07)	150
Shin, K. (HPA-11)	85	Singh, A. (YOA-03)	221
Shin, K. (HPA-12)	86	Singh, H. (NOA-02)	116
Shin, K. (WPA-12)	204	Singh, R. (CPB-09)	47
Shin, M. (TPA-01)	175	Sinha, J. (TOA-02)	168
Shindo, D. (COB-09)	36	Sinha, J. (TPA-04)	176
shinohara, t. (YPA-06)	225	Sinha, J. (XPA-10)	220
Shinshi, T. (WPA-09)	203	Sinova, J. (BOA-09)	22
Shinshi, T. (WPA-15)	204	Sinova, J. (BOB-03)	24
Shinshi, T. (WPB-01)	204	Sinova, J. (BOB-05)	24
Shinto, I. (AOA-05)	9	Sinova, J. (BOC-06)	26
Shinya, H. (APA-03)	15	Sinova, J. (COB-03)	35
Shiomi, Y. (BOB-02)	23	Sinova, J. (SOF-03)	163
Shiota, S. (PPC-13)	139	Sinova, J. (XOB-01)	210
Shiota, Y. (APC-01)	19	Siritaratiwat, A. (JOA-12)	95
Shiota, Y. (BPA-11)	31	Sisniega Soriano, B. (PPD-02)	140
Shiota, Y. (BPA-12)	31	Siu, Z. (CPB-02)	46
Shiota, Y. (CPA-01)	43	Skelland, C. (WOB-10)	197
Shiota, Y. (DPB-11)	60	Skokov, K. (QOA-05)	142
Shiota, Y. (QPB-08)	148	Skokov, K. (QOA-07)	142
Shiota, Y. (SPA-08)	166	Skokov, K. (QOA-09)	142
Shiota, Y. (YOA-01)	221	Skokov, K. (QPA-05)	145
Shirahama, E. (KPA-01)	101	Skokov, K. (QPA-12)	146
Shirai, M. (AOA-08)	10	Skokov, K. (WOA-10)	195
Shirai, M. (APA-03)	15	Skokov, K. (WOB-08)	197
Shirai, M. (DOD-02)	54	Skokov, K. (YOA-05)	221
Shirai, M. (OPA-03)	127	Slager, R. (COD-08)	40
Shirai, M. (SA-05)	2	Slavakis, K. (XOD-08)	215
Shirane, T. (VPB-01)	191	Slavin, A.N. (NOB-06)	119
Shiratsuchi, Y. (BOB-08)	24	Smejkal, L. (BOA-09)	22
Shiratsuchi, Y. (BOB-09)	25	Smith, D.A. (DOC-05)	52
Shiratsuchi, Y. (BOB-12)	25	Smith, I. (ROA-04)	150
Shiratsuchi, Y. (QPB-12)	149	Smith, M. (APA-08)	16
Shiratsuchi, Y. (ROA-06)	150	Smith, R. (DOC-02)	52
Shiratsuchi, Y. (XOC-10)	213	Smith, R. (OPA-08)	127
Shirokura, T. (AOB-08)	12	Snarski-Adamski, J. (XPB-11)	217
Shirokura, T. (AOC-02)	13	Snarski-Adamski, J. (YOB-08)	224
Shirokura, T. (COC-03)	37	Snyder, J. (QPA-05)	145
Shirokura, T. (OOB-02)	124	Soares, I.V. (EPB-08)	71
Shirotori, S. (POC-08)	134	Soares, I.V. (PPB-02)	136
Shishelov, A.F. (XPB-03)	216	Soares, J.L. (PPB-02)	136
Shiu, D. (DPB-17)	61	Sobirov, M.I. (XPC-10)	218
Shiu, D. (TPA-07)	176	Sobucki, K. (SOC-09)	157
Shiu, D. (TPC-07)	179	Sobucki, K. (TOA-09)	169
Shiu, D. (XPC-11)	219	Soda, N. (IOA-04)	87
Shoji, T. (SA-06)	2	Soda, N. (IPA-01)	90
Shoji, T. (WOA-01)	194	Sokolovskiy, V.V. (BOB-14)	25
Shoji, T. (WOA-03)	194	Sokolovskiy, V.V. (UOB-09)	182
Shoji, T. (WOC-13)	200	Sokoluk, D. (DOC-13)	53
Shokr, Y. (AOC-09)	14	Sola, A. (SF-02)	7
Shortall, B. (TPB-06)	177	Solignac, A. (DOD-06)	55
Shotbolt, M. (EOB-14)	68	Solignac, A. (MOB-02)	111
Shoup, J.E. (OOB-03)	124	Solimene, L. (MOA-04)	109
Shravan Kumar		Solimene, L. (SF-03)	7
Reddy, S. (UOB-05)	182	Son, B. (EPA-04)	68
Shrestha, N. (AOA-01)	9	Sonehara, M. (MPA-06)	113
Shreya, S. (TPA-09)	176	Sonehara, M. (QPB-03)	147
Shu, J. (MOB-08)	112	Sonehara, M. (SF-05)	7
Shuai, J. (CPA-05)	44	Sonehara, M. (SG-06)	8
Shuai, J.Z. (FOA-02)	72	Sonehara, M. (VPA-09)	190
Shulgach, J. (EOB-14)	68	Sonehara, M. (VPB-14)	193
Shuto, M. (GPA-05)	78	Song, B. (HPA-13)	86
Si, H. (IPB-06)	92	Song, C. (DOA-01)	48
Si, M. (DPB-12)	60	Song, J. (AOA-09)	10
Sidi El Valli, A. (NOB-09)	119	Song, J. (DPA-06)	57
Sidi El Valli, A. (PPA-03)	135	Song, J. (DPA-11)	58
Sierra, J. (COE-04)	41	Song, M. (SOD-07)	159

*Best student presentation award finalist

Song, P. (LOA-12)	105	Stoian, G. (VPA-02)	189
Song, S. (GPA-12)	79	Strungaru, M. (SOA-03)	153
Song, T. (MPA-02)	113	Su, J. (COC-01)	37
Song, Y. (TPB-03)	177	Su, J. (DPA-10)	57
Song, Y. (VOB-01)	187	Su, T. (RPA-02)	152
Song, Z. (GPB-10)	82	Su, X. (PPB-06)	136
Song, Z. (HOA-04)	83	Su, Y. (QPA-14)	147
Song, Z. (HOA-06)	83	Suárez-Rodríguez, M. (DOC-03)	52
Song, Z. (IOB-03)	89	Sudo, R. (ZOA-06)	226
Song, Z. (PPD-07)	141	Sue, S. (QPB-03)	147
Songjun, S. (JPB-03)	98	Suemasu, T. (NOA-10)	117
Sonobe, H. (YPA-02)	224	Suess, D. (BOC-09)	27
Sonobe, Y. (APA-07)	16	Suess, D. (CPA-10)	44
Sonobe, Y. (BPA-20)	32	Suess, D. (CPA-14)	45
Sonobe, Y. (NPA-06)	121	Suess, D. (DPC-14)	63
Soong, W. (GOA-01)	77	Suess, D. (EOA-06)	64
Sorensen, D. (TOC-09)	174	Suess, D. (SOB-02)	154
Sort, J. (ROA-03)	150	Suess, D. (SOD-08)	160
Sotome, Y. (XOD-13)	215	Suess, D. (TOC-01)	173
Soulard, J. (SE-01)	6	Suess, D. (TOC-06)	174
Soumah, L. (NOB-09)	119	Suess, D. (TOC-07)	174
Soumyanarayanan, A. (APB-12)	19	Suga, S. (XOA-02)	208
Soumyanarayanan, A. (COA-06)	33	Sugi, K. (BPA-11)	31
Soupremanien, U.M. (VOB-03)	187	Sugihara, A. (DOE-01)	55
Sousa, R. (DPC-06)	62	Sugihara, A. (TPB-08)	178
Sousa, R. (NOB-04)	118	Sugimoto, S. (APB-09)	18
Sousa, R. (NOB-09)	119	Sugimoto, S. (IOA-01)	87
Sousa, R. (OOB-10)	125	Sugimoto, S. (POA-13)	131
Sousa, R. (OPB-05)	128	Sugimoto, S. (WOC-02)	198
Sousa, R. (POC-04)	133	Sugimoto, S. (WPA-02)	202
Sousa, R. (SOA-01)	153	Sugimoto, S. (XPC-09)	218
Souza, R.L. (XOA-08)	209	Sugiura, I. (BPA-11)	31
Sparks, T.D. (COE-01)	41	Sugiura, I. (BPA-12)	31
Sparmann, T. (BOC-06)	26	Sugiura, I. (DPB-11)	60
Sparmann, T. (CPA-13)	45	Sugiyama, T. (QPB-09)	148
Spenato, D. (ROA-07)	150	Suharyadi, E. (EPA-09)	69
Spetzler, B. (POC-01)	133	Suharyadi, E. (XPC-07)	218
Spetzler, E. (POC-01)	133	Sui, Y. (IPA-03)	90
Spiesser, A.M. (BOC-12)	27	Sukegawa, H. (AOA-09)	10
Spink, M.C. (APA-08)	16	Sukegawa, H. (APA-04)	15
Spivakov, A. (VPA-14)	191	Sukegawa, H. (APA-07)	16
Spivakov, A. (XPC-04)	218	Sukegawa, H. (APA-10)	16
Sravani, M. (BOC-04)	26	Sukegawa, H. (DOC-06)	52
Srinath, S. (TPB-11)	178	Sukegawa, H. (DPA-06)	57
Srinivas, V. (XOD-11)	215	Sukegawa, H. (DPA-11)	58
Srinivasan, A. (VPB-07)	192	Sultana Shaik, N. (EOA-07)	64
Srinivasan, A. (VPB-12)	193	Sumi, S. (QOB-10)	144
Srinivasan, K. (QOB-05)	144	Sumida, K. (APA-02)	15
Sriram, K. (DPC-13)	63	Sun, A. (WPA-07)	203
Srivastava, S. (COC-08)	38	Sun, A.A. (EPA-12)	70
Srivastava, T. (COB-05)	35	Sun, A.A. (ZPA-12)	229
Stadler, B. (TPC-06)	179	Sun, H. (APB-04)	17
Stadtmüller, B. (SOF-03)	163	Sun, H. (APB-05)	18
Stadtmüller, B. (SOF-07)	164	Sun, H. (JOA-09)	94
Stadtmüller, B. (TOB-06)	171	Sun, H. (VPA-11)	191
Stainer, Q. (OOB-14)	125	Sun, H. (XOB-06)	211
Stamenov, P.S. (DOC-02)	52	Sun, J. (BOC-03)	26
Stamenov, P.S. (TPB-06)	177	Sun, J. (DOB-04)	50
Stamenov, P.S. (XOB-04)	210	Sun, J. (IPB-10)	93
Stamm, C. (SOF-05)	164	Sun, J. (POA-04)	129
Stanley, M. (COD-01)	39	Sun, J. (PPA-02)	135
Stano, M. (SOD-02)	158	Sun, J. (TPB-09)	178
Stavila, C. (EPA-07)	69	Sun, J. (TPC-03)	179
Steadman, P. (COB-08)	35	Sun, Q. (DPC-01)	61
Stebliy, E. (APC-01)	19	Sun, Q. (WOA-13)	195
Stebliy, M. (AOC-08)	14	Sun, R. (JPA-06)	96
Stebliy, M. (APC-01)	19	Sun, R. (JPA-07)	96
Stebliy, M. (APC-05)	20	Sun, S. (JPB-06)	98
Stebliy, M. (APC-06)	20	Sun, S. (LPA-06)	106
Stebliy, M. (XPC-08)	218	Sun, X. (FOA-10)	73
Stefancic, A. (COB-01)	34	Sun, X. (FOA-04)	75
Steinthal, H. (EPB-06)	71	Sun, X. (WPB-05)	205
Stenning, K.D. (SOE-03)	161	Sun, X. (YOB-07)	224
Stiles, M.D. (NOB-09)	119	Sun, X. (YPA-08)	225
Stiles, M.D. (NOB-11)	119	Sun, Y. (COA-14)	34
Stiles, M.D. (PPA-03)	135	Sun, Y. (CPA-07)	44

