

General Information

SCOPE OF THE CONFERENCE

The 53rd Magnetism and Magnetic Materials Conference is sponsored jointly by the Physics Conferences Inc. and the Magnetism Society of the IEEE, in cooperation with The American Physical Society. Members of the international scientific and engineering communities interested in recent developments in fundamental and applied magnetism are invited to attend the Conference and contribute to its technical sessions. Sessions will include invited and contributed papers, oral and poster presentations and invited symposia. This Conference provides an outstanding opportunity for participants to meet their colleagues and discuss new and improved as well as controversial developments.

AUSTIN, TEXAS

Known as the Live Music Capital of the World, Austin is also the state capital of Texas and is the gateway to the Texas Hill Country with its rolling hills and sparkling waterways. The people of Austin pride themselves on being far from ordinary and, in fact, they celebrate being "weird." Austin is a hot spot for creativity and embraces its community of musicians, artists, entrepreneurs and progressive thinkers. Each night during the summer 1.5 million bats take flight from underneath the Ann Richards Congress Avenue Bridge. For more travel and visitor information about Austin, please visit the website: www.austintexas.org.

WEATHER

In November, Austin has an average high temperature of 70°F and an average low of 45°F. Keep in mind that the Conference session rooms may be air-conditioned and will most likely be chilly, so please dress appropriately.

TRANSPORTATION

The Austin-Bergstrom International Airport is located 7 miles (or 15–20 minutes) from the Hilton Austin.

There are several methods of ground transportation that you can choose to take you to and from the airport and Hilton Austin. The rates listed below are based on a typical minimum charge and are not guaranteed. Please contact the service provider for exact fares.

Shared Van Service:

- SuperShuttle: Austin Direct Phone #: (512) 258-3826
National Phone #: (800) 258-3826
\$13.00 USD per person per trip

Ground Transportation:

- Yellow Cab: (512) 452-9999
- Austin Cab: (512) 478-2222
- Lone Star: (512) 836-4900
\$25.00 USD minimum charge

HOTEL

The new Hilton Austin is a stunning Hill Country design that utilizes local native woods and stone and features an eclectic collection of Texas artwork. The location is convenient to the Texas State Capitol and Historic Sixth Street, dining and entertainment venues, galleries, and museums.

These special hotel room rates have been secured for MMM Conference attendees:

\$144.00 USD - Single or Double
 \$164.00 USD - Triple
 \$184.00 USD - Quad

All rates are subject to additional state and local taxes. **Hotel room reservations must be made and confirmed prior to the cutoff date of October 13th.** Rooms may be offered for three days prior to and following the Conference at these lower rates, based on availability when you make your hotel room reservations. **In addition, should you need to check out earlier than you expected, there will be an early checkout fee imposed by the hotel.** The hotel will reconfirm your checkout date with you when you check in at the beginning of the conference.

Please note: Based upon previous experience with MMM Conferences, the hotel's MMM room block may sell out prior to October 13th. Therefore, you should make your room reservations several weeks before the cut-off date.

Please visit www.magnetism.org to obtain the link for making your hotel reservation online or to download and print the Hotel Reservation Form.

HELP KEEP YOUR CONFERENCE FEES DOWN: Costs for the Conference meeting space are minimized by meeting pre-established targets for room occupancy at the Conference hotel. Please support the Steering Committee and Advisory Committee in their attempt to keep your Conference registration fees as low as possible by booking your room at the Hilton Austin for the 2008 MMM Conference before the cutoff date of October 13th. **Your hotel room reservation must be received no later than October 13th in order for you to receive the special MMM Conference rates.**

CONFERENCE REGISTRATION

The Advance Registration Form and complete instructions for registering can be found on the MMM Conference homepage at: www.magnetism.org. Advance Registration via the web is the most convenient way to register and is highly recommended. This year there are two registration rates: Advance and Onsite. **"Advance Registration" at the lower fees will be available until October 13th. After October 13th, the higher "Onsite Registration" fees will be in effect, even if paid in advance of arriving onsite.**

Registration Fees:

Advance Registration Fees

Full Registrant	\$470.00 (US Dollars)
Student/Unemployed Retiree	\$225.00 (US Dollars)

Onsite Registration Fees

Full Registrant	\$570.00 (US Dollars)
Student/Unemployed Retiree	\$275.00 (US Dollars)

NOTE: The 2008 MMM Advance Program will be available only on the website in advance of the Conference, and in printed form only onsite. Therefore, the Advance Program will NOT be mailed to anyone in advance of the Conference. In addition, this year the **Abstracts Book will be distributed onsite only as a CD.** Additional copies of the Abstracts CD may also be purchased onsite, but NOT in advance of the Conference.

Full Registration includes the Proceedings on a CD-ROM. For an **additional \$25.00 USD** the Full Registrant can receive the Print version instead of the CD. The cost to receive **both the CD and Print** versions is \$50.00 USD over the standard Full Registration fee. **Students and Unemployed Retirees who register at the lower fees will NOT receive a copy of the Proceedings.**

Registration Hours:

The Conference Registration Desks will be located in the Foyer of the Austin Grand Ballroom on 6th Floor of the hotel. The hours of operation will be:

Monday, November 10th	4:00 PM – 8:00 PM
Tuesday, November 11th	7:00 AM – 5:00 PM
Wednesday, November 12th	8:30 AM – 2:00 PM
Thursday, November 13th	8:30 AM – 2:00 PM
Friday, November 14th	8:30 AM – 12:00 Noon

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received at YesEvents no later than Monday, October 13, 2008. Refunds of the original payment, less a \$75 service fee, will be made following the Conference. **Substitutions may be made at any time, including onsite, for a registrant who cannot attend but has paid the registration fee in advance.**

Reminders:

- All attendees will be required to wear MMM Conference name badges to enter the Technical Sessions and Exhibits.
- The use of cameras, videotaping and/or recording devices in the technical sessions (including Poster Sessions) is strictly prohibited.

VISA REQUIREMENTS FOR ENTRY INTO THE USA:

Participants requiring visas must initiate the application process many months in advance of their departure date. The US has updated its visa policies to increase security, so it may take you longer to apply for and receive your visa than it used to. For details that apply specifically to your country and to schedule an interview appointment, pay fees, etc. please go to your nearest US Consulate or Embassy. **Review your visa status now** to determine if you need a US visa or visa renewal.

To receive a personal letter of invitation to attend the Conference, contact the 2008 MMM Conference by Email at: 2008MMM@courtesyassoc.com. **Be sure to provide your complete mailing address so that a signed letter of invitation can then be mailed to you via standard mail service.** **NOTE:** The Conference CANNOT contact or intervene with any U.S. Embassy or Consulate office abroad on your behalf.

CONFERENCE SYMPOSIA

The conference program includes seven symposia addressing topics at the forefront of research in magnetism and its applications:

- Frontiers in Biomagnetism
- Spin Transport and Single Spin Manipulation
- New Developments in Magnetic Microscopy
- Discrete Track and Bit Patterned Media
- Reconstruction and Emergence at Interfaces of Complex Oxides
- Recent Developments in Spin Torque Transfer
- Microwave Assisted Magnetization Reversal

MONDAY EVENING SESSION

On Monday evening November 10, 2008, before the start of the conference, there will be a special session on “The New Fe-As Based High-Tc Superconductors and Related Materials.” The session will include invited presentations by Professor Masahiro Hirano of the Tokyo Institute of Technology and Professor Xianhui Chen of the University of Science and Technology of China. There will also be an opportunity for short presentations by others of new results on this rapidly developing subject as well as an open discussion. Further information will be posted on the Conference website in September.

TUESDAY EVENING OPENING RECEPTION

On Tuesday, the first full day of the 2008 MMM Conference, there will be an Opening Reception held from 5:30 PM–7:00 PM in the Austin Grand Ballroom and Foyer on the 6th Floor of the hotel. The IEEE Magnetics Society has been very generous in helping to fund this event.

WEDNESDAY EVENING OPEN FORUM ON MICROMAGNETIC MODELING

Micromagnetic numerical simulation is an important tool for understanding the response of magnetic systems to external stimuli. There is broad interest from the academic community, magnetic storage and sensors industry, and government research laboratories to improve the accuracy of solutions and predictive power of such simulations. While significant progress has been made during the past two decades, the need for predictive models has also intensified. Industrial applications are continuing to employ more complex engineered materials and device structures. Academic studies of magnetics continue to push the limits of large signal excitations and fast dynamics.

The 2008 MMM Conference Program Committee has scheduled an Open Forum on Micromagnetic Modeling on Wednesday evening from 8:00-10:00 PM to further the pace of development in simulation algorithms and alignment with needs of the user community. The session will employ a panel discussion format that will open with short presentations and remarks by leading authorities in this discipline, followed by interactive “Q & A” discussions. The goal is to identify trends in simulation algorithms that can lead to more powerful tools as well as trends in the user community needs. In addition to refreshments prior to the Forum, all Conference participants will receive at the Registration Desks a CD containing copies of the introductory presentations and a collection of seminal papers on micromagnetic simulations to provide a background for the discussion. The 2008 MMM Conference is grateful to the IEEE Magnetics Society for its support of this new session, the handout, and the dessert reception beforehand.

WOMEN IN MAGNETISM NETWORKING EVENT

There will be a Women’s Networking Reception with beverages and light snacks on Wednesday beginning at 5:30 PM in Meeting Room 410. At the reception there will be the opportunity to form dinner groups so that women working in magnetism can get to know one another better. All graduate students, researchers, and retirees are encouraged to attend. For questions, contact Patricia Sparks at Harvey Mudd College (sparks@hmc.edu). The 2008 MMM Conference is especially grateful to the IEEE Magnetics Society for their sponsorship of this special event.

BIERSTUBE AND COFFEE

Complimentary coffee service will be available on Tuesday through Friday mornings in the Austin Grand Ballroom and Foyer from 7:00 AM–9:30 AM. On Wednesday and Thursday evenings, the Bierstube will be held from 5:00–6:00 PM in the Austin Grand Ballroom. These two Bierstubes will again be sponsored through the generosity of Williams Advanced Materials, who will have a booth in the exhibits area as well.

PUBLICATIONS ROOM

The Publications Room, where authors can check the status of their manuscripts, will be located in Meeting Room 404 (adjacent to the Governor’s Ballroom) on the 4th Floor of the hotel. The status of all papers can be found here and authors should check periodically on their individual papers if they have questions. This room will be open as follows:

Tuesday – Thursday	9:00 AM – 5:00 PM
Friday	9:00 AM – 12:00 Noon

SPEAKER PRACTICE ROOM

Speakers are reminded that the Conference is planning an all-electronic presentation format. Speakers may use Meeting Room 415 (behind the Governor’s Ballroom) on the 4th floor of the hotel to practice their presentations. Audiovisual equipment (LCD projector and screen) will be available for authors to use from Monday late afternoon until Friday at 1:00 PM. Speakers are urged to use this facility to practice their presentation, either alone or with colleagues.