*Best student presentation award finalist

Sun, Y. (EOB-11)	67
Sun, Y. (SA-03)	2
Sun, Y. (WPB-13)	206
Sunaguchi, H. (EPA-03).	68
Sundararajan, G. (WOB-01)	196
Sung, M. (GPA-09)	79
Sung, S. (FPA-03)	75
Sung, S. (FPA-17)	76
Sung, S. (GPB-01)	80
Sung, S. (HPA-11)	85
Suraj, T. (APB-12)	19
Susi, T. (COC-05)	37
Suto, H. (AOA-04).	9
Suto, H. (AOA-05).	9
Suto, H. (POC-06)	134
Suto, H. (POC-10)	134
Suzuki, C. (BOB-13)	25
Suzuki, H. (HOA-01).	83
Suzuki, I. (OOA-02)	123
Suzuki, I. (TPB-01)	177
Suzuki, K. (APA-06)	16
Suzuki, K. (DOB-02).	50
Suzuki, K. (EPA-11).	69
Suzuki, K. (POC-08)	134
Suzuki, K. (WOD-05)	201
Suzuki, K. (YOA-09).	222
Suzuki, K. (YPA-02)	224
Suzuki, R. (PPC-15).	139
Suzuki, R. (ROB-03)	151
Suzuki, R. (WPC-05).	206
Suzuki, S. (BOA-08)	22
Suzuki, S. (QPB-07)	148
Suzuki, S. (VPB-06)	192
Suzuki, S. (YPA-04).	225
Suzuki, Y. (COD-01)	39
Suzuki, Y. (CPA-01).	43
Suzuki, Y. (HOA-07)	84
Suzuki, Y. (ROB-04)	151
Suzuki, Y. (TPB-08).	178
Swagten, H. (DPC-11).	62
Swain, A. (JPB-12)	99
Syamlal, S. (TOA-02)	168
Syamlal, S. (TPA-04).	176
Syskaki, M. (BOB-03).	24
Syskaki, M. (BPA-14)	31
Syskaki, M. (COB-03).	35
Syskaki, M. (COB-13).	36
Syskaki, M. (CPA-13)	45
Syskaki, M. (DOD-06).	55
Syunpei, M. (XPC-09).	218
Szawro, W. (EOA-12)	65
Szlufarska, I. (WOC-10)	199
Sztenkiel, D. (TOC-03)	173
Sztenkiel, D. (UPA-13)	185
Szymczak, H. (XOB-05)	210

- T -

T Lee, J. (YOA-03)	221
Tabata, H. (SPA-10)	167
Tabata, T. (VOB-07)	188
Tabata, T. (VOB-15)	189
Tacchi, S. (CPA-14).	45
Tachibana, J. (OPA-01)	126
Tachibana, J. (OPA-02)	126
Tachiya, Y. (HOA-07)	84
Tada, S. (GOA-03).	77
Tada, S. (WPC-01).	206
Tada, T. (SF-05)	7
Tadano, T. (AOA-12).	10
Tadano, T. (DPA-08)	57
Taddei, K. (UOA-02)	180
Tadokoro, T. (EPB-02).	70
Tadokoro, T. (EPB-03).	70
Taga, H. (MPA-09).	113
Taga, K. (QPB-08).	148

Taga, K. (YOA-01)	221
Tagata, K. (XOC-10)	213
Tagawa, I. (OPA-02)	126
Tagawa, N. (OPA-07).	127
Taguchi, T. (ZPA-08)	228
Taguchi, Y. (COB-09)	36
Taguchi, Y. (SOC-11).	157
Taguchi, Y. (YOA-06)	222
Taha, H. (LOA-10).	105
Tahir, M. (YPA-07)	225
Tajima, K. (GOA-03).	77
Takagi, K. (WOB-14).	198
Takagi, K. (WOC-01).	198
Takagi, K. (WOC-08).	199
Takagi, S. (WOC-05).	198
Takahashi, K. (EPA-03).	68
Takahashi, M. (EOB-13)	67
Takahashi, S. (APC-10).	20
Takahashi, S. (MPA-07).	113
Takahashi, S. (OOB-02).	124
Takahashi, T. (ZPA-08)	228
Takahashi, Y. (BOA-10).	23
Takahashi, Y. (OOA-02).	123
Takahashi, Y. (TPB-01)	177
Takahashi, Y. (UOB-06).	182
Takahashi, Y. (VPB-10)	193
Takai, M. (IOA-04)	87
Takai, M. (IPA-01).	90
Takamura, Y. (MOA-05)	109
Takamura, Y. (NPA-06)	121
Takamura, Y. (XOC-05).	212
Takanashi, K. (AOB-01)	11
Takanashi, K. (BOB-04)	24
Takanashi, K. (DPB-08).	60
Takanashi, K. (XOB-03)	210
Takanashi, K. (XOB-05)	210
Takano, K. (MOA-08)	109
Takashi, Y. (EPA-02)	68
Takata, M. (PL-01).	1
Takeda, K. (GOA-03).	77
Takeda, K. (ROB-03).	151
Takeda, K. (WOA-06).	195
Takeda, S. (MOB-03).	111
Takemoto, M. (LPA-01).	106
Takemura, Y. (EOB-12)	67
Takemura, Y. (EPA-10)	69
Takemura, Y. (EPA-11)	69
Takemura, Y. (POB-08)	132
Takemura, Y. (PPD-07)	141
Takemura, Y. (XPC-06)	218
Takemura, Y. (XPC-12)	219
Takeuchi, K. (EPB-04).	71
Takeuchi, S. (EPA-10)	69
Takeuchi, Y. (BOA-03)	21
Takezawa, M. (VPA-04)	190
Takezawa, M. (VPA-10)	190
Takezawa, M. (WOC-06).	199
Takigawa, H. (ZPA-08)	228
Takiguchi, K. (UOB-01)	181
Takorabet, N. (FPA-13)	76
Takura, T. (EPA-03).	68
Talantsev, A. (POB-03)	131
Talatchian, P. (NOB-04).	118
Talatchian, P. (NOB-09).	119
Talatchian, P. (PPA-03)	135
Talatchian, P. (TOB-09).	171
Talbi, A. (SOF-08)	165
Talluri, M. (DPC-09)	62
Talluri, M. (TOB-05)	171
Talluri, M. (XPA-10)	220
Talmelli, G. (DPA-03)	56
Talmelli, G. (QOA-02).	141
Tamaki, Y. (IOA-03)	87
Tamaoka, T. (COB-06).	35
Tamaru, S. (AOA-06).	9
Tamaru, S. (DOE-03).	55