LCD PROJECTORS

This year **only LCD projectors** will be available for oral presentations. Authors are expected to bring their presentation on their own laptop computer, and have it powered on and ready to connect to the projector. **Only standard PC-style VGA connections to the LCD projector will be supplied, therefore you must supply any required adaptor to your computer. Macintosh users must make sure that “mirroring” is activated.**

There will also be a switchbox so that a speaker can set up his/her laptop during the question period of the previous speaker. **Each speaker will be solely responsible for promptly connecting to the projector.** The presentation timer will begin immediately after the introduction by the Session Chair, and there will not be time to reboot your computer. You are therefore **STRONGLY ENCOURAGED** to test your laptop connections and screen resolution settings with the projectors in the Speaker Practice Room or in the assigned room for your talk before start of the session. **There will be no technical support provided. In case of laptop failure, it would be prudent to bring a copy of your presentation on flash memory.**

SESSION CHAIRS

Session Chairs are expected to attend the Session Chair’s Breakfast on the morning of the session which they are chairing. If you are chairing a session, please bring your laptop computer to the meeting or arrange to borrow one during your session. Further details will be emailed to Session Chairs a few weeks before the meeting.

POSTER SESSIONS

The hours of the Poster Sessions are 8:00 AM–12:00 Noon and 1:00 PM–5:00 PM. Authors should set up their materials at least half-an-hour before session start times. They must be by their posters from 8:00 AM–9:00 AM and 11:00 AM–12:00 Noon for the morning sessions, and from 1:00 PM–2:00 PM and 4:00 PM– 5:00 PM for the afternoon sessions. Guidelines for preparation of Posters are found at: <http://www.magnetism.org/poster.pdf>. **Authors are reminded to remove all of their materials, excluding the pushpins that have been provided by the Conference, PROMPTLY at the end of their session. The Conference Coordinators will discard materials that are not removed, in order to prepare for the next session. REMEMBER, there is only one hour between the morning and afternoon poster sessions and the Conference Staff will remove and destroy your presentation if you do not safely remove it yourself and on time.**

EXHIBITS

An exhibition of related services, equipment, materials, and software will be held as a part of the Conference. The exhibits will be located adjacent to the poster sessions and internet lounge in the Austin Grand Ballroom. Individuals and organizations who are interested in purchasing booth space should contact Lauren Westcott, Exhibits Coordinator at Courtesy Associate, by e-mail at 2008MMM@courtesyassoc.com; or by Fax at 202-331-0111. The Exhibitor Prospectus and Application Form are now available on the MMM website at www.magnetism.org.

BEST STUDENT PRESENTATION AWARD

This year, there is a competition for the best student presentation at the 53rd MMM Conference to recognize and encourage excellence in graduate studies in the field of magnetism. This award is available to any full time graduate student who is expected to graduate within one year of the Conference. The student's area of research may either be theoretical or experimental in any of the general technical and scientific areas normally presented as part of the Conference. This award consists of a one-year fellowship of \$1000 for the award winner and a one-year fellowship of \$250 to each of the remaining finalists. The students listed below are the finalists for the 53rd MMM Conference:

AF-06

Sara Jean Gamble, "Modification of the Electronic Structure of a Ferromagnet in Extreme Terahertz Fields"

BE-05

Lihui Zhou, "Oscillatory magnetic exchange coupling at the atomic level: a direct real-space study by a sub-Kelvin spin-polarized STM"

HE-14

Joanna S. Bettinger, "Room Temperature Photo-Induced Magnetization of Spinel (Mn,Zn,Fe)3O4 Thin Films"

AB-08

Ioan Mihai Miron, "The domain wall spin torque-meter"

GF-04

Chunsheng Liu, "Calculation of intrinsic damping in half metals"

GB-09

Li Gao, "Spin transfer induced microwave emission in MgO based magnetic tunnel junctions"

Their extended abstracts will be posted during the conference.

For the 52nd MMM Conference in Tampa, the best student presentation award went to Matthew Vannette; the other finalists were J. D. Burton (CB-03), Jiexuan He (CE-09), Ajit Patra (CH-11) and Xiaohang Zhang (FG-02).

Best 52nd MMM Conference Best Student Presentation Winner

Matthew Vannette
(Iowa State University)
for his presentation:

**"Distinguishing local moment vs. itinerant ferromagnets:
dynamic magnetic susceptibility"**

CONGRATULATIONS!

BEST POSTER PRESENTATION

Eligibility: All posters will be eligible for nomination for this award provided that they meet the requirements and guidelines for MMM poster presentations and sessions, as described on the website. The presentations should consist of well-prepared visual materials about the work, posted on a designated board. It is required that an author be registered for the Conference and in attendance to present details and answer questions during the designated session time. Since the award will be made at the session, it is recommended that the authors be present for the majority of the session. All posters must include a full contact mailing address in the case that the authors are not present when the award is made.

Nature of the Award: This award consists of a \$50 certificate. The awards will be made in the last hour of each poster session. A ribbon will also be attached to the successful posters. Winning posters will be prominently displayed through the remainder of the conference.

Selection Process: A Poster Award Committee will review all of the posters at the beginning of each session. Nominations will be made by the individual session chairs which will be forwarded to the Award Committee. Selections will be based on the level of the research, quality of the poster, and clarity of the presentation.

This is the list of the winners from the Tampa Meeting:

Best 52nd MMM Conference Poster Presentation Winners

AR-18

Magnetization reversal process and single domain stability of Co/Pt multilayer dot

*N. Kikuchi¹; T. Kato¹; S. Okamoto¹;
O. Kitakami¹; N. Tezuka²; S. Sugimoto²*

1. IMRAM Tohoku University, Sendai, Japan.
2. Department of Materials Science, Tohoku University, Sendai, Japan.

BU-01

Crystallization and Thermal-Magnetic Treatment of Co-Rich HiTPerm-type Alloys with Ni and Mn Additions

*P. R. Ohodnicki¹; S. Park¹; D. E. Laughlin¹;
M. E. McHenry¹; V. Keylin²; M. A. Willard³*

1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA.
2. Magnetics, Division of Spang and Company, Pittsburgh, PA, USA.
3. Code 6355, Naval Research Labs, Washington, DC, USA.

CP-12**Relation between non-adiabaticity and damping in Permalloy studied by current-induced spin structure transformations**

*T. A. Moore¹; L. Heyne¹; D. Backes^{1,2}; S. Krzyk¹; M. Kläui¹;
U. Rüdiger¹; L. J. Heyderman²; A. F. Rodriguez³; F. Nolting³;
T. O. Mendes⁴; M. Á. Niño⁴; A. Locatelli⁴; K. Kirsch⁵; R. Mattheis⁵*

1. Fachbereich Physik, Universität Konstanz, Konstanz, Germany.
2. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland.
3. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland.
4. Sincrotrone Trieste, Trieste, Italy.
5. Institute of Photonic Technology, Jena, Germany.

DQ-04**Deposition of hexagonal ferrites by the ATLAD technique - gateway to new and exotic ferrite materials**

*A. L. Geiler¹; S. D. Yoon¹; Y. Chen¹; C. N. Chinnasamy¹;
Z. Chen¹; V. G. Harris¹; C. Vittoria¹*

1. Center for Microwave Magnetic Materials and Integrated Circuits, Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA.

EP-05**Micro Total Analysis System for hematopoietic stem/progenitor cell separation and counting**

*J. F. Loureiro^{1,2}; M. Mercier^{1,2}; S. Cardoso^{1,2};
P. P. Freitas^{1,2}; C. L. Silva³; J. M. Cabral³*

1. INESC-Microsystems and Nanotechnologies, Lisbon, Portugal.
2. Instituto Superior Técnico (IST), Lisbon, Portugal.
3. CEBQ - IST, Lisbon, Portugal.

FP-13**Examination of the optimum arrangement of magnetic sensors for nondestructive crack system in distribution line.**

G. Owada¹; T. Nonaka²; F. Sato¹; H. Matsuki¹; T. Sato³

1. Graduate School of Engineering, Tohoku University, Sendai, Japan.
2. Hachinohe National College of Technology, Sendai, Japan.
3. NEC TOKIN Corporation, Sendai, Japan.

GR-09**Magnetic transmission X-ray microscopy of field-driven magnetization processes in Permalloy structures**

D. A. Allwood¹; M. T. Bryan¹; P. W. Fry²; P. Fischer³

1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom.
2. Centre for Nanoscience and Technology, University of Sheffield, Sheffield, United Kingdom.
3. LBNL/CXRO, Berkeley, CA, USA.

HR-03**Magnetoelectric Properties of the High Curie Temperature Relaxor Composite Sr_{1.9}Ca_{0.1}Nb₅O₁₅-CoFe₂O₄**

*W. Liu^{1,2}; C. Mak¹; K. Wong¹; C. Lo¹; S. Or¹;
W. Zhou²; A. Hauser²; F. Yang²; R. Sooryakumar²*

1. Department of applied physics, The Hong Kong Polytechnic University, Hong Kong, China.
2. Department of physics, The Ohio State University, Columbus, OH, USA.

FUTURE CONFERENCES**INTERMAG Conference**

May 4–8, 2009, Sacramento, California

2010 (11th) Joint MMM/Intermag Conference

January 17–21, 2010, Washington, DC

55th Conference on Magnetism and Magnetic Materials

November 14–18, 2010, Atlanta, Georgia

INTERMAG Conference

April 25–29, 2011, Taipei, Taiwan

56th Conference on Magnetism and Magnetic Materials

October 30–November 3, 2011, Scottsdale, Arizona

ADDITIONAL INFORMATION

If you would like to receive more information about the 53rd MMM Conference, to be placed on the Conference Mailing List, or to update your mailing address, please contact Janis Bennett at: magnet@aip.org; Telephone: 516-576-2403; Fax: 516-576-2223. The latest information on the 2008 MMM Conference can be found on the Web at the Conference homepage at: <http://www.magnetism.org>.

CONFERENCE ORGANIZATION**Steering Committee 53rd MMM Conference**

Chairman	Daniel Reich
Chairman Elect	Kevin O'Grady
Past Chairman	Dieter Weller
Treasurer	Julie Borchers
Program Co-Chairmen	Paul Crowell, Ned Tabat
Members	Thomas Ambrose, Christian Back, William Bailey, Zvonimir Bandic, Katayun Barmak, Larry Bennett, Kristen Buchanan, Zbigniew Celinski, Jeff Childress, Robert Compton, Thomas Crawford, Pallavi Dhagat, Viatcheslav Dobrovitski, Peter Eames, Harry Edelman, Claudia Felser, Kai- Zhong Gao, Olle Heinonen, Axel Hoffmann, David Howe, Jason Jansecky, Ron Jansen, Berend Jonker, David Keavney, Sang-Koog Kim, Ilya Krivorotov, Chris Leighton, Bin Lu, Sadamichi Maekawa, Michael McHenry, Robert McMichael, Jagadeesh Moodera, Oleg Mryasov, Amanda Petford-Long, Prem Piramanayagam, Justin Shaw, Jing Shi, John Snyder, Hariharan Srikanth, Mark Stiles, Jonathan Sun, Kiyonori Suzuki, Kenichi Takano, Jan-Ulrich Thiele, Tom Thompson, Mark Tondra, Maxim Tsoi, Evgeny Tsymbal, Shoogo Ueno, John Unguris, Jan Van Ek, Matt Willard, and Shufeng Zhang.

Publications Chairman	Michael McHenry
Publications Editors	Oleg Mryasov, Justin Shaw, Hariharan Srikanth, Kiyonori Suzuki, Thomas Thomson, Matthew A. Willard
Exhibits Chairman	Bruce Terris
Publicity	Yumi Ijiri
Student Support Coordinator	James C. Eckert
Awards Coordinator	Kaizhong Gao
IEEE Representative	Douglas Lavers
PCI/AIP Representative	Mark Cassar
Editor, J. Appl. Phys.	James Viccaro
Conference Management	Diane Melton, Ann Shafran, Lauren Westcott; Courtesy Associates
PCI/AIP Coordinators	Janis Bennett, Linda Boniello, Christine Urso

Advisory Committee 53rd MMM Conference

Chairman	D. Weller
Vice Chair	D. Reich
Chair Elect	K. O'Grady
Executive Secretary/Treasurer	J. Borchers
Recording Secretary	D. Melton
Term Expires December 2008 :	E. Cardelli, C-L. Chien, B. Hillebrands, Y. Idzerda, Y. Ijiri, R. Indeck, M. McHenry, H. Muraoka, K. O'Grady, P. Schiffer
Term Expires February 2010 :	P. Crowell, L. Folks, B. Gurney, V. Harris, C. Leighton, K. Liu, S. Majetich, C. Patton, T. Suzuki, R. Victora
Term Expires December 2010 :	P. Andrei, J. Borchers, E. Fullerton, R. McMichael, D. Reich, J. Rhyne, M. Stiles, N. Tabat, B. Terris, J-U. Thiele

Sponsoring Society Representatives

Physics Conferences Inc. (AIP)	M. Cassar
IEEE Magnetics Society	D. Lavers

CONFERENCE PROGRAM

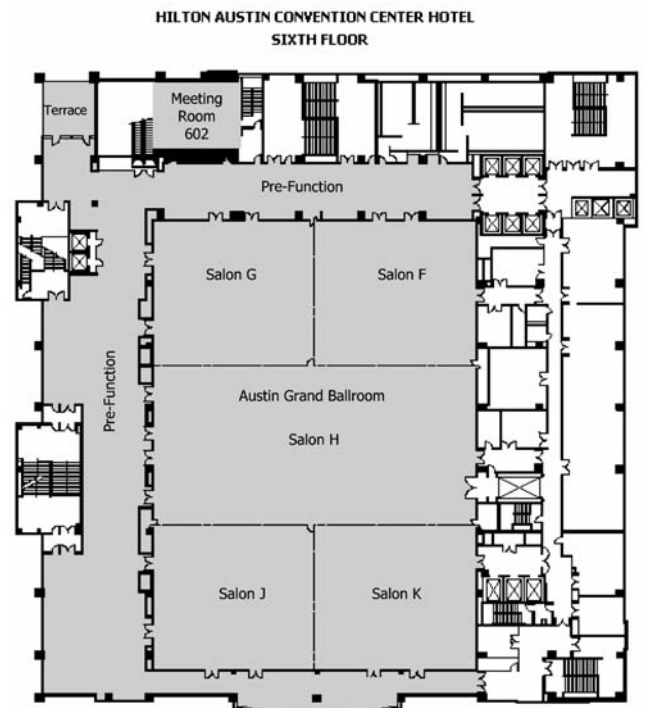
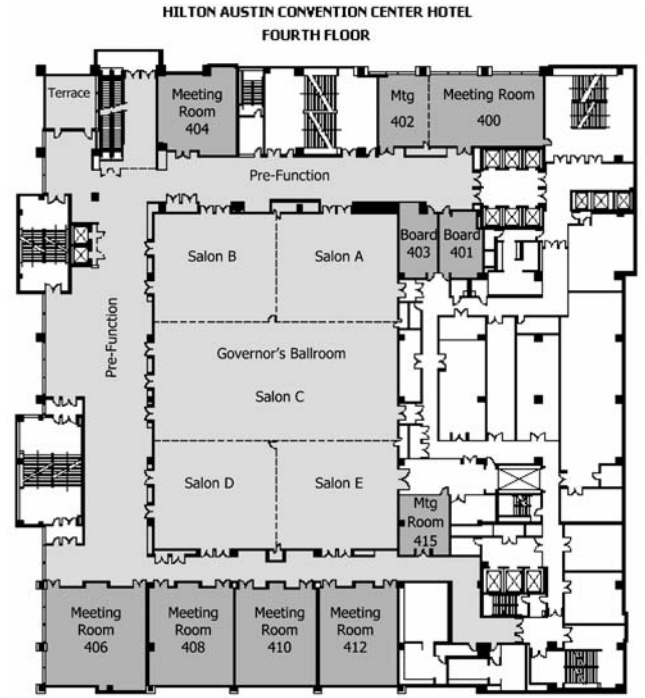
Mon Eve. 7:00 p.m.	XA	Special session on the new Fe-As based high-Tc superconductors	Salon G
Tuesday 9:00 a.m.	AA	Symposium on new horizons in biomagnetism	Salon C
	AB	Domain wall motion in nanowires	Salon G
	AC	Perpendicular media I	Salon A
	AD	Magnetic tunnel junctions I	Salon B
	AE	Semiconductor spin injection	Salon D
	AF	Ultrafast processes and switching	Salon E
	AG	Soft magnetic crystalline alloys	400/402
	AH	Superconductivity I	410
8:00 a.m.	AP	CMR oxides I: Bulk and nanoparticles	Austin Ballroom
	AQ	Rare-earth transition metal borides I	Austin Ballroom
	AR	Spin torque effects in nanostructures	Austin Ballroom
	AS	Spin torque and other excitations in magnetic nanostructures	Austin Ballroom
	AT	CMR oxides II: Films and heterostructures	Austin Ballroom
	AU	Magnetic microscopy and imaging I	Austin Ballroom
	AV	Ferrite, garnets I	Austin Ballroom
	AW	New applications	Austin Ballroom
Tuesday 2:00 p.m.	BA	Symposium on spin transport and single spin manipulation	Salon C
	BB	Domain wall motion	Salon G
	BC	Recording heads I	Salon A
	BD	Anisotropy in multilayers and surfaces	Salon B
	BE	Itinerant magnetism and electronic structure	Salon D
	BF	Nonlinear dynamics	Salon E
	BG	Magnetic microscopy and imaging II	400/402
	BH	Low dimensional systems and critical phenomena	410
1:00 p.m.	BP	Multiferroics I: Films and nanostructures	Austin Ballroom
	BQ	Intermetallic and other hard magnetic materials I	Austin Ballroom
	BR	Magnetic tunnel junctions: MgO based	Austin Ballroom
	BS	Biomagnetism	Austin Ballroom
	BT	Intermetallics and other hard magnetic materials II	Austin Ballroom
	BU	Magnetic materials for therapy applications	Austin Ballroom
	BV	Amorphous and nanostructured materials I	Austin Ballroom
	BW	Multiferroics II: BiFeO ₃	Austin Ballroom

Tues. Eve.			
5:30 p.m.	Opening Reception		Austin Ballroom
Wednesday	CA Symposium on new developments in magnetic microscopy		Salon C
9:00 a.m.	CB Spin transfer torque: Ferromagnets and antiferromagnets		Salon G
	CC High anisotropy perpendicular media I		Salon A
	CD Magnetic tunnel junctions II		Salon B
	CE Hybrid semiconductor/Ferromagnet heterostructures		Salon D
	CF Complex magnetic oxides		Salon E
	CG Applications of magnetic nanoparticles to biology		400/402
	CH Magnetoresistance, magnetoimpedance, and Hall effect		410
8:00 a.m.	CP Domain walls and vortices		Austin Ballroom
	CQ CMR oxides III: Transport		Austin Ballroom
	CR Multiferroics III: Bulk oxides		Austin Ballroom
	CS 4f-, 5f- and strongly correlated systems I		Austin Ballroom
	CT MRAM and magnetic tunnel junctions		Austin Ballroom
	CU Magnetic sensors I (not for magnetic recording)		Austin Ballroom
	CV Microwave and millimeter wave devices		Austin Ballroom
	CW Recording systems and patterned media I		Austin Ballroom
	CX Magneto-caloric materials I		Austin Ballroom
Wednesday	DA Symposium on discrete track and bit patterned media		Salon C
2:00 p.m.	DB Spin-torque-induced switching in nanomagnets		Salon G
	DC MRAM		Salon A
	DD Halfmetallic Heusler compounds		Salon B
	DE Magnetic semiconductors		Salon D
	DF Vortex dynamics		Salon E
	DG Multiferroics		400/402
	DH Exchange bias I		410
1:00 p.m.	DP Fundamental properties		Austin Ballroom
	DQ Magnetic nanoparticles for biological applications		Austin Ballroom
	DR Magnetic fluids and separation		Austin Ballroom
	DS Ferrites, garnets II		Austin Ballroom
	DT Recording heads II		Austin Ballroom
	DU Electronic structure and itinerant magnetism		Austin Ballroom

	DV Instrumentation and measurement techniques		Austin Ballroom
	DW Numerical methods and hysteresis modeling		Austin Ballroom
Wed. Eve.			
8:00 p.m.	XB Open forum on micromagnetic modeling		Salon G
Thursday			
9:00 a.m.	EA Symposium on reconstruction and emergence at interfaces of complex oxides		Salon C
	EB Spin transfer torque: Theory and experiment		Salon G
	EC Alternative magnetic recording		Salon A
	ED Magnetic tunnel junctions III		Salon B
	EE Spin injection in metals		Salon D
	EF Novel magnetic nanoparticles		Salon E
	EG Patterned films I		400/402
	EH Numerical methods and magnetic simulations		410
8:00 a.m.			
	EP 4f, 5f- and strongly correlated systems II		Austin Ballroom
	EQ Magnetic semiconductors: Group IV and III-V		Austin Ballroom
	ER Superconductivity II		Austin Ballroom
	ES Magneto-optic and new magnetic materials		Austin Ballroom
	ET Perpendicular media II		Austin Ballroom
	EU Dynamics and damping		Austin Ballroom
	EV Multilayers and superlattices		Austin Ballroom
	EW Semiconductor spin injection and transport		Austin Ballroom
Thursday			
2:00 p.m.	FA Symposium on recent developments in spin torque transfer		Salon C
	FB Magnetic sensors II (not for magnetic recording)		Salon G
	FC Recording systems and patterned media II		Salon A
	FD Half-metallic ferromagnetism		Salon B
	FE Domains and soft magnetic materials		Salon D
	FF Spin waves and resonances		Salon E
	FG Multilayers, interfaces, and surfaces		400/402
	FH Rare-earth transition metal borides II		410
1:00 p.m.			
	FP Magnetic tunnel junctions and spin injection		Austin Ballroom
	FQ Thin film growth and characterization		Austin Ballroom
	FR Nanoparticles and nanostructures		Austin Ballroom
	FS Magnetic semiconductors: Oxides		Austin Ballroom