*Best student presentation award finalist

Tamaru, S. (TPB-08)	178	Tavares, M. (TOB-16)	173
Tamion, A. (XOC-11)	213	Tchernyshyov, O. (TPA-06)	176
Tamura, E. (CPA-01)	43	Tear, S. (XOA-10)	209
Tan, F. (BOC-11)	27	Teichmann, M. (SOF-05)	164
Tan, H. (APB-12)	19	Teixeira, B. (NOB-04)	118
Tan, W.K. (PPB-11)	137	Teixeira, B. (OPB-05)	128
Tan, X. (LPA-17)	108	Tejaswi, K. (QPA-01)	145
Tanabe, K. (QPA-03)	145	Teki, Y. (DPA-14)	58
Tanaka, F. (MPA-09)	113	Telegin, A. (APB-02)	17
Tanaka, H. (PPB-05)	136	Telling, N. (EOA-03)	64
Tanaka, K. (EPA-01)	68	Temdie-Kom, L. (ROA-07)	150
Tanaka, K. (WOD-05)	201	Temst, K. (TOB-04)	170
Tanaka, M. (POA-10)	130	Tene Deffo, Y. (ZOA-03)	226
Tanaka, M. (PPB-07)	136	Teng, Y. (KPA-21)	103
Tanaka, M. (UOB-01)	181	Teo, K. (OOB-01)	124
Tanaka, M. (UOB-06)	182	Teobaldi, G. (OOB-15)	126
Tanaka, M. (WPC-11)	207	Terada, N. (QOA-06)	142
Tanaka, T. (DPB-02)	59	Terada, N. (YPA-06)	225
Tanaka, T. (LOA-04)	104	Terada, S. (VOB-07)	188
Tanaka, T. (UPA-08)	184	Terada, S. (VOB-15)	189
Tanaka, Y. (MPB-07)	115	Terao, K. (SPA-10)	167
Tanaka, Y. (NPA-01)	120	Tereshina-Chitrova, E. (XPA-06)	220
Tanaka, Y. (NPA-03)	120	Teresi, S. (APC-12)	21
Tang, B. (TPC-03)	179	Teresi, S. (CPB-13)	48
Tang, D. (BOC-03)	26	Teresi, S. (DOB-11)	51
Tang, F. (CPB-04)	46	Terui, Y. (POC-08)	134
Tang, J. (AOA-01)	9	Terwey, A. (QOA-05)	142
Tang, J. (CPA-07)	44	Tezuka, N. (APB-09)	18
Tang, J. (NPA-15)	122	Thakur, P. (XOD-04)	214
Tang, K. (DOC-06)	52	Tham, K. (NPA-01)	120
Tang, P. (ZOA-05)	226	Tham, K. (NPA-02)	120
Tang, W. (WOA-04)	194	Thao, N. (POA-14)	131
Tang, X. (HPA-13)	86	Thébault, C. (EOB-01)	66
Tang, X. (QOA-06)	142	Thiaville, A. (COA-02)	32
Tang, X. (VOA-07)	186	Thielsch, J. (WOB-02)	196
Tang, X. (WOA-02)	194	Thiery, N. (SOD-13)	160
Tang, X. (WOA-05)	195	Thiesen, E. (SF-06)	7
Tang, X. (WOA-09)	195	Thiringer, T. (IOA-08)	88
Tang, X. (WOB-07)	197	Thoma, H. (SOC-11)	157
Tang, X. (WOB-12)	197	Thomas, A. (YOB-06)	223
Tang, Y. (APC-03)	20	Thompson, R. (APB-07)	18
Tang, Y. (GPA-02)	78	Thomson, T. (APA-08)	16
Tang, Y. (SPA-07)	166	Thunstrom, P. (SOF-05)	164
Tang, Y. (UOA-01)	180	Tian, B. (VPB-13)	193
Tang, Y. (XPB-08)	217	Tian, C. (POA-14)	131
Tani, H. (OPA-07)	127	Tian, Z. (PPB-14)	137
Tani, H. (OPA-09)	127	Tiberto, P. (EOB-03)	66
Taniguchi, K. (KPA-09)	102	Tibu, M. (VPA-02)	189
Taniguchi, R. (FOA-16)	74	Tiercelin, N. (SOF-08)	165
Taniguchi, R. (KPA-02)	101	Titova, A. (OOB-09)	125
Taniguchi, T. (NOB-07)	119	Tjong, J. (IOB-05)	89
Taniguchi, T. (SOC-13)	158	Tkachenko, I. (BPA-04)	30
Taniguchi, T. (TPB-08)	178	Toda, A. (VOA-03)	185
Taniguchi, Y. (OOA-06)	123	Toda, Y. (BPA-18)	31
Tanii, M. (PPC-09)	139	Toh, Y. (APB-12)	19
Taniwaki, M. (YOA-10)	222	Tohara, M. (PPC-07)	138
Taniwaki, M. (YPA-04)	225	Tokatly, I. (AOC-10)	14
Taniyama, T. (RPA-03)	152	Toko, K. (NOA-10)	117
Taniyama, T. (TOB-15)	172	Tokuda, M. (BOA-08)	22
Taniyama, T. (XPB-05)	216	Tokuda, Y. (DPA-02)	56
Tanno, T. (QPB-07)	148	Tokunaga, K. (APC-11)	21
Taparia, D. (AOA-05)	9	Tokunaga, K. (COB-06)	35
Taqavi, O. (IOB-05)	89	Tokunaga, T. (XPC-03)	217
Tarasov, E. (BPA-04)	30	Tokunaga, Y. (SOC-11)	157
Taris, T. (SG-03)	8	Tokura, Y. (COB-09)	36
Tartakivska, O. (TOA-09)	169	Tokura, Y. (SOC-11)	157
Tasaka, K. (OOA-08)	123	Tokura, Y. (YOA-06)	222
Tashiro, K. (KPA-19)	103	Tom, R. (OOA-07)	123
Tashli, M. (EPB-07)	71	Tom, R. (OPA-08)	127
Taskaev, S. (UOB-08)	182	Tomasello, R. (CPA-14)	45
Tatara, G. (AOB-03)	11	Tomasello, R. (POA-05)	130
Tataryn, N. (UPA-04)	183	Tominaga, K. (WOC-05)	198
Tataryn, N. (UPA-05)	183	Tomita, N. (JOA-04)	94
Taubel, A. (QOA-09)	142	Tomita, S. (TOB-11)	172
Taubel, A. (QPA-12)	146	Tomita, S. (ZPA-02)	228
Tavabi, A. (COE-09)	42	Tomita, T. (BOA-04)	22

Tomita, Y. (COB-06)	35
Tomoda, T. (DPA-09)	57
Tomoyuki, S. (AOA-05)	9
Tong, C. (HOA-05)	83
Tong, S. (APB-05)	18
Tong, Z. (TOC-04)	173
Tonthat, L. (EOA-11)	65
Tonthat, L. (XOC-04)	212
Torii, T. (EPB-13)	72
Torosyan, G. (DOC-13)	53
Torres, T.E. (EOA-05)	64
Tounzi, A. (IPB-11)	93
Tounzi, A. (MOB-05)	111
Tournus, F. (XOC-11)	213
Toutsop, B. (MOB-02)	111
Toy, A. (EOB-02)	66
Toyama, R. (XOD-02)	214
Toyoki, K. (BOB-08)	24
Toyoki, K. (BOB-09)	25
Toyoki, K. (BOB-12)	25
Toyoki, K. (QPB-12)	149
Toyonaga, K. (VOA-09)	186
Tran, L.T. (WPA-07)	203
Tranchida, J. (ROB-05)	151
Trastoy, J. (SG-03)	8
Tremsin, A. (YOA-03)	221
Trevillian, C. (SB-03)	3
Trevillian, C. (SOD-09)	160
Trichet, D. (FOA-12)	74
Trisnanto, S. (EOB-12)	67
Trisnanto, S. (EPA-10)	69
Trisnanto, S. (EPA-11)	69
Trisnanto, S. (POB-08)	132
Truglas, T. (UPA-07)	184
Tsafack, P. (MOB-02)	111
Tsai, C. (DOA-04)	48
Tsai, H. (BOA-07)	22
Tsai, L. (CPB-10)	47
Tsai, M. (BPA-05)	30
Tsai, M. (HPA-07)	85
Tsai, M. (IPB-05)	92
Tsai, M. (JPB-16)	99
Tsai, M. (JPB-18)	99
Tsai, T. (UPA-11)	184
Tsay, J. (XPA-05)	219
Tschirky, M. (VPA-03)	189
Tseng, C. (BOC-03)	26
Tseng, Y. (DOB-04)	50
Tseng, Y. (DPB-07)	59
Tseng, Y. (OOB-11)	125
Tsipas, P. (COE-05)	41
Tsuchida, Y. (JOA-07)	94
Tsuchida, Y. (KPA-08)	102
Tsujikawa, M. (AOA-08)	10
Tsujikawa, M. (APA-03)	15
Tsujikawa, M. (DOD-02)	54
Tsujikawa, M. (SA-05)	2
Tsukahara, A. (EPA-01)	68
Tsukazaki, A. (DOB-08)	51
Tsunata, R. (LPA-01)	106
Tsunegi, S. (NOB-07)	119
Tsunegi, S. (TOB-09)	171
Tsunegi, S. (TPB-08)	178
Tsunematsu, S. (EPA-01)	68
Tsunoda, M. (APA-03)	15
Tsutsui, K. (COC-03)	37
Tsutsumi, R. (BOB-09)	25
Tsuyuguchi, N. (EPA-06)	69
Tsymbal, E.Y. (BOA-06)	22
Tsymbal, E.Y. (BOC-10)	27
Tsymbal, E.Y. (DOD-01)	54
Tu, C. (ROB-02)	151
Tu, Y. (DOA-06)	49
Tullo, P. (NOB-08)	119
Tumbleson, R. (YOA-03)	221
Tung, Y. (UPA-11)	184
Tungasmita, S. (XPA-07)	220

Tuo, F. (AOB-08)	12
Turcato, M. (SOF-05)	164
Turnbull, L. (COB-08)	35
Turnbull, L. (COE-10)	43
Turrillas, X. (XOD-01)	213
Tyberkevych, V. (NOB-06)	119
Tyberkevych, V. (NPA-12)	122
Tyberkevych, V. (SB-03)	3
Tyberkevych, V. (SOD-09)	160

- U -

Ubadigha, C.U. (JPB-16)	99
Uchida, K. (AOA-02)	9
Uchida, K. (AOB-01)	11
Uchida, K. (DOA-05)	49
Uchida, K. (DOC-04)	52
Uchida, K. (WOA-05)	195
Uchida, K. (ZOA-05)	226
Uchida, Y. (KPA-16)	103
Uchimoto, T. (MOB-03)	111
Uchimura, T. (BOA-03)	21
Uchino, D. (KPA-10)	102
Uchino, D. (KPA-12)	102
Uchino, D. (KPA-16)	103
Uchino, D. (MPB-01)	115
Uchiyama, T. (POB-04)	132
Uchiyama, T. (PPA-04)	135
Uchiyama, T. (RPA-05)	152
Uchiyama, T. (YOA-11)	222
Uda, R. (WPB-09)	205
Ueda, H. (EPA-08)	69
Uehara, G. (EPB-11)	72
Uehara, Y. (SF-04)	7
Uehara, Y. (VOB-05)	187
Uehara, Y. (VPB-03)	192
Uemura, T. (APC-08)	20
Uemura, T. (DPB-08)	60
Ueno, A. (PPC-09)	139
Ueno, S. (EOB-07)	67
Ueno, S. (EPB-05)	71
Uesugi, R. (YOB-04)	223
Ueyama, S. (YOA-09)	222
Uhlir, V. (ROA-03)	150
Uhlir, V. (XOA-01)	208
Ujimoto, K. (BOB-08)	24
Ujimoto, K. (BOB-09)	25
Ukleev, V. (YOA-06)	222
Ullah, W. (HPA-04)	84
Ullah, W. (IOA-02)	87
Ullah, W. (IOB-02)	89
Umekawa, Y. (FOA-14)	74
Umetsu, N. (DPA-02)	56
Umetsu, R.Y. (DPB-08)	60
Umetsu, R.Y. (UOB-08)	182
Umetsu, R.Y. (UOB-10)	183
Umetsu, R.Y. (UPA-08)	184
Umetsu, R.Y. (VPB-08)	192
Umetsu, S. (VPB-10)	193
Une, Y. (WOA-12)	195
Upadhyaya, P. (SD-02)	5
Urabe, K. (OPA-03)	127
Urakawa, K. (QPB-07)	148
Urakawa, K. (VPB-06)	192
Urata, A. (PPB-03)	136
Urata, A. (VPA-06)	190
Urbánek, M. (SOC-04)	156
Urbánek, M. (SOD-02)	158
Urbánek, M. (SOD-08)	160
Urbánek, M. (SPA-11)	167
Urbánek, M. (SPA-17)	168
Urbina-Elgueta, Y. (TOA-03)	168
Urretavizcaya, G. (EOA-05)	64
Us-Saleheen, A. (YOA-03)	221
Usami, T. (ROA-05)	150
Usami, T. (ROA-06)	150
Usami, T. (TOB-15)	172

*Best student presentation award finalist

Utsumi, Y. (NOB-07)	119
Uzuhashi, J. (AOA-06)	9
Uzuhashi, J. (VOA-03)	185

- V -

Valcu, B. (OOA-04)	123
Valdés, D.P. (EOA-05)	64
Valencia, S. (BOB-05)	24
Valencia, S. (SC-06)	5
Valenzuela, S.O. (COE-04)	41
Valenzuela, S.O. (COE-06)	42
Valera, A. (XOD-03)	214
Vališka, M. (XPA-06)	220
Vallejo Fernandez, G. (OOB-12)	125
Vallejo Fernandez, G. (POC-07)	134
Vallobra, P. (BOD-02)	28
Vallobra, P. (BPA-03)	30
Vallobra, P. (XPB-07)	216
Valvidares, M. (BOB-11)	25
Valvidares, M. (COE-06)	42
Valvidares, M. (OOB-15)	126
van't Erve, O.M. (COD-02)	39
Van Beek, S. (OOB-06)	124
Van Beek, S. (OOB-08)	125
van der Laan, G. (SOA-02)	153
van der Sar, T. (SB-01)	3
van Dijken, S. (DOE-04)	55
van Dijken, S. (DOE-06)	56
van Dijken, S. (SOF-09)	165
van Dijken, S. (TOA-06)	169
van Dijken, S. (TPB-12)	178
van Duijn, F. (BOB-03)	24
Van Houdt, J. (TOB-04)	170
Van Kuiken, B.E. (SOF-05)	164
Van Waeyenberge, B. (ZOA-02)	226
Vanakalapu, V. (XOA-05)	208
Vanderveken, F. (QOA-02)	141
Vanstone, A. (SOE-03)	161
Varela, M. (XOD-01)	213
Varga, M. (QPA-06)	146
Varga, R. (QPA-06)	146
Varma, G.D. (ZPA-15)	229
Vasconcelos, P. (COE-08)	42
Vashisht, G. (DPA-09)	57
Vashist, A. (COE-01)	41
Vasili, H. (BOB-11)	25
Vasquez Mansilla, M. (EOA-05)	64
Vasyuchka, V.I. (SOD-05)	159
Vasyuchka, V.I. (SOE-01)	161
Vavassori, P. (ZOA-04)	226
Vaz, D. (AOC-10)	14
Vaz, D. (DOC-03)	52
Vázquez, M. (SD-01)	5
Vázquez, M. (VOA-04)	185
Vecchiola, A. (SOD-03)	159
Vedmedenko, E.Y. (ZOA-01)	225
Veiga, L. (BOD-03)	28
Velez, M. (TOB-13)	172
Verba, R.V. (SOC-04)	156
Verba, R.V. (SOC-09)	157
Verba, R.V. (SOD-08)	160
Vereijken, A. (XOA-05)	208
Vergara-Ortega, J. (WOD-08)	201
Vergnaud, C. (COC-11)	39
Vergnaud, C. (COD-09)	40
Vergnaud, C. (COE-08)	42
Vergnaud, C. (DOC-01)	52
Vergne, C. (POC-11)*	134
Vergniory, M. (COE-02)	41
Vergniory, M. (SA-03)	2
Vicente Arche, L. (APC-12)	21
Victoria, R. (NOA-08)	117
Viereck, T. (SC-04)	4
Vila, L. (APC-12)	21
Vila, L. (CPB-13)	48
Vila, L. (DOB-11)	51

Vila, L. (DPC-06)	62
Vila, L. (SOD-13)	160
Villanueva, D. (EOA-01)	63
Villanueva, D. (EOA-10)	65
Vincent, A. (SG-03)	8
Viola Kusminskiy, S. (TOA-12)	170
Vir, P. (YOB-06)	223
Viret, M. (ROB-05)	151
Viret, M. (SOF-04)	163
Virnaui, P. (COA-10)	33
Virnaui, P. (CPA-13)	45
Visonà, A. (EOB-01)	66
Vivchar, V.I. (ZPA-13)	229
Vlaminck, V. (ROA-07)	150
Vlaminck, V. (SOD-06)	159
Vojáček, L. (COA-04)	32
Vojáček, L. (COC-07)	38
Vojáček, L. (COC-11)	39
Volegov, A. (QPA-15)	147
von Freymann, G. (SOF-07)	164
von Freymann, G. (TOB-06)	171
von Korff	

Schmising, C. (SOF-04)	163
Voronov, A. (SOD-08)	160
Voronov, A. (SPA-11)	167
Voronov, A. (SPA-17)	168
Vourlias, G. (DOC-13)	53
Vovk, S. (VOB-11)	188
Vucemilovic, A. (SE-04)	6