	FT	Patterned films II	Austin Ballroom
	FU	Exchange bias II	Austin Ballroom
Friday	GA	Symposium on microwave-assisted magnetization reversal	Salon C
9:00 a.m.	GB	Spin-torque oscillators	Salon G
	GC	Nanostructured permanent magnet materials	Salon A
	GD	Magnetic nanostructures: Measurement, fabrication, and modeling	Salon B
	GE	Molecular magnets	Salon D
	GF	Damping mechanisms and measurement	Salon E
	GG	Galfenol magnetostrictive alloys	400/402
	GH	Spin glasses and spin dynamics in correlated systems	410
8:00 a.m.	GP	Heads-media interface and tribology	Austin Ballroom
	GQ	High anisotropy perpendicular recording media II	Austin Ballroom
	GR	Motors and actuators I	Austin Ballroom
	GS	Micromagnetic simulations and methods	Austin Ballroom
	GT	Magnetoresistance, magnetoimpedance, Hall effect, and half metals	Austin Ballroom
	GU	Magneto-elastic materials	Austin Ballroom
	GV	Power, shielding, and levitation	Austin Ballroom

Friday	HA	Intermetallics and other hardmetallic materials III	Salon A
2:00 p.m.	HB	Amorphous and nanocrystalline materials II	Salon B
	HC	Magneto-caloric materials II	Salon D
	HD	4f-, 5f- and strongly correlated systems III	Salon E
	HE	Ferrites, garnets and microwave materials	400/402
	HF	Motor and actuators II	410



MONDAY
EVENING
7:00

SALON G

Session XA
**SPECIAL SESSION ON THE NEW Fe-As
BASED HIGH-T_c SUPERCONDUCTORS AND
RELATED MATERIALS**

Chia-Ling Chien, Chair

7:00

**XA-01. Discovery and Progress in the New High T_c Superconductors
LnTMA₂O.** *M. Hirano¹. Tokyo Inst. of Technology, Tokyo, Japan*

7:40

XA-02. The Phase Diagram of Fe-based High-T_c Superconductors.
*X. Chen¹. University of Science and Technology of China,
Beijing, China*

TUESDAY
MORNING
9:00

SALON C

Session AA
**SYMPOSIUM ON NEW HORIZONS IN
BIOMAGNETISM**

Shoogo Ueno, Chair

9:00

AA-01. Biomagnetism In Nanotechnology MRI Imaging. (Invited)
*F.S. Prato¹, C. Lamare², S. Dhanvantari¹, D.E. Goldhawk¹ and
R.T. Thompson¹. Diagnostic Imaging, Lawson Imaging, London,
ON, Canada; 2. Department of Physics, University of Waterloo,
Waterloo, ON, Canada*

9:36

**AA-02. Micro-engineered local field control for high-sensitivity
multispectral MRI. (Invited)** *G. Zabow^{1,2}, S. Dodd²,
J. Moreland¹ and A. Koretsky². 1. National Institute of Standards
and Tech., Boulder, CO; 2. National Institutes of Health,
Bethesda, MD*

10:12

**AA-03. High Resolution SQUID microscopy for imaging biomagnetic
fields and magnetic particle detection. (Invited)**
*F.J. Baudenbacher¹. BME and Physics, Vanderbilt University,
Nashville, TN*

10:48

**AA-04. Magnetic Micro- and Nanoparticles in Biology and Medicine.
(Invited)** *J. Dobson^{1,2}. Institute for Science and Technology in
Medicine, Keele University, Stoke-on-Trent, United Kingdom; 2.
Department of Materials Science and Engineering, University of
Florida, Gainesville, FL*

11:24

AA-05. Magnetic positioning of nerve cells. (Invited) *D.A. Allwood¹,
M.T. Bryan², P.W. Fry³, P. Fischer⁴, T. Schrefl¹ and
J.W. Haycock². 1. Department of Engineering Materials,
University of Sheffield, Sheffield, United Kingdom; 2. The Kroto
Research Institute, University of Sheffield, Sheffield, United
Kingdom; 3. Centre for Nanoscience and Technology, University
of Sheffield, Sheffield, United Kingdom; 4. Center for X-Ray
Optics, Lawrence Berkeley National Laboratory, Berkeley, CA*

TUESDAY
MORNING
9:00

SALON G

Session AB
DOMAIN WALL MOTION IN NANO-WIRES

Yaroslav Bazaliy, Chair

9:00

**AB-01. Thermally and spin-torque assisted domain wall depinning
from a single defect in FePt monolayers and spin-valves.**
*A.P. Mihai^{1,2}, J. Attané^{1,2}, L. Vila¹ and A. Marty¹. INAC, SP2M,
CEA, Grenoble, France; 2. Université Joseph Fourier,
Grenoble, France*

9:12

**AB-02. Perpendicular Pt / CoFeB / Pt, a tunable system for domain-
wall dynamics.** *R. Lavrijsen¹, G. Malinowski¹, J. Kohlhepp¹,
H. Swagten¹ and B. Koopmans¹. Applied Physics, Technical
University of Eindhoven, Eindhoven, Netherlands*

9:24

**AB-03. Role of pinning in current driven DW motion in wires with
perpendicular anisotropy.** *C. Burrowes¹, D. Ravelosona¹,
M. Nguyen Ngoc¹, C. Chappert¹ and E. Fullerton². Institut
d'électronique Fondamentale, UMR CNRS 8622, Orsay, France;
2. University of California San Diego, CMRR, San Diego, CA*

9:36

**AB-04. Current-driven domain wall motion in amorphous TbFeCo
nanowires with perpendicular magnetic anisotropy.** *X. Liu¹ and
A. Morisako¹. Department of Information Engineering, Shinshu
University, Nagano, Japan*

9:48

**AB-05. Controlled motion of multiple domain walls in permalloy
nanowires.** *M. Hayashi¹, L. Thomas¹, R. Moriya¹, C. Rettner¹,
X. Jiang¹, B. Bergman¹ and S. Parkin¹. IBM Research, San
Jose, CA*

10:00

**AB-06. Creation, propagation and detection of magnetic domain walls
for data storage applications.** *D. Read¹, L.A. O'Brien¹, D. Petit¹,
H.T. Zeng¹, E.R. Lewis¹, L. Thevenard¹, J. Sampaio¹, A. Jausovec¹
and R.P. Cowburn¹. Department of Physics, Imperial College
London, London, United Kingdom*

10:12

AB-07. Real time measurement of domain wall motion in ferromagnetic nano-wires by using tunnel magnetoresistance effect. *T. Ochiai¹, H. Ahisda¹, K. Nagasaka¹ and A. Tanaka¹. Fujitsu Ltd., Kawasaki-shi, Kanagawa, Japan*

10:24

AB-08. The domain wall spin torque-meter. *I. Miron¹, P. Zermatten¹, G. Gaudin¹, S. Auffret¹, B. Rodmacq¹ and A. Schuhl¹. SPINTEC / INAC / CEA-CNRS, Grenoble, France*

10:36

AB-09. Resonant Domain Wall Movement in Linear Notches with Varying Restoring Force. *S. Lepadatu¹, A. Potenza², H. Marchetto², T.R. Charlton³, S. Langridge³, S.S. Dhesi² and C.H. Marrows¹. The University of Leeds, Leeds, United Kingdom; 2. Diamond Light Source, Didcot, United Kingdom; 3. ISIS, RAL, Didcot, United Kingdom*

10:48

AB-10. Role of the perpendicular spin current to assist the Current driven Domain Wall motion in spin valve nanostructures. *S. Laribi^{1,2}, A. Anane¹, J. Grollier¹, V. Cros¹, C. Deranlot¹, G. Faini³ and A. Fert¹. Unité Mixte de Physique CNRS/Thales and Université Paris Sud 11, Route départementale 128, Palaiseau, France; 2. ST Microelectronics, 850 Rue Jean Monnet, Croles, France; 3. Phynano team, Laboratoire de Photonique et Nanostructures, LPN-CNRS, Route de Nozay, Marcoussis, France*

11:00

AB-11. Current induced microwave oscillation of a geometrically confined domain wall. *K. Matsushita¹, J. Sato¹ and H. Imamura¹. Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan*

11:12

AB-12. Critical vortex core size required for nucleation of stable vortex or antivortex during domain wall motion in magnetic thin-film nanostructures. *S. Kim¹, Y. Choi¹, J. Lee¹ and M. Yoo¹. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea*

11:24

AB-13. Current-assisted vortex chirality transition in a layered circular ring. *C. Nam¹, B. Ng¹, F. Castañó¹ and C. Ross¹. Materials Science and Engineering, MIT, Cambridge, MA*

11:36

AB-14. Domain wall pinning by a curved conduit. *E. Lewis¹, D. Petit¹, D.E. Read¹, H.T. Zeng¹, L.A. O'Brien¹, J. Sampaio¹, A.V. Jausovec¹ and R.P. Cowburn¹. Physics, Imperial College London, London, United Kingdom*

11:48

AB-15. Current Induced Magnetization Switching in Epitaxial Half-metallic Chromium Dioxide (CrO₂) Nanocontacts. *X. Zou¹ and G. Xiao¹. Physics Department, Brown University, Providence, RI*

**TUESDAY
MORNING
9:00**

SALON A

**Session AC
PERPENDICULAR MEDIA I**

Shanlin Duan, Chair

9:00

AC-01. Topology and Elemental Distribution in Co alloy+Oxide Perpendicular Media. *D. Laughlin^{1,2}, N.T. Nuhfer², S. Park^{1,2}, H. Yuan^{1,2} and J. Zhu^{1,3}. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Electrical and Computer Engineering Department, Carnegie Mellon University, Pittsburgh, PA*

9:12

AC-02. Reduction of Magnetic Grain Size of Perpendicular Recording Media with CoCrW Seed Layer. *R. Inamura¹, Y. Toyoda¹, T. Tanaka¹ and T. Uzumaki¹. Fujitsu Labs., Atsugi, Japan*

9:24

AC-03. CoRuCr-oxide intermediate layers for grain size reduction and improved lattice matching. *S. Piramanayagam¹ and K. Srinivasan¹. A*STAR (Agency for Science Technology and Research), Data Storage Institute, Singapore, Singapore*

9:36

AC-04. Microstructure and magnetic properties of perpendicular media with reduced grain size. *H. Yuan^{1,2} and D.E. Laughlin^{1,2}. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA*

9:48

AC-05. Ru/FeCoB crystalline soft magnetic underlayers with high anisotropy field for CoPtCr-SiO₂ granular perpendicular magnetic recording media. *T. Matsuu¹, K. Hirata¹, A. Hashimoto¹, S. Matsunuma², T. Inoue², T. Doi² and S. Nakagawa¹. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Hitachi Maxell, Ltd., Ibaraki, Japan*

10:00

AC-06. A Novel Crystalline Soft Magnetic Intermediate Layer for Perpendicular Recording Media. *S. Park^{1,2}, J. Zhu^{1,3} and D. Laughlin^{1,2}. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Electrical and Computer Engineering Department, Carnegie Mellon University, Pittsburgh, PA*

10:12

AC-07. Effects of non-uniform exchange and magnetostatic coupling constants on the determination of intrinsic switching field distributions. Y. Liu¹, K.A. Dahmen¹, O. Hovorka² and A. Berger^{2,1}. *Physics, University of Illinois at Urbana-Champaign, Urbana, IL; 2. CIC nanoGUNE Consolider, Donostia - San Sebastian, Spain*

10:24

AC-08. New patterned media recording scheme based on precessional reversal. B. Livshitz^{1,2}, H.N. Bertram^{2,3} and V. Lomakin^{1,2,1}. *ECE, UCSD, San Diego, CA; 2. CMRR, UCSD, San Diego, CA; 3. Hitachi San Jose Reseach Center, Hitachi GST, San Jose, CA*

10:36

AC-09. Magnetic Reversal of Exchange Spring Media with High and Low Moment Soft Layer. N. Supper¹, D. Margulies¹, Y. Ikeda¹ and K. Takano¹. *Hitachi Global Storage Technologies, San Jose, CA*

10:48

AC-10. Effects of exchange coupling between cap layer and oxide layer on the recording performance in perpendicular media. K. Zhang¹, G. Choe¹ and S. Duan¹. *Hitachi Global Storage Technologies, San Jose, CA*

11:00

AC-11. Role of Surface Domain Wall in Nucleation for composite media. S. Mukherjee¹ and L. Berger^{2,1}. *Seagate Research, Pittsburgh, PA; 2. Carnegie-Mellon University, Pittsburgh, PA*

11:12

AC-12. An approach to understand the effect of interlayer coupling in composite media using anomalous Hall effect measurement. S. Das¹, K. Tanahashi¹ and H. Suzuki¹. *Hitachi Central Research Laboratory, Odawara, Kanagawa, Japan*

11:24

AC-13. Switching behaviour of perpendicular magnetic recording media measured with polarized small-angle neutron scattering. S.J. Lister¹, M.P. Wismayer¹, V. Venkataramana¹, S.L. Lee¹, T. Thomson² and J. Kohlbrecher^{3,1}. *School of Physics & Astronomy, University of St. Andrews, St. Andrews, Fife, United Kingdom; 2. School of Computer Science, University of Manchester, Manchester M13 9PL, United Kingdom; 3. Laboratory for Neutron Scattering, ETHZ & PSI, CH-5232 Villigen PSI, Switzerland*

11:36

AC-14. Switching volume change and recording performance correlation for weakly coupled exchange spring media. Y. Ikeda¹, G. Choe², K. Zhang² and K. Takano¹. *San Jose Research Center, Hitachi GST, San Jose, CA; 2. Media Development, Hitachi GST, San Jose, CA*

11:48

AC-15. Magnetization reversal of Exchange Coupled Composite media measured by XMCD. H. Hou¹, M. Lin¹, Y. Wu¹, R. Liao¹, C. Lai¹, H. Lin², F. Chang², C. Lee³ and R. Chen^{3,1}. *National Tsing Hua University, Hsing Chu, Taiwan; 2. National Synchrotron Radiation Research Center, Hsing Chu, Taiwan; 3. China Steel Corporation, Kao Hsiung, Taiwan*

TUESDAY
MORNING

9:00

SALON B

Session AD
MAGNETIC TUNNEL JUNCTION I
Guoxing Miao, Chair

9:00

AD-01. Three-dimensional atom probe studies of MgO-based magnetic tunnel junction structures optimized for read head application. (Invited) S. Pinitsoontorn¹, A. Cerezo², A.K. Petford-Long³, L. Folks⁴, M. Carey⁴ and D. Mauri^{5,1}. *Physics, Khon Kaen University, Khon Kaen, Thailand; 2. Materials, University of Oxford, Oxford, United Kingdom; 3. Argonne National Laboratory, Argonne, IL; 4. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA; 5. Hitachi Global Storage Technologies, San Jose, CA*

9:36

AD-02. Manipulating the crystallographic properties of Fe/MgO/Fe trilayers. H. Zhang¹, A. Morisako¹, H. Matsuoka¹ and X. Liu¹. *Department of Information Engineering, Shinshu University, Nagano, Japan*

9:48

AD-03. Correlation effects in the magnetoresistance of Fe/MgO/Fe tunnel junctions. S. Mirhosseini¹, K.K. Saha², A. Ernst¹, J. Henk¹ and P. Bruno^{3,1}. *Theory Department, Max-Planck-Institut für Mikrostrukturphysik, Halle (Saale), Germany; 2. Oak Ridge National Laboratory, Oak Ridge, TN; 3. Theory Group, European Synchrotron Radiation Facility, Grenoble, France*

10:00

AD-04. Experimental evidence of Interface Resonance States in Single Crystal Magnetic Tunnel Junctions. P. Zermatten¹, G. Gaudin¹, M. Miron¹, C. Tiusan², F. Greullet², M. Hehn² and A. Schuh^{1,1}. *SPINTEC, CNRS/CEA, Grenoble, France; 2. Laboratoire de Physique des Matériaux, UMR7556, CNRS, Nancy, France*

10:12

AD-05. Temperature dependence of Spin Transfer induced high frequency response of MgO based magnetic tunnel junctions. B. Georges¹, J. Grollier¹, V. Cros¹, A. Fert¹, A. Fukushima², H. Kubota², K. Yakushijin², S. Yuasa² and K. Ando^{2,1}. *Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

10:24

AD-06. Understanding spin tunneling in CoFeB alloys. *P.V. Paluskar*¹, J.J. Attema², G.A. de Wijs², R. Lavrijsen¹, M. Sicot¹, E. Snoeck⁴, S. Fiddy³, J.T. Kohlhepp¹, H.J. Swagten¹, R.A. de Groot² and B. Koopmans¹. *Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands; 2. ESM, Theoretical Physics, Radboud University Nijmegen, Nijmegen, Netherlands; 3. Station 7.1, Daresbury Labs, CCLRC, Daresbury, United Kingdom; 4. CEMES, CNRS, Toulouse, France*

10:36

AD-07. 75% inverse TMR at room temperature in Fe₄N/MgO/CoFeB-MTJs. *Y. Komazaki*¹, M. Tsunoda¹, S. Isogami¹ and M. Takahashi^{2,1}. *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

10:48

AD-08. New fabrication process for ultra-thin crystalline MgO barrier and resultant giant TMR with low RA in CoFeB/MgO/CoFeB MTJs. *S. Isogami*¹, M. Tsunoda¹, K. Komagaki², M. Sato³, K. Sunaga², Y. Uehara² and M. Takahashi⁴. *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Fujitsu Ltd., Nagano, Japan; 3. Fujitsu Laboratories Ltd., Nagano, Japan; 4. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

11:00

AD-09. Single-band tight-binding model for Fe-MgO-Fe magnetic tunnel junction devices. *T.Z. Raza*^{1,3} and H. Raza². *1. Electrical and Computer Engineering, Purdue University, West Lafayette, IN; 2. Electrical and Computer Engineering, Cornell University, Ithaca, NY; 3. NSF Network for Computational Nanotechnology, West Lafayette, IN*

11:12

AD-10. Annealing Time Dependence in MgO Based Magnetic Tunnel Junctions. *W. Wang*¹, C. Ni², X. Fan¹, P. Parsons¹, Q. Wen³, H. Zhang³ and J.Q. Xiao¹. *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Materials Science and Engineering, University of Delaware, Newark, DE; 3. School of Microelectronic and Solid-State Electronic, University of Electronic Science and Technology of China, Chengdu, China*

11:24

AD-11. Relationship between tunnel magnetoresistance and structural characteristic for CoFeB/MgO/CoFeB pseudo-spin-valves annealed at high temperature: A route to over 600% at room temperature. *H. Gan*¹, S. Ikeda¹, J. Hayakawa², K. Miura^{2,1}, H. Hasegawa^{1,2}, J. Park¹, H. Yamamoto², F. Matsukura¹ and H. Ohno¹. *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan*

11:36

AD-12. Study of Dielectric Breakdown Distributions in Magnetic Tunneling Junction with MgO Barrier. *T. Min*¹. *MagIC Technologies, Milpitas, CA*

11:48

AD-13. Pressure Sensor based on magnetic tunnel junctions. *D. Meyners*¹, T. von Hofe¹, M. Rühlig³, M. Vieth³, S. Schmitt² and E. Quandt¹. *1. Institute for Material Science, Christian-Albrechts University, Kiel, Germany; 2. Technology Development, Infineon Technologies AG, Munich, Germany; 3. CT MM 1, Siemens AG, Erlangen, Germany*

**TUESDAY
MORNING
9:00**

SALON D

Session AE SEMICONDUCTOR SPIN INJECTION

Michel de Jong, Chair

9:00

AE-01. Electrical injection, detection and modulation of spin currents in silicon using a lateral transport geometry. (Invited) *O. van 't Erve*¹, C. Awo-Affouda¹, G. Kioseoglou¹, A.T. Hanbicki¹, M. Holub¹, C.H. Li¹, P.E. Thompson¹ and B.T. Jonker¹. *Code 6361, Naval Research Laboratory, Washington, DC*

9:36

AE-02. High Spin Polarization at Heusler-alloy/silicon Interface. *K. Abe*¹, Y. Miura¹, Y. Shiozawa¹ and M. Shirai¹. *RIEC, Tohoku University, Sendai, Japan*

9:48

AE-03. Electrical Spin injection into Silicon: a comparison between Fe/Schottky and Fe/Al₂O₃ tunnel contacts. *A. Hanbicki*¹, G. Kioseoglou¹, O.M. van 't Erve¹, C.H. Li¹, P.E. Thompson¹, R. Goswami¹, G. Spanos¹ and B.T. Jonker¹. *Naval Research Laboratory, Washington, DC*

10:00

AE-04. Ferromagnetic Ksaki transistor as spin-injector into Silicon. *M. van Veenhuizen*¹ and J. Moodera². *1. physics, MIT, Cambridge, MA; 2. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA*