- W -

Wada, K. (MOA-08)	109
Wada, K. (MPA-07)	113
Wada, N. (WOC-05)	198
Wadley, P. (XOB-01)	210
Wagatsuma, Y. (DOA-08)	49
Wagatsuma, Y. (XOB-08)	211
Wagner-Reetz, M. (OOB-09)	125
Wagner-Reetz, M. (XOA-04)	208
Wagner, K. (AOB-05)	11
Wahyuni, S. (XPC-07)	218
Wakabayashi, D. (IOA-04)	87
Wakabayashi, D. (IPA-01)	90
Wakabayashi, D. (VPA-13)	191
Wakabayashi, D. (YOA-11)	222
Wakabayashi, H. (COC-03)	37
Wan, C. (AOB-12)	12
Wan, C. (AOC-03)	13
Wan, C. (APC-07)	20
Wan, L. (YOA-02)	221
Wan, Z. (VPA-11)	191
Wang, B. (APB-01)	17
Wang, B. (BOC-05)	26
Wang, B. (BPA-05)	30
Wang, B. (COC-01)	37
Wang, B. (HPA-19)	86
Wang, C. (BPA-08)	30
Wang, C. (GPA-16)	80
Wang, C. (QOA-08)	142
Wang, C. (ROB-02)	151
Wang, C. (RPA-04)	152
Wang, C. (WPB-02)	204
Wang, D. (JPA-02)	95
Wang, D. (QPA-07)	146
Wang, F. (MPA-14)	114
Wang, G. (OOB-07)	125
Wang, G. (UOA-02)	180
Wang, G. (ZPA-10)	229
Wang, H. (BOD-02)	28
Wang, H. (BPA-03)	30
Wang, H. (IPA-02)	90
Wang, H. (JPA-01)	95
Wang, H. (JPA-02)	95
Wang, H. (JPB-05)	98
Wang, H. (LPA-02)	106
Wang, H. (POA-04)	129

*Best student presentation award finalist

Wang, H. (PPA-02)	135	Wang, Y. (RPA-06).	152
Wang, H. (PPB-13)	137	Wang, Y. (SC-04)	4
Wang, H. (WOB-06)	197	Wang, Y. (TPB-02).	177
Wang, J. (BOD-02)	28	Wang, Y. (TPB-07).	177
Wang, J. (KPA-20).	103	Wang, Y. (WOD-14).	202
Wang, J. (LPA-12)	107	Wang, Y. (XOA-03)	208
Wang, J. (MOA-12)	110	Wang, Y. (XOC-09)	212
Wang, J. (MOA-16)	110	Wang, Y. (ZOA-07)	226
Wang, J. (NOB-12)	120	Wang, Z. (AOC-11)	14
Wang, J. (OOB-03)	124	Wang, Z. (COA-12).	34
Wang, J. (SPA-18)	168	Wang, Z. (CPA-02)	43
Wang, J. (WOA-04).	194	Wang, Z. (HPA-19)	86
Wang, J.K. (OPB-04)	128	Wang, Z. (MOB-11).	112
Wang, K. (BOC-05)	26	Wang, Z. (MPB-10)	116
Wang, K. (COD-03)	39	Wang, Z. (OPB-06)	128
Wang, K. (JOA-09)	94	Wang, Z. (SOE-10)	162
Wang, K. (JPB-02).	97	Wang, Z. (WOA-12)	195
Wang, L. (APA-11)	17	Warot-Fonrose, B. (ROA-07).	150
Wang, L. (COD-10)	40	Watahiki, S. (DPC-05).	62
Wang, L. (GPB-02)	81	Watanabe, E. (XOD-09).	215
Wang, L. (IOB-04).	89	Watanabe, H. (TOA-10).	169
Wang, L. (IPA-07)	91	Watanabe, H. (XPB-01).	216
Wang, L. (JPB-08).	98	Watanabe, J. (TPC-09).	180
Wang, L. (LOA-11)	105	Watanabe, M. (BOA-08)	22
Wang, L. (LPA-09).	107	Watanabe, M. (QPB-07).	148
Wang, M. (CPB-01).	46	Watanabe, S. (SOA-09)	154
Wang, M. (GPB-11).	82	Watanabe, S. (YOB-02).	223
Wang, M. (IPB-09).	93	Watanabe, T. (SPA-01).	165
Wang, M. (IPB-12).	93	Watarai, A. (IOA-01)	87
Wang, N. (WOC-10)	199	Watt, S.I. (SPA-02).	165
Wang, P. (TPA-07)	176	Wawro, A. (XOB-10).	211
Wang, Q. (SOC-04)	156	Weber, D. (EOB-14)	68
Wang, Q. (SOD-08)	160	Weber, M. (SOF-02)	163
Wang, Q. (SOD-10)	160	Wei, D. (AOB-07)	12
Wang, Q. (SPA-11).	167	Wei, D. (APC-13).	21
Wang, Q. (SPA-17)	168	Wei, D. (BPA-05).	30
Wang, R. (BOD-04).	28	Wei, D. (COB-12)	36
Wang, R. (HPA-19)	86	Wei, D. (ROB-02)	151
Wang, R. (LOA-07)	105	Wei, D. (XPA-04).	219
Wang, S. (IPB-01)	92	Wei, G. (VOA-10)	186
Wang, S. (NPA-14)	122	Wei, G. (XOB-09)	211
Wang, S. (QPA-07)	146	Wei, J. (AOB-12).	12
Wang, S. (ZPA-12).	229	Wei, J. (BOC-03).	26
Wang, S.X. (EOB-06)	67	Wei, L. (HPA-16).	86
Wang, T. (GPA-15).	80	Wei, L. (LPA-17)	108
Wang, T. (LPA-07).	106	Wei, L. (MPB-08)	116
Wang, W. (BOA-11).	23	Wei, P. (FPA-07)	75
Wang, W. (GPA-14)	79	Wei, Q. (FOA-02)	72
Wang, W. (GPA-15)	80	Wei, Z. (JOA-14).	95
Wang, W. (HOA-06)	83	Wei, Z. (QOB-12)	145
Wang, W. (MOB-08)	112	Weigand, M. (COB-01)	34
Wang, W. (QOA-08)	142	Weigand, M. (COE-10)	43
Wang, W. (TOA-05).	169	Weigand, M. (SOC-10)	157
Wang, X. (COA-12).	34	Weigand, M. (SPA-09).	167
Wang, X. (COB-11).	36	Weirather, T. (TOC-11)	175
Wang, X. (CPA-07)	44	Weiss, M.A. (SOF-06)	164
Wang, X. (IPA-04).	90	Weißenhofer, M. (COB-13).	36
Wang, X. (KPA-14)	102	Welp, U. (SB-03)	3
Wang, X. (LPA-16)	108	Welp, U. (SOD-07)	159
Wang, X. (OOB-03).	124	Wen, H. (GPA-15)	80
Wang, Y. (COA-12)	34	Wen, H. (GPA-17)	80
Wang, Y. (CPB-07).	47	Wen, H. (MPA-13).	114
Wang, Y. (DOE-05)	56	Wen, J. (COC-09).	38
Wang, Y. (GPA-07)	78	Wen, X. (FPA-07)	75
Wang, Y. (HPA-20)	87	Wen, Y. (PPC-04).	138
Wang, Y. (IPA-03)	90	Wen, Z. (AOA-09).	10
Wang, Y. (IPB-02)	92	Wen, Z. (APA-10)	16
Wang, Y. (JPA-03)	95	Wen, Z. (DOC-06)	52
Wang, Y. (JPA-04)	96	Wen, Z. (DPA-06)	57
Wang, Y. (JPA-06)	96	Wen, Z. (DPA-11)	58
Wang, Y. (JPA-07)	96	Wen, Z. (DPC-09)	62
Wang, Y. (JPA-08)	96	Wende, H. (QOA-05).	142
Wang, Y. (JPA-12)	96	Wende, H. (SOF-05)	164
Wang, Y. (JPA-16)	97	Wende, H. (XOA-07).	209
Wang, Y. (JPB-06)	98	Wende, H. (YOA-05).	221
Wang, Y. (OPB-06)	128	Wereley, N. (ZOA-10).	227
Wang, Y. (PPC-04).	138	Wereley, N. (ZOA-12)	227

*Best student presentation award finalist

Xu, X. (CPB-11)	47
Xu, X. (DPB-03)	59
Xu, X. (DPC-04)	62
Xu, X. (JPA-06)	96
Xu, X. (JPA-07)	96
Xu, X. (OPB-11)	129
Xu, X. (UOB-08)	182
Xu, Y. (AOA-03)	9
Xu, Y. (AOA-07)	10
Xu, Y. (AOB-07)	12
Xu, Y. (APB-08)	18
Xu, Y. (BOD-04)	28
Xu, Y. (DPA-10)	57
Xu, Y. (GOA-02)	77
Xu, Y. (GPA-01)	78
Xu, Y. (GPA-11)	79
Xu, Y. (GPB-06)	81
Xu, Y. (GPB-12)	82
Xu, Y. (JPA-02)	95
Xu, Y. (LPA-06)	106
Xu, Y. (NOA-06)	117
Xu, Y. (SOA-01)	153
Xu, Y. (SPA-18)	168
Xu, Y. (XOA-03)	208
Xu, Z. (BOC-02)	26
Xue, D. (DPB-12)	60
Xue, H. (JOA-14)	95