10:12

AE-05. Coherence and phase control of electrically injected spins using ultrafast current pulses. (Invited) *G. Guntherodt*^{1,2}, L. Schreiber^{1,3}, C. Schwark^{1,2}, J. Moritz^{1,2}, B. Beschoten^{1,2}, M. Lepsa^{2,4}, C. Adelman⁵ and C. Palmstrom⁵. *1. Physikal. Institut IIA, RWTH Aachen University, 52056 Aachen, Germany; 2. Virtual Institute for Spin Electronics (ViSel), Aachen - Jülich - Göttingen, Germany; 3. Kavli Institute of Nanoscience, Delft University of Technology, 2600 GA Delft, Netherlands; 4. Institute of Bio- and Nanosystems (IBN-1), Research Center Jülich GmbH, 52425 Jülich, Germany; 5. Department of Chemical Engineering and Material Science, University of Minnesota, Minneapolis, MN*

10:48

- AE-06. Electrical spin injection and detection through CoFeB/MgO electrodes in n-GaAs channel.** *T. Inokuchi¹, T. Marukame¹, M. Ishikawa¹, H. Sugiyama¹ and Y. Saito¹. Corporate R&D Center, Toshiba Corporation, Kawasaki, Japan*

11:00

- AE-07. Enhancement of the spin accumulation at the interface between a magnetic tunnel junction and a semiconductor.** *M. Tran¹, H. Jaffrès¹, C. Deranlot¹, J. George¹, A. Fert¹, A. Miard² and A. Lemaitre². 1. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 2. Laboratoire de Photonique et de Nanostructure, CNRS, Marcoussis, France*

11:12

- AE-08. Spin-dependent transport in Zinc-Blende MnAs nanoparticles / GaAs semiconductor hybrid structures.** *P. Nam Hai¹, B. Yu¹, S. Ohya^{1,2}, M. Tanaka^{1,2}, S.E. Barnes^{3,4} and S. Maekawa⁵. 1. Department of Electrical Engineering and Information Systems, The University of Tokyo, 7-3-1 Hongo, Bunkyo-Ku, Tokyo, Japan; 2. Japan Science and Technology Corporation, 4-1-8 Honcho, Kawaguchi, Saitama, Japan; 3. Physics Department, University of Miami, Coral Gables, FL; 4. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 5. Institute for Materials Research, Tohoku University, Sendai, Japan*

11:24

- AE-09. Robustness of spin polarization in graphene-based spin valves.** *M. Shiraishi^{1,2}, M. Ohishi¹, R. Nouchi¹, T. Nozaki¹, T. Shinjo¹ and Y. Suzuki¹. 1. Osaka University, Toyonaka, Osaka, Japan; 2. JST-PRESTO, Kawaguchi, Japan*

11:36

- AE-10. Correlation of microstructure and magnetotransport in organic semiconductor spin valve structures.** *Y. Liu¹, S.M. Weston², T. Lee³, J.M. Gorham⁴, H.D. Fairbrother⁴, H.E. Katz³, J.A. Borchers² and D.H. Reich¹. 1. Physics and Astronomy, The Johns Hopkins University, Baltimore, MD; 2. NIST Center for Neutron Research, Gaithersburg, MD; 3. Materials Science and Engineering, The Johns Hopkins University, Baltimore, MD; 4. Chemistry, The Johns Hopkins University, Baltimore, MD*

11:48

- AE-11. The origin of large magnetoresistance in rubrene-Co nanocomposites.** *D. Hatanaka¹, S. Tanabe¹, H. Kusai¹, R. Nouchi¹, T. Nozaki¹, T. Shinjo¹, Y. Suzuki¹ and M. Shiraishi^{1,2}. 1. Graduate School of Engineering Science, Osaka University, Toyonaka-shi, Osaka, Japan; 2. JST-PRESTO, Kawaguchi, Japan*

**TUESDAY
MORNING
9:00**

SALON E

Session AF

ULTRAFAST PROCESSES AND SWITCHING

Georg Woltersdorf, Chair

9:00

- AF-01. Ultrafast demagnetization induced by interlayer spin angular momentum transfer.** *G. Malinowski¹, F. Dalla Longa¹, J.H. Rietjens¹, P.V. Paluskar¹, R. Huijink¹, H.M. Swagten¹ and B. Koopmans¹. 1. Group Physics of Nanostructures Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

9:12

- AF-02. Ultrafast thermo-magnetic writing across ferrimagnetic compensation points.** *A. Tsukamoto^{1,2}, D. Stanciu³, A. Kimel³, F. Hansteen³, A. Kirilyuk³, A. Itoh¹ and T. Rasing³. 1. College of Science and Technology Nihon University, Funabashi, Chiba, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands*

9:24

- AF-03. Time-resolved and energy-dispersed spin manipulation in ferromagnets and clusters under influence of femtosecond laser pulses.** *G. Zhang¹, Y. Bai^{1,3}, T. Hartenstein², G. Lefkidis² and W. Hübner². 1. Department of Physics, Indiana State University, Terre Haute, IN; 2. Department of Physics and OPTIMAS Research Center, Kaiserslautern University of Technology, Kaiserslautern, Germany; 3. Center for Instruction, Research, and Technology, Indiana State University, Terre Haute, IN*

9:36

- AF-04. Nonlocal Ultrafast Magnetization Dynamics in the High Fluence Limit.** *B. Koopmans¹, F. Dalla Longa¹ and G. Malinowski¹. 1. Group Physics of Nanostructures Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

9:48

- AF-05. Two relaxation times model for ferromagnetic metals and half metals.** *M.G. Muenzenberg¹, G.M. Müller¹, J. Walowski¹, A. Gupta², A.V. Ramos³, K. Gehrke⁴, V. Moshnyaga⁴, K. Samwer⁴, J. Schmalhorst⁵, A. Thomas⁵, A. Hütten⁵, G. Reiss⁵, G.X. Miao^{6,2} and J.S. Moodera⁶. 1. IV. Phys. Institute, Goettingen University, Goettingen, Germany; 2. MINT Center, University of Alabama, Tuscaloosa, AL; 3. DSM/DRECAM/SPCSI, CEA Saclay, Gif-Sur-Yvette, France; 4. I. Phys. Institute, Goettingen University, Goettingen, France; 5. Department of Physics, University of Bielefeld, Bielefeld, Germany; 6. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA*

10:00

AF-06. Modification of the Electronic Structure of a Ferromagnet in Extreme Terahertz Fields. *S.J. Gamble*^{1,2}, M.H. Burkhardt^{3,2}, A. Kashuba⁴, R. Allenspach⁵, S. Parkin⁶, H.C. Siegmann¹ and J. Stöhr^{3,1}. *Pulse Center, Stanford Linear Accelerator Center, Menlo Park, CA; 2. Applied Physics, Stanford University, Stanford, CA; 3. Stanford Synchrotron Radiation Laboratory, Menlo Park, CA; 4. Bogolyubov Institute for Theoretical Physics, Kiev, Ukraine; 5. IBM Research, Zurich Research Laboratory, Ruschlikon, Switzerland; 6. IBM Almaden Research Center, San Jose, CA*

10:12

AF-07. Ultrafast Demagnetization and Transfer of Angular Momentum in Nickel. (Invited) *C. Stamm*¹, N. Pontius¹, T. Kachel¹, T. Quast¹, K. Hollack¹, M. Wietstruk¹, R. Mitzner^{1,2}, S. Khan^{1,3}, H.A. Dürr¹ and W. Eberhardt¹. *BESSY GmbH, Berlin, Germany; 2. Physikalisches Institut der Universität Münster, Münster, Germany; 3. Institut für Experimentalphysik, Universität Hamburg, Hamburg, Germany*

10:48

AF-08. Dynamic Switching of Single Domain and ECC Media Under AC Field at Microwave Frequency. *K. Gao*¹ and M. Benakli¹. *Research and Technology Development, Seagate Technology, Bloomington, MN*

11:00

AF-09. Noise enhanced stability in magnetic systems. *M. Trapanese*¹. *Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Università di Palermo, Palermo, Italy*

11:12

AF-10. Non-exponential magnetization thermal decay of a single-domain particle: numerical computations with dynamic Fokker-Planck equation. *K. Zhang*¹. *Hitachi Global Storage Technologies, San Jose, CA*

11:24

AF-11. Exact determination of nucleation fields and nucleation modes in 2-phased magnetic nano-systems. *G. Zhao*^{1,2}, H. Zhang¹ and Y. Feng². *State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 2. Department of Physics, National University of Singapore, Singapore, Singapore*

11:36

AF-12. Micromagnetic analysis of the switching field of CoCrPt-SiO₂ and CoPt-TiO₂ layers. *J. Lee*¹, *J. Fidler*¹, *D. Suess*¹, *T. Schrefl*³, *S. Park*⁴ and *K. Oh*². *Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Department of Materials Science and Engineering, Seoul National University, Seoul, South Korea; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 4. Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea*

TUESDAY
MORNING
9:00

400/402

**Session AG
SOFT MAGNETIC CRYSTALLINE ALLOYS**

Victorino Franco, Chair

9:00

AG-01. Controlled Oxidation of FeCo Magnetic Nanoparticles (MNPs) to Produce Faceted FeCo/ferrite Nanocomposites for RF Heating Applications. *K.N. Collier*^{1,2}, *K.J. Miller*¹, *Y. Qin*³, *D.E. Laughlin*¹ and *M.E. McHenry*^{1,2,1}. *Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:12

AG-02. Isothermal Oxidation Behaviors of FeCoV and FeCoVNb Alloys. *Z. Turgut*^{1,2}, *J.C. Horwath*², *M. Huang*^{1,2}, *J.E. Coate*² and *R.T. Fingers*^{2,1}. *UES Inc., Dayton, OH; 2. AFRL, Wright-Patterson AFB, OH*

9:24

AG-03. Fluoride Insulator Material of Iron Powder for Compacted Magnetic Core. *T. Imagawa*¹, *Y. Satsuu*¹ and *M. Komuro*¹. *Hitachi-ARL, Hitachi, Ibaraki, Japan*

9:36

AG-04. Effects of Si content on the magnetic properties of Fe-Si alloy powder cores. *P. Jang*¹, *B. Lee*¹ and *I. Jeong*^{2,1}. *Div. of Applied Science, Cheongju University, Cheongju, Chungcheongbuk-do, South Korea; 2. R&D Center, Changsung Corp., Incheon, South Korea*

9:48

AG-05. Powder Compacts of Nd₂Fe₁₇N_x exhibiting $\mu'' > 1$ at 1-18 GHz. *N. Imaoka*^{1,2}, *M. Tada*¹, *T. Nakagawa*¹ and *M. Abe*^{1,1}. *Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 2. Central R&D Laboratories, Asahi Kasei Corporation, Fuji, Shizuoka, Japan*

10:00

AG-06. The effect of boron addition on the atomic structure and magnetism of FeGaB thin films investigated by extended x-ray absorption fine structure. *A. Yang*¹, *J. Lou*¹, *C. Vittoria*¹, *N.X. Sun*¹ and *V.G. Harris*^{1,1}. *Center for Microwave Magnetic Materials and Integrated Circuits, Electrical and Computer Engineering, Northeastern University, Boston, MA*