- Y -

Yabukami, S. (EOA-11)	65
Yabukami, S. (EOA-12)	65
Yabukami, S. (EOB-13)	67
Yabukami, S. (PPC-15)	139
Yabukami, S. (XOC-04)	212
Yadav, R. (NOB-10)	119
Yagi, K. (FOA-16)	74
Yagi, K. (KPA-02)	101
Yagmur, A. (CPB-14)	48
Yagmur, A. (QPA-03)	145
Yahya, I.M. (XPC-07)	218
Yakovleva, M. (QPA-15)	147
Yakushiji, K. (AOA-06)	9
Yakushiji, K. (DOE-01)	55
Yakushiji, K. (DOE-03)	55
Yakushiji, K. (TOB-09)	171
Yakushiji, K. (TPB-08)	178
Yam, C. (APB-08)	18
Yamada, A. (XOB-08)	211
Yamada, K. (BOA-10)	23
Yamada, K. (CPA-08)	44
Yamada, K. (DPB-10)	60
Yamada, K. (DPB-11)	60
Yamada, K. (TPC-09)	180
Yamada, K. (XPA-03)	219
Yamada, K. (XPC-09)	218
Yamada, M. (DOA-08)	49
Yamada, M. (XOB-08)	211
Yamada, S. (ROA-06)	150
Yamada, S. (TOB-15)	172
Yamada, Y. (WOC-05)	198
Yamaga, M. (OPA-02)	126
Yamagami, K. (COE-07)	42
Yamaguchi-Sekino, S. (EPB-09)	71
Yamaguchi, A. (OPA-01)	126
Yamaguchi, A. (TOB-07)	171
Yamaguchi, A. (XPA-03)	219
Yamaguchi, H. (WPB-01)	204
Yamaguchi, M. (MPA-08)	113
Yamaguchi, M. (POA-06)	130
Yamaguchi, S. (KPA-08)	102
Yamaguchi, T. (DOC-07)	53
Yamaguchi, T. (EPA-01)	68
Yamaguchi, T. (MOA-02)	108
Yamaguchi, W. (WOC-01)	198
Yamaguchi, W. (WOC-08)	199
Yamaguchi, Y. (XOD-13)	215

Yamaguchi, Y. (XPA-11)	220
Yamahara, H. (SPA-10)	167
Yamakage, A. (DOC-07)	53
Yamakage, A. (DPC-12)	63
Yamaki, M. (VPA-06)	190
Yamamoto, D. (ROB-03)	151
Yamamoto, H. (CPB-05)	46
Yamamoto, H. (WOD-04)	201
Yamamoto, K. (DOA-07)	49
Yamamoto, K. (SB-01)	3
Yamamoto, K. (SB-04)	3
Yamamoto, K. (SOD-04)	159
Yamamoto, K. (TOB-17)	173
Yamamoto, M. (GOA-03)	77
Yamamoto, M. (WPC-02)	206
Yamamoto, R. (FPA-06)	75
Yamamoto, S. (BOB-13)	25
Yamamoto, S. (XOD-13)	215
Yamamoto, T. (AOA-06)	9
Yamamoto, T. (DOE-01)	55
Yamamoto, T. (DOE-03)	55
Yamamoto, T. (TPB-08)	178
Yamamoto, T. (XOB-05)	210
Yamamura, S. (EOB-11)	67
Yamamura, S. (PPC-10)	139
Yamamuro, S. (WPC-07)	207
Yamanaka, C. (NPA-11)	121
Yamanaka, S. (WPC-01)	206
Yamane, Y. (AOB-01)	11
Yamanoi, K. (YOB-02)	223
Yamanouchi, M. (APC-08)	20
Yamashita, A. (VPB-05)	192
Yamashita, A. (WPA-09)	203
Yamashita, A. (WPA-13)	204
Yamashita, A. (WPA-15)	204
Yamashita, A. (WPB-01)	204
Yamashita, A. (WPC-06)	207
Yamashita, A. (WPC-08)	207
Yamashita, A. (XPA-11)	220
Yamashita, A. (XPB-12)	217
Yamashita, T. (WPC-02)	206
Yamauchi, S. (DPA-16)	58
Yamauchi, Y. (YOB-07)	224
Yamaura, J. (XOD-02)	214
Yamazaki, K. (GOA-04)	77
Yamazaki, K. (GPA-05)	78
Yamazaki, M. (WPA-02)	202
Yamazaki, T. (BOB-04)	24
Yamazaki, T. (DPB-08)	60
Yamazaki, T. (DPB-15)	61
Yamazaki, T. (QOB-08)	144
Yamazaki, T. (YOA-10)	222
Yamazaki, T. (YPA-04)	225
Yamijala, A. (UPA-03)	183
Yan, A. (WOC-10)	199
Yan, A. (WPB-13)	206
Yan, A. (YPA-08)	225
Yan, B. (AOB-11)	12
Yan, B. (BOA-05)	22
Yan, C. (MOB-08)	112
Yan, K. (QOA-04)	142
Yan, P. (APB-08)	18
Yan, P. (SOE-10)	162
Yan, W. (QOB-12)	145
Yan, Y. (APB-08)	18
Yan, Y. (DPA-10)	57
Yan, Y. (XOA-03)	208
Yanagihara, H. (EPA-05)	69
Yanagihara, H. (PPB-05)	136
Yanagita, S. (XOD-13)	215
Yanai, T. (VPB-05)	192
Yanai, T. (WPA-09)	203
Yanai, T. (WPA-13)	204
Yanai, T. (WPA-15)	204
Yanai, T. (WPB-01)	204
Yanai, T. (WPC-06)	207
Yanai, T. (WPC-08)	207

*Best student presentation award finalist

Yanai, T. (XPA-11).....	220	Yee, S. (ZPA-14).....	229
Yanai, T. (XPB-12).....	217	Yeffremenko, V.G. (SB-03).....	3
Yanase, Y. (ZPA-01).....	227	Yen, S. (IPB-04).....	92
Yang, C. (BOC-08).....	27	Yen, Y. (BOC-03).....	26
Yang, C. (BOD-06).....	28	Yerin, C.V. (ZPA-13).....	229
Yang, C. (PPD-07).....	141	Yi, B. (NOA-02).....	116
Yang, C. (UPA-11).....	184	Yi, B. (OPB-12).....	129
Yang, D. (DPB-12).....	60	Yildirim, O. (CPA-14).....	45
Yang, F. (GPA-03).....	78	Yin, J. (POA-01).....	129
Yang, F. (ZPA-10).....	229	Yin, L. (JPA-06).....	96
Yang, H. (COB-11).....	36	Yin, L. (JPA-07).....	96
Yang, H. (COE-02).....	41	Yin, M. (FOA-12).....	74
Yang, H. (COE-03).....	41	Yin, T. (CPB-04).....	46
Yang, H. (DOC-03).....	52	Yin, W. (LOA-08).....	105
Yang, H. (JPB-09).....	98	Yin, W. (LPA-18).....	108
Yang, H. (LPA-10).....	107	Yin, W. (LPA-20).....	108
Yang, H. (NOB-01).....	118	Yin, Z. (LPA-11).....	107
Yang, H. (TPA-02).....	175	Ying, S. (COB-02).....	34
Yang, J. (JPA-02).....	95	Ying, Y. (VOB-02).....	187
Yang, J. (JPA-15).....	97	Yodoshi, N. (UOB-10).....	183
Yang, J. (JPB-01).....	97	Yojiro, O. (YPA-06).....	225
Yang, J. (JPB-05).....	98	Yokoe, T. (WPC-14).....	207
Yang, J. (JPB-10).....	98	Yokohama, N. (XPB-02).....	216
Yang, J. (MPB-05).....	115	Yokoi, A. (PPB-11).....	137
Yang, J. (MPB-09).....	116	Yokoi, N. (DOA-07).....	49
Yang, J. (TPA-01).....	175	Yokoi, N. (TOB-17).....	173
Yang, K. (DPC-04).....	62	Yokomichi, K. (LPA-01).....	106
Yang, K. (GPA-07).....	78	Yokosawa, M. (KPA-05).....	101
Yang, K. (HOA-04).....	83	Yokoyama, K. (EPA-01).....	68
Yang, K. (IOB-03).....	89	Yoon, H. (OOB-09).....	125
Yang, L. (DPA-10).....	57	Yoon, J. (BOA-03).....	21
Yang, M. (DPC-04).....	62	Yoon, J. (DPB-01).....	59
Yang, P. (TOC-04).....	173	Yoon, J. (EPA-04).....	68
Yang, Q. (MPA-11).....	114	Yoon, J. (IPA-05).....	91
Yang, Q. (MPA-14).....	114	Yoon, J. (YPA-07).....	225
Yang, Q. (NOB-01).....	118	Yoon, S. (NOB-14).....	120
Yang, Q. (PPB-14).....	137	Yoshida, H.K. (BOA-08).....	22
Yang, S. (CPA-03).....	43	Yoshida, R. (GOA-03).....	77
Yang, S. (MOB-11).....	112	Yoshida, S. (VOB-05).....	187
Yang, S. (SOB-07).....	155	Yoshida, S. (VOB-14).....	189
Yang, T. (LPA-03).....	106	Yoshida, S. (VPB-03).....	192
Yang, T. (MOA-13).....	110	Yoshida, T. (EOB-11).....	67
Yang, T. (MOA-17).....	110	Yoshida, T. (EPA-11).....	69
Yang, W. (CPB-04).....	46	Yoshida, T. (JPB-04).....	98
Yang, W. (HPA-07).....	85	Yoshida, T. (POB-07).....	132
Yang, W. (MPB-06).....	115	Yoshida, T. (YPA-03).....	224
Yang, W. (WPA-04).....	203	Yoshida, T. (YPA-05).....	225
Yang, X. (MPB-04).....	115	Yoshida, Y. (GOA-03).....	77
Yang, X. (PPC-04).....	138	Yoshidome, K. (VOA-02).....	185
Yang, X. (PPC-08).....	139	Yoshihara, Y. (QOB-13).....	145
Yang, Y. (BOC-01).....	26	Yoshihara, Y. (QPB-01).....	147
Yang, Y. (CPB-04).....	46	Yoshikawa, W. (TOB-07).....	171
Yang, Y. (QOB-12).....	145	Yoshikiyo, M. (POA-15).....	131
Yano, M. (SA-06).....	2	Yoshimura, K. (PPD-09).....	141
Yano, M. (WOA-01).....	194	Yoshimura, S. (ROB-03).....	151
Yano, M. (WOA-03).....	194	Yoshimura, S. (ROB-04).....	151
Yano, M. (WOC-13).....	200	Yoshinaga, N. (SOD-11).....	160
Yao, C.J. (POB-06).....	132	Yoshioka, S. (PPC-10).....	139
Yao, H. (POB-02).....	131	You, J. (SB-02).....	3
Yao, K. (SOF-04).....	163	You, L. (CPB-07).....	47
Yao, R. (PPA-04).....	135	You, L. (NOA-02).....	116
Yao, X. (WOC-10).....	199	You, L. (OPB-12).....	129
Yao, Y. (VPB-11).....	193	Youn, M. (GPB-03).....	81
Yap, S.L. (APB-12).....	19	Yu, F. (GPA-14).....	79
Yaroslavtsev, A. (SOF-05).....	164	Yu, F. (GPA-17).....	80
Yasin, F.S. (COB-09).....	36	Yu, G. (AOB-12).....	12
Yasin, F.S. (COE-10).....	43	Yu, G. (BOB-13).....	25
Yastrubchak, O. (UPA-04).....	183	Yu, G. (COA-01).....	32
Yasuda, T. (NOA-10).....	117	Yu, G. (CPA-04).....	44
Yasufuku, H. (UOB-06).....	182	Yu, G. (GPA-11).....	79
Yasuhito, T. (MOB-01).....	111	Yu, G. (GPB-12).....	82
Yatmeidhy, A.M. (ROA-02).....	149	Yu, G. (LPA-06).....	106
Yatmeidhy, A.M. (ROA-05).....	150	Yu, H. (DOB-07).....	51
Yayama, T. (WPC-05).....	206	Yu, H. (SB-01).....	3
Yazdanpanah, R. (KPA-21).....	103	Yu, H. (WPA-08).....	203
Ye, L. (BPA-16).....	31	Yu, J. (EOA-13).....	65
Ye, X. (XOC-09).....	212	Yu, J. (GPA-07).....	78

*Best student presentation award finalist

Yu, J. (HOA-04)	83
Yu, J. (HPA-14)	86
Yu, J. (IOA-05)	87
Yu, J. (IOB-03)	89
Yu, J. (JPB-01)	97
Yu, J. (POB-09)	132
Yu, J. (TOB-14)	172
Yu, L. (IOA-11)	88
Yu, M. (OPB-09)	128
Yu, S. (IPB-01)	92
Yu, X. (COB-09)	36
Yu, X. (COE-10)	43
Yu, X. (JPB-15)	99
Yu, X. (YOA-06)	222
Yu, Y. (IOA-07)	88
Yuan, H. (DOC-10)	53
Yuan, H. (LPA-18)	108
Yuan, H. (SOE-10)	162
Yuan, J. (LPA-17)	108
Yuan, J. (MPB-08)	116
Yuan, J. (POA-14)	131
Yuan, W. (MPA-10)	114
Yuan, Z. (BOC-02)	26
Yuan, Z. (MPA-11)	114
Yuan, Z. (MPA-14)	114
Yuasa, H. (APC-11)	21
Yuasa, H. (COB-06)	35
Yuasa, H. (CPA-12)	45
Yuasa, H. (DOC-12)	53
Yuasa, H. (DPB-10)	60
Yuasa, S. (AOA-06)	9
Yuasa, S. (BOC-12)	27
Yuasa, S. (DOE-01)	55
Yuasa, S. (DOE-03)	55
Yuasa, S. (TOB-09)	171
Yudin, D. (AOC-08)	14
Yudin, D. (APB-02)	17
Yue, M. (WPA-01)	202
Yue, M. (WPA-10)	203
Yue, X. (PPD-04)	140
Yuk, J. (APB-07)	18
Yuk, J. (TPA-10)	176
Yun, J. (QOA-11)	143

- Z -

Zabihi, M. (NOB-12)	120
Zagrebin, M. (UOB-09)	182
Zallo, E. (COE-06)	42
Zang, J. (COC-10)	38
zang, X. (IOB-07)	89
Zang, Y. (COA-03)	32
Zarzuela, R. (COB-03)	35
Zayets, V. (DPC-03)	61
Zayets, V. (SOA-05)	153
Zázvorka, J. (COA-10)	33
Zázvorka, J. (CPA-13)	45
Zeiger, P. (YOB-08)	224
Zeilinger, S. (DPC-14)	63
Zeinali, R. (FOA-09)	73
Zelent, M.K. (TOC-08)	174
Zeng, D. (FOA-02)	72
Zeng, D. (GOA-02)	77
Zeng, F. (PPC-14)	139
Zeng, H. (COC-10)	38
Zeng, H. (WOD-13)	202
Zeng, Z. (NOB-02)	118
Zgheib, M. (SC-04)	4
Zha, J. (QOA-08)	142
Zhai, G. (MPB-06)	115
Zhai, Y. (XOA-03)	208
Zhang, B. (EOB-05)	66
Zhang, B. (GPA-14)	79
Zhang, B. (GPA-15)	80
Zhang, B. (GPB-10)	82
Zhang, B. (HOA-06)	83
Zhang, B. (LPA-15)	107

Zhang, B. (MOB-08)	112
Zhang, B. (MOB-10)	112
Zhang, B. (MPA-13)	114
Zhang, B. (WOB-06)	197
Zhang, C. (BOC-07)	27
Zhang, C. (CPB-06)	47
Zhang, C. (IOB-07)	89
Zhang, C. (JPB-05)	98
Zhang, C. (SOC-14)	158
Zhang, C. (VPA-11)	191
Zhang, D. (QOA-04)	142
Zhang, D. (TPB-07)	177
Zhang, E. (EOB-14)	68
Zhang, E. (ROA-04)	150
Zhang, H. (BOC-05)	26
Zhang, H. (COC-06)	37
Zhang, H. (EOB-11)	67
Zhang, H. (JPA-03)	95
Zhang, H. (JPA-08)	96
Zhang, H. (JPA-12)	96
Zhang, H. (KOA-02)	100
Zhang, H. (OOB-05)	124
Zhang, H. (QOA-04)	142
Zhang, H. (QPA-07)	146
Zhang, H. (WPA-01)	202
Zhang, H. (WPA-10)	203
Zhang, H. (XOA-07)	209
Zhang, J. (BOA-06)	22
Zhang, J. (CPA-04)	44
Zhang, J. (CPB-07)	47
Zhang, J. (FOA-08)	73
Zhang, J. (MPB-04)	115
Zhang, J. (QOB-10)	144
Zhang, J. (TPB-03)	177
Zhang, J. (TPB-09)	178
Zhang, J. (WOB-07)	197
Zhang, J. (WOB-12)	197
Zhang, J. (ZOA-13)	227
Zhang, L. (APC-11)	21
Zhang, L. (COB-06)	35
Zhang, L. (COC-09)	38
Zhang, L. (JPA-14)	97
Zhang, L. (JPA-16)	97
Zhang, L. (JPB-11)	98
Zhang, L. (OOA-03)	123
Zhang, M. (EOB-04)	66
Zhang, M. (POB-07)	132
Zhang, P. (BOA-03)	21
Zhang, P. (MOB-08)	112
Zhang, P. (MPA-11)	114
Zhang, P. (MPA-14)	114
Zhang, Q. (BOA-05)	22
Zhang, Q. (EOB-04)	66
Zhang, Q. (GOA-02)	77
Zhang, R. (AOA-03)	9
Zhang, R. (AOB-08)	12
Zhang, R. (APB-08)	18
Zhang, R. (APC-07)	20
Zhang, R. (DPA-10)	57
Zhang, R. (OOB-02)	124
Zhang, R. (XOA-03)	208
Zhang, S. (BOC-10)	27
Zhang, S. (COC-09)	38
Zhang, S. (IPB-02)	92
Zhang, S. (JPA-03)	95
Zhang, S. (JPA-04)	96
Zhang, S. (JPA-08)	96
Zhang, S. (JPA-12)	96
Zhang, S. (MOB-03)	111
Zhang, S. (NOA-02)	116
Zhang, S. (TPB-03)	177
Zhang, T. (CPB-04)	46
Zhang, T. (DPB-03)	59
Zhang, T. (DPC-04)	62
Zhang, W. (BOD-02)	28
Zhang, W. (COC-09)	38
Zhang, W. (FOA-01)	72