10:12

AG-07. Magnetic entropy change and refrigerant capacity in GdFeAl compound. *Q. Dong*¹, *B. Shen*¹, *J. Chen*¹, *J. Shen*^{1,2}, *H. Zhang*¹ and *J. Sun*¹. *1. State Key Laboratory for Magnetism, Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China*

10:24

AG-08. Lift-Off Phenomenon in Magnetostriction of Electrical Steels. *T. Hilgert*¹, *L. Vandeveldel*¹ and *J. Melkebeek*¹. *1. Department of Electrical Energy, Systems and Automation, Ghent University, Gent, Oost-Vlaanderen, Belgium*

10:36

AG-09. Control of the number of {110} grains and magnetic induction in inhibitor-free 3% Si-Fe strips. *S. Kim*¹, *J. Soh*¹ and *N. Heo*¹. *1. Advanced Materials Research Group, Korea Electric Power Research Institute, Daejeon, CN, South Korea*

10:48

AG-10. Correlation between the Magnetostriction and the Loss in 3% Silicon-iron Grain-oriented Electrical Steel. *O. Kwon*¹, *K. Ha*¹, *J. Kim*¹ and *J. Kim*¹. *1. Technical Research Laboratories, Pohang, Gyeongbuk, South Korea*

11:00

AG-11. An equivalent stress for the influence of multiaxial stress on the magnetic behavior. *L. Daniel*¹ and *O. Hubert*². *1. Laboratoire de Génie Electrique de Paris (LGEPE), CNRS (UMR 8507); SUPELEC; Univ Paris-Sud; UPMC, Gif sur Yvette Cedex, France; 2. LMT-Cachan, ENS Cachan; CNRS; UPMC; PRES Universud Paris, Cachan Cedex, France*

11:12

AG-12. Magnetic Anisotropy induced by High energy ball milling of Fe₂MnAl. *V. Attappa*¹, *H. Bhargava*¹, *L. Nambakkat*¹ and *V. Kanipphoth*¹. *1. Department of Physics, Mohanlal Sukhadia University, Udaipur, Rajasthan, India*

11:24

AG-13. Calculation of Eddy-Current Loss in Multi-Layer Magnetic Films Considering Displacement Current. *D. Yao*¹ and *C.R. Sullivan*¹. *1. Thayer School of Engineering, Dartmouth College, Hanover, NH*

11:36

AG-14. Ru/FeCoB double layered film with high in-plane magnetic anisotropy field of 500 Oe. *K. Hirata*¹, *T. Matsuu*¹, *A. Hashimoto*¹ and *S. Nakagawa*¹. *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

11:48

AG-15. Magnetic stability of Fe-rich FeCu alloy with structural alteration of nucleated Cu phase: ab initio study. *H. Choi*¹ and *Y. Chung*¹. *1. Department of Material Science and Engineering, Hanyang University, Seoul, South Korea*

**TUESDAY
MORNING
9:00**

410

**Session AH
SUPERCONDUCTIVITY I**
Mark Laver, Chair

9:00

AH-01. Inelastic neutron scattering study of LaO_{0.9}F_{0.1}FeAs and PrO_{0.8}F_{0.2}FeAs. *W. Stein*¹, *F. Tang*¹, *A. Schneidewind*^{2,1}, *T. Unruh*², *G. Behr*³, *H. Klauss*¹ and *M. Loewenhaupt*¹. *1. IFF, TU-Dresden, Dresden, Germany; 2. FRM2, Garching, Germany; 3. IFW, Dresden, Germany*

9:12

AH-02. Synthesis of SmFeAsO by an easy and versatile route and its physical property characterization. *V. Awana*¹, *A. Vajpayee*¹, *M. Mudgel*¹, *A. Pal*¹, *R. Meena*¹ and *H. Kishan*¹. *1. NPL, New Delhi, Delhi, India*

9:24

AH-03. Superconducting gap of FeAs-based superconductor SmFeAsO_{0.85}F_{0.15}. *T. Chen*¹, *Z. Tesanovic*¹, *R. Liu*², *X. Chen*² and *C. Chien*¹. *1. Physics and Astronomy, the Johns Hopkins University, Baltimore, MD; 2. Hefei National Laboratory for Physical Science at Microscale and Department of Physics, University of Science and Technology of China, Hefei, Anhui, China*

9:36

AH-04. Spin Wave Scattering and Interface Magnetism in Superconducting-Ferromagnet-Superconducting Tunnel Junctions. *G.A. Alvarez*¹, *X. Wang*¹, *P. Germanas*¹ and *S. Dou*¹. *1. Institute of Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, NSW, Australia*

9:48

AH-05. Static Field Cooled Magnetization of a YBa₂Cu₃O₇ Film Evaluated by a Pr_{0.7}Ca_{0.3}MnO₃ Overlayer. *J. Sakai*¹. *1. LEMA, Université François Rabelais, Tours, France*

10:00

AH-06. Evidence for strong correlation between spin and charge dynamics in La₂Cu_{1-x}Li_xO₄. *E. Park*¹, *T. Park*^{1,2}, *J.L. Sarrao*² and *J.D. Thompson*². *1. Physics, Sungkyunkwan University, Suwon, South Korea; 2. Condensed Matter and Thermal Physics, Los Alamos National Laboratory, Los Alamos, NM*

10:12

- AH-07. Magnetic flux oscillations in partially irradiated $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ crystals.** *D. Barnes*¹, *M. Sinvani*¹, *A. Shaulov*¹, *C. Trautmann*², *T. Tamegai*³ and *Y. Yeshurun*¹. *Department of Physics, Bar-Ilan University, Ramat-Gan, Israel; 2. Gesellschaft für Schwerionenforschung (GSI), Darmstadt, Germany; 3. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*

10:24

- AH-08. Effect of rare earth doping on the superconducting properties of MgB_2 .** *G.D. Varma*¹, *N. Ojha*¹ and *H.K. Singh*². *1. Physics, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India; 2. Quantum Hall Resistance Standard & Superconducting Devices Group, National Physical Laboratory, New Delhi, New Delhi, India*

10:36

- AH-09. Towards MgB_2 Superconductor-based Electronics.** *M. Costache*¹, *B. Moeckly*² and *J. Moodera*¹. *1. MIT, Cambridge, MA; 2. Superconductor Technologies, Inc., Santa Barbara, CA*

10:48

- AH-10. Long-Range Proximity Effect in Nanowires Investigated by I-V Measurements.** *H. Liu*¹, *Z. Ye*¹, *W. Wu*¹ and *K. Rathnayaka*¹. *1. Physics, Texas A&M University, College Station, TX*

11:00

- AH-11. Vortex Pinning by Inhomogeneous Magnetic Field.** *I. Lyuksyutov*¹. *1. Department of Physics, Texas A&M University, College Station, TX*

11:12

- AH-12. Topological Confinement and Superconductivity.** *K.A. Al-Hassanieh*¹, *C.D. Batista*¹, *P. Sengupta*¹ and *A.E. Feiguin*^{2,3}. *1. Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM; 2. Department of Physics, The University of Maryland, College Park, MD; 3. Microsoft Project Q, The University of California, Santa Barbara, CA*

**TUESDAY
MORNING
8:00**

AUSTIN BALLROOM

Session AP

**CMR OXIDES I: BULK AND NANOPARTICLES
(POSTER SESSION)**

Bogdan Dabrowski, Chair

- AP-01. Paramagnetic spin dynamics in the non-homogeneous crystals of low-doped lanthanum manganites.** *M. Auslender*¹, *A.I. Shames*², *E. Rozenberg*², *G. Gorodetsky*² and *Y.M. Mukovskii*³. *1. Ben Gurion University, Beer Sheva, Israel; 2. Physics, Ben Gurion University, Beer Sheva, Israel; 3. Steel and Alloys Institute, Moscow, Russian Federation*

- AP-02. Investigation of Valence States of Transition-metal Ions in Ferromagnetic Double Perovskite $\text{La}_2\text{MnNiO}_6$ by Using Synchrotron Radiation.** *J. Kang*¹, *G. Kim*¹, *H.J. Lee*¹, *D.H. Kim*¹, *S. Kolesnik*², *B. Dabrowski*², *H. Lee*³, *J.Y. Kim*³, *J.E. Lee*⁴, *B.J. Kim*⁴ and *B.I. Min*⁴. *1. Physics, The Catholic University of Korea, Bucheon, South Korea; 2. Physics, Northern Illinois University, DeKalb, IL; 3. Pohang Accelerator Laboratory, POSTECH, Pohang, South Korea; 4. Physics, POSTECH, Pohang, South Korea*

- AP-03. Anomalous temperature dependence of the magnetization in $\text{La}_{0.84}\text{Sr}_{0.16}\text{MnO}_3$.** *M. Marysko*¹, *Z. Jirak*¹, *P. Novak*¹ and *M.M. Savosta*². *1. Institute of Physics, Praha, Czech Republic; 2. Donetsk Institute of Physics and Technics, Donetsk, Ukraine*

- AP-04. Positron annihilation spectroscopy and transport properties of double perovskite compounds $\text{Sr}_2\text{-xGdxFeMoO}_6$.** *X. Wu*¹, *Y. Hu*¹, *B. Qian*¹ and *Q. Lu*². *1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Physics, Henan Normal University, Xinxiang, China*

- AP-05. Magnetocaloric dependence of A-site cation-disordering in Y and Sr co-doped $\text{La}_2/3\text{Ca}_1/3\text{MnO}_3$ compounds.** *G. Liu*^{1,2}, *Q. Ji*¹, *B. Qian*¹, *H. Cai*¹, *X. Wu*¹ and *G. Luo*². *1. Physics, Nanjing University, Nanjing, China; 2. School of Materials Science and Engineering, Nanchang University, Nanchang, China*

- AP-06. Cr-doping Effect on the orbital fluctuation of heavily doped $\text{Nd}_{1-x}\text{Sr}_x\text{MnO}_3$ ($x \approx 0.625$).** *R. Tasaki*¹, *S. Fukushima*¹, *M. Akaki*¹, *D. Akahoshi*¹ and *H. Kuwahara*¹. *1. Physics, Sophia University, Tokyo, Japan*

- AP-07. Exchange bias in phase-separated ferromagnetic-nanodomain $\text{Pr}_5/8\text{Ca}_3/8\text{MnO}_3$ single crystal.** *G. Cao*¹, *J. Zhang*¹, *S. Cao*¹ and *X. Shen*¹. *1. Physics, Shanghai University, Shanghai, Shanghai, China*

- AP-08. Field Induced Magnetic Phase Transitions in $(\text{Sm}_{1-x}\text{Gd}_x)_{0.55}\text{Sr}_{0.45}\text{MnO}_3$.** *F.N. Bukhanko*¹, *V.I. Valkov*¹, *B.M. Todris*¹, *V.I. Kamenev*¹, *V.P. Dyakonov*¹, *S.V. Vasil'ev*¹, *E.A. Dvornikov*¹, *A.N. Magazinskiy*¹ and *Z.F. Kravchenko*¹. *1. Electronic Properties of Metals, Donetsk Phys. & Techn. Institute, NASU, Donetsk, Donetsk, Ukraine*

- AP-09. Effect of Local Jahn-Teller Distortions on Field-Induced Magnetic Phase Transitions in $(\text{Sm}_{1-x}\text{Gd}_x)_{0.55}\text{Sr}_{0.45}\text{MnO}_3$.** *F.N. Bukhanko*¹, *V.I. Valkov*¹, *B.M. Todris*¹, *V.I. Kamenev*¹, *V.P. Dyakonov*¹, *S.V. Vasil'ev*¹, *E.A. Dvornikov*¹, *A.N. Magazinskiy*¹ and *Z.F. Kravchenko*¹. *1. Electronic Properties of Metals, Donetsk Phys. & Techn. Institute, NASU, Donetsk, Donetsk, Ukraine*

- AP-10. Magnetic and transport properties of polycrystalline $\text{La}_{0.45}\text{Sr}_{0.55}\text{Mn}_{1-x}\text{Co}_x\text{O}_3$.** *Y. Ying*¹, *N. Dai*¹, *T. Eom*¹ and *Y. Lee*¹. *1. Physics, Quantum Photonic Science Research Center and BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul, South Korea*

AP-11. Synthesis and ESR studies of Bi_{0.55}Ca_{0.45}MnO₃ nanoparticles. J. Kurian¹ and R. Singh¹. *School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

AP-12. Magnetic properties of La_{0.67}Ca_{0.33}MnO₃ nanoplatelets. D. De^{1,2}, S. Ram², A. Banerjee³, A. Gupta³ and S.K. Roy¹. *1. MME, Indian Institute of Technology, Kharagpur, West Bengal, India; 2. MSC, Indian Institute of Technology, Kharagpur, West Bengal, India; 3. UGC-DAE Consortium for Scientific Research, Indore Centre, Indore, Madhya Pradesh, India*

**TUESDAY
MORNING
8:00**

AUSTIN BALLROOM

Session AQ

**RARE-EARTH TRANSITION METAL BORIDES I
(POSTER SESSION)**

Melania Marinescu, Chair

AQ-01. An *in-situ* neutron diffraction study of magnetic hardening in Fe₃B/Nd₂Fe₁₄B nanocomposite magnets induced by rapid thermal annealing. K. Suzuki¹, J.S. Garitaonandia², J.C. Shih¹, G.J. Cuello³, T. Shoji⁴, A. Kato⁴ and S. Tajima⁵. *1. Department of Materials Engineering, Monash University, Clayton, VIC, Australia; 2. Fisika Aplikatua II Saila, Euskal Herriko Unibertsitatea, Bilbao, Spain; 3. Institute Laue Langevin, Grenoble, France; 4. Advanced Material Engineering Div., Toyota Motor Corporation, Susono, Shizuoka, Japan; 5. Toyota Central R & D Laboratories Inc., Nagakute, Aichi, Japan*

AQ-02. Magnetic properties of NdFeB sintered magnet with Dy segregation. H. Suzuki¹, Y. Satsu¹ and M. Komuro¹. *Advanced Research Laboratory, Hitachi Ltd., Omika, Ibaraki, Japan*

AQ-03. Electrochemical corrosion behavior of Nd-Fe-B permanent magnets with modified microstructure. W. Liu¹, M. Yue¹, D. Zhang¹, J. Zhang¹ and X. Liu². *1. College of Material Science and Engineering, Beijing University of Technology, Beijing, China; 2. Center for the Physics of Materials and Department of Physics, McGill University, Montreal, QC, Canada*

AQ-04. Preparation, structural and magnetic properties of Nd-Fe-B-based nano-particles. M. Yue¹, Y. Wang¹, N. Poudyal¹, C. Rong¹ and J. Liu¹. *University of Texas at Arlington, Arlington, TX*

AQ-05. Microstructure and magnetic properties of multilayer Ta/[NdFeB/MoCu]n/Ta thin films. H. Chiriac¹, M. Grigoras¹, N. Lupu¹, M. Urse¹ and V. Buta¹. *MDM Department, National Institute of R&D for Technical Physics, Iasi, Romania*

AQ-06. Interfacial state and magnetic properties of Nd-Fe-B / Nd thin films. S. Sugimoto¹, M. Matsuura¹, R. Goto¹ and N. Tezuka¹. *Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan*

AQ-07. PLD-fabricated anisotropic Nd-Fe-B thick films with Ga additive. S. Tsutsumi¹, T. Yanai¹, M. Nakano¹, H. Fukunaga¹ and F. Yamashita². *1. Department of Electrical and Electronic Engineering, Nagasaki University, Nagasaki, Japan; 2. Rotary Component Basic Technology Development Division, Minebea Co, Sizuoka, Japan*

AQ-08. Magnetic properties and microstructure of multi-layered nanocomposite thick film-magnets prepared by PLD method. H. Fukunaga¹, K. Nakayama¹, Y. Sakai¹, M. Nakano¹, T. Yanai¹, M. Ishimaru², M. Itakura² and F. Yamashita³. *1. Dept. of Electrical Engineering and Electronics, Nagasaki University, Nagasaki, Japan; 2. Dept. of Applied Science for Electronics and Materials, Kyushu University, Kasuga, Fukuoka, Japan; 3. Rotary Component Basic Technology Development Division, Minebea Co., Ltd., Fukuroi, Shizuoka, Japan*

AQ-09. Exchange Interaction in Rapidly Solidified Nanocrystalline RE-(Fe/Co)-B Hard Magnetic Alloys. Z. Liu^{1,2}, D. Zeng² and H. Davies¹. *1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. School of Materials Science and Engineering, South China University of Technology, Guangzhou, China*

AQ-10. Magnetic Properties of Melt-Spun Nd-Fe-B-Nb Magnets. S. Kobayashi¹, T. Fukuzaki² and R. Tamura^{1,2}. *1. Department of Materials Science and Technology, Tokyo University of Science, Noda-shi, Chiba-ken, Japan; 2. Polyscale Technology Research Center, Tokyo University of Science, Noda-shi, Chiba-ken, Japan*

AQ-11. Easy axis orientation of Nd-Fe-B melt-spun magnets caused by hot-rolling. M. Takezawa¹, T. Mihara¹, Y. Morimoto¹, J. Yamasaki¹ and M. Yagi². *1. Dept. of Appl. Sci. for Integ. Syst. Engin., Kyushu Institute of Technology, Kitakyushu, Japan; 2. Energy Electronics Laboratory, Sojo University, Kumamoto, Japan*

AQ-12. High magnetic properties of nanocomposite ribbons made with Mischmetals-Fe-Ti-B alloys. H. Chang^{1,2}, C.H. Chen¹, C.W. Chang¹, C.C. Hsieh¹, Z.H. Guo¹ and W.C. Chang¹. *1. Department of Physics, National Chung Cheng University, Chia-Yi, 621, Taiwan; 2. Department of Physics, Tunghai University, Taichung, Taiwan*

AQ-13. Magnetic properties of Sn substituted Nd₂Fe₁₄B/Fe₃B nanocomposite. R. Madugundo¹ and S. Ram¹. *Materials Science Centre, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India*

**TUESDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session AR
SPIN TORQUE EFFECTS IN
NANOSTRUCTURES
(POSTER SESSION)**

Li Gao, Chair

AR-01. Spin Transfer Torque in Electrodeposited Co/Cu Multilayered Nanowire Arrays. L. Tan¹, X. Huang¹ and B.J. Stadler¹. *University of Minnesota, Minneapolis, MN*

- AR-02. Current driven magnetization reversal in microstructured spin valve with CIP configuration.** C. Kuo¹, C. Chao¹, J. Ou¹, L. Horng¹, T. Wu², M. Tsunoda³, M. Takahashi³ and J. Wu¹. *Physics, National Changhua University of Education, Changhua City, Taiwan; 2. Humanities and Sciences, National Yunlin University of Science and Technology, Yunliu City, Taiwan; 3. Electronic Engineering, Tohoku University, Sendai, Japan*
- AR-03. Current-Induced Flip-Flop of Magnetization in Magnetic Tunnel Junction with Perpendicular Magnetic Layers and Polarization-Enhancement Layers.** W. Kim¹, K. Lee² and T. Lee¹. *1. Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Korea University, Seoul, South Korea*
- AR-04. LLG study of the effect of pulse width on spin-transfer torque magnetization switching.** R. Sugano¹, M. Ichimura¹, S. Takahashi² and S. Maekawa². *1. Advanced Research Laboratory, Hitachi, Ltd., Kokubunji-shi, Tokyo, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*
- AR-05. Reduction of spin-transfer switching current in MgO-based magnetic tunnel junctions using Co-Fe-(Cr, V)-B free layer having low saturation magnetization.** H. Kubota¹, A. Fukushima¹, K. Yakushiji¹, S. Yuasa¹, K. Ando¹, M. Oogane², S. Yakata¹, Y. Ando² and T. Miyazaki³. *1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan; 3. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*
- AR-06. Spin transfer torque in magnetic tunnel junctions with synthetic ferrimagnetic free layer.** M. Ichimura¹, T. Hamada¹, H. Imamura², S. Takahashi³ and S. Maekawa³. *1. Advanced Res. Lab., Hitachi, Ltd., Tokyo, Japan; 2. AIST, Tsukuba, Japan; 3. IMR, Tohoku Univ., Sendai, Japan*
- AR-07. Sweep-rate dependence of current-driven dynamics in magnetic nanopillars.** B. O'Gorman¹, S. Dietze¹ and M. Tsoi¹. *University of Texas at Austin, Austin, TX*
- AR-08. Non-stationary signal processing of multiple oscillatory modes excited by spin-polarized current in nanoscale exchange-bias spin valves.** G. Siracusano¹, G. Finocchio¹, I. Krivorotov², L. Torres³, G. Consolo¹ and B. Azzerboni¹. *1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Department of Physics and Astronomy, University of California, Irvine, CA; 3. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*
- AR-09. Reduction in critical current of current-induced switching in magnetostatic coupled pseudo spin valve nanopillars.** M. Wu¹, A. Aziz¹, M. Ali², M. Hickey² and M.G. Blamire¹. *1. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*
- AR-10. Spin Transfer Dynamics in Almost Symmetric Magnetic Nanopillars.** W.L. Lim¹, A.E. Higgins¹ and S. Urazhdin¹. *West Virginia University, Morgantown, WV*

- AR-11. Relationship between free layer structure and asymmetry of current-induced magnetization switching in magnetic tunnel junction.** Y. Lee¹, M. Kurasawa¹, C