*Best student presentation award finalist

Zhang, W. (JOA-06)	94	Zhao, W. (BPA-06)	30
Zhang, W. (LOA-02)	104	Zhao, W. (BPA-08)	30
Zhang, W. (LPA-06)	106	Zhao, W. (COA-12)	34
Zhang, W. (SOA-04)	153	Zhao, W. (COB-11)	36
Zhang, X. (AOA-03)	9	Zhao, W. (CPA-07)	44
Zhang, X. (AOC-11)	14	Zhao, W. (DOB-03)	50
Zhang, X. (BOA-05)	22	Zhao, W. (DOE-05)	56
Zhang, X. (BOC-02)	26	Zhao, W. (LPA-16)	108
Zhang, X. (COB-11)	36	Zhao, W. (MOB-09)	112
Zhang, X. (COC-09)	38	Zhao, W. (NOA-06)	117
Zhang, X. (COD-03)	39	Zhao, W. (OOB-05)	124
Zhang, X. (CPA-02)	43	Zhao, W. (OOB-07)	125
Zhang, X. (CPA-07)	44	Zhao, W. (OPB-02)	128
Zhang, X. (EPA-02)	68	Zhao, W. (POA-01)	129
Zhang, X. (FPA-07)	75	Zhao, W. (SOA-01)	153
Zhang, X. (HPA-06)	85	Zhao, W. (TPA-02)	175
Zhang, X. (IPA-06)	91	Zhao, W. (XPB-07)	216
Zhang, X. (MPA-10)	114	Zhao, W.S. (OPB-04)	128
Zhang, X. (MPA-11)	114	Zhao, X. (APB-04)	17
Zhang, X. (MPA-14)	114	Zhao, X. (APB-05)	18
Zhang, X. (PPB-14)	137	Zhao, X. (DPC-04)	62
Zhang, X. (PPD-04)	140	Zhao, X. (FOA-05)	73
Zhang, X. (TPA-02)	175	Zhao, X. (IPB-07)	93
Zhang, X. (WOC-10)	199	Zhao, X. (JPA-16)	97
Zhang, X.S. (COE-01)	41	Zhao, X. (LOA-03)	104
Zhang, Y. (APB-08)	18	Zhao, X. (LPA-05)	106
Zhang, Y. (JPA-01)	95	Zhao, X. (POA-02)	129
Zhang, Y. (NPA-15)	122	Zhao, X. (VPA-03)	189
Zhang, Y. (OOA-05)	123	Zhao, X. (XOB-06)	211
Zhang, Y. (OPB-04)	128	Zhao, Y. (KOA-02)	100
Zhang, Y. (SA-03)	2	Zhao, Y. (MPB-04)	115
Zhang, Y. (TPB-03)	177	Zhao, Z. (AOB-07)	12
Zhang, Y. (WOD-14)	202	Zhao, Z. (APC-13)	21
Zhang, Y. (XPC-03)	217	Zhao, Z. (JPB-09)	98
Zhang, Z. (COA-12)	34	Zhao, Z. (LPA-10)	107
Zhang, Z. (FOA-08)	73	Zhen, S. (QPA-07)	146
Zhang, Z. (GPA-16)	80	Zheng, C. (TPB-07)	177
Zhang, Z. (IOA-11)	88	Zheng, D. (BPA-10)	30
Zhang, Z. (IPB-01)	92	Zheng, F. (BOB-13)	25
Zhang, Z. (JOA-02)	94	Zheng, F. (CPB-07)	47
Zhang, Z. (JOA-14)	95	Zheng, L. (WOC-01)	198
Zhang, Z. (KPA-20)	103	Zheng, M. (SE-06)	6
Zhang, Z. (MOA-12)	110	Zheng, P. (GPB-11)	82
Zhang, Z. (MOA-16)	110	Zheng, P. (HOA-05)	83
Zhang, Z. (TPB-03)	177	Zheng, P. (HPA-20)	87
Zhang, Z. (XOA-03)	208	Zheng, P. (IPA-03)	90
Zhang, Z. (ZPA-06)	228	Zheng, P. (IPB-09)	93
Zhao, D. (AOB-07)	12	Zheng, P. (IPB-12)	93
Zhao, D. (APC-13)	21	Zheng, X. (QOA-04)	142
Zhao, F. (GPA-07)	78	Zheng, X. (QPA-07)	146
Zhao, F. (GPA-08)	79	Zheng, X. (SPA-18)	168
Zhao, F. (POB-09)	132	Zhong, X. (OOB-16)	126
Zhao, H. (HPA-14)	86	Zhong, X. (OPB-10)	128
Zhao, H. (IOB-03)	89	Zhong, X. (UPA-02)	183
Zhao, H. (LPA-11)	107	Zhong, X. (YOB-03)	223
Zhao, H. (MOB-09)	112	Zhou, B. (WPB-13)	206
Zhao, H. (POB-09)	132	Zhou, C. (OOB-01)	124
Zhao, H. (SOC-01)	156	Zhou, H. (LPA-17)	108
Zhao, H. (WPB-05)	205	Zhou, H. (MPB-08)	116
Zhao, J. (APB-04)	17	Zhou, J. (APB-12)	19
Zhao, J. (APB-05)	18	Zhou, K. (JPA-15)	97
Zhao, J. (APC-13)	21	Zhou, M. (NOB-13)	120
Zhao, J. (IOB-04)	89	Zhou, Q. (GPA-13)	79
Zhao, J. (LOA-11)	105	Zhou, S. (BOC-01)	26
Zhao, J. (XOB-06)	211	Zhou, T. (WOB-09)	197
Zhao, L. (CPA-02)	43	Zhou, W. (DOA-05)	49
Zhao, M. (APC-07)	20	Zhou, W. (DOB-05)	50
Zhao, Q. (QOA-04)	142	Zhou, W. (DOC-04)	52
Zhao, R. (LPA-18)	108	Zhou, X. (LPA-04)	106
Zhao, R. (WOB-06)	197	Zhou, X. (LPA-07)	106
Zhao, W. (AOA-07)	10	Zhou, Y. (COB-02)	34
Zhao, W. (AOC-11)	14	Zhou, Y. (CPA-02)	43
Zhao, W. (APA-11)	17	Zhou, Y. (CPB-07)	47
Zhao, W. (APC-02)	20	Zhu, D. (BPA-06)	30
Zhao, W. (BOB-07)	24	Zhu, D. (BPA-08)	30
Zhao, W. (BOD-02)	28	Zhu, D. (NOA-06)	117
Zhao, W. (BPA-03)	30	Zhu, D. (OOB-07)	125

*Best student presentation award finalist

Zhu, D. (OPB-04)	128	Zhu, Y. (RPA-01)	152
Zhu, F. (XOA-03).	208	Zhu, Z. (APA-01).	15
Zhu, G. (MOB-11).	112	Zhu, Z. (BOC-02)	26
Zhu, H. (JPA-01)	95	Zhu, Z. (CPB-11).	47
Zhu, J. (AOB-02).	11	Zhu, Z. (DPC-04).	62
Zhu, J. (FPA-04).	75	Zhu, Z. (LOA-02)	104
Zhu, J. (FPA-08).	75	Zhu, Z. (OPB-11).	129
Zhu, J. (IPB-02)	92	Zhu, Z. (WOB-06).	197
Zhu, J. (JOA-08)	94	Zhu, Z. (YOB-04)	223
Zhu, J. (LOA-08)	105	Zhuang, W. (RPA-06).	152
Zhu, J. (LPA-20)	108	Zhuang, Y. (COC-01).	37
Zhu, J. (OOA-01).	122	Zhukov, A. (QOA-10)	143
Zhu, J. (OOA-03).	123	Zhukov, A. (VOA-05)	186
Zhu, J. (OOB-04).	124	Zhukov, A. (VPA-05).	190
Zhu, J. (SOF-05)	164	Zhukov, A. (VPA-08).	190
Zhu, K. (WPA-03)	202	Zhukov, A. (VPA-12).	191
Zhu, L. (PPB-14)	137	Zhukova, V. (QOA-10)	143
Zhu, M. (BOA-06).	22	Zhukova, V. (VOA-05)	186
Zhu, M. (CPB-07)	47	Zhukova, V. (VPA-05).	190
Zhu, M. (WOA-13)	195	Zhukova, V. (VPA-08).	190
Zhu, Q. (KPA-20).	103	Zhukova, V. (VPA-12).	191
Zhu, Q. (MOA-12).	110	Zink, B. (NOB-12).	120
Zhu, Q. (MOA-16).	110	Zlamal, J. (SOD-02).	158
Zhu, S. (FPA-11)	76	Zografos, O. (NOA-05)	117
Zhu, S. (IOA-05)	87	Zou, J. (GOA-02).	77
Zhu, S. (JPB-02)	97	Zou, J. (GPA-01)	78
Zhu, W. (FOA-10)	73	Zou, J. (GPA-11)	79
Zhu, X. (HPA-08).	85	Zou, J. (GPB-06)	81
Zhu, X. (HPA-10).	85	Zou, J. (GPB-12)	82
Zhu, X. (IOB-07).	89	Zou, M. (MPB-10).	116
Zhu, X. (IPA-04)	90	Zou, M. (TPC-01)	178
Zhu, X. (JPA-10)	96	Zou, X. (NPA-09).	121
Zhu, X. (JPB-11)	98	Zou, Y. (EPA-02)	68
Zhu, X. (JPB-13)	99	Zuidema, G. (FOA-11).	74
Zhu, X. (JPB-15)	99	Zuo, Y. (DPB-12).	60
Zhu, X. (LPA-04).	106	Zysler, R.D. (EOA-05).	64
Zhu, X. (LPA-07).	106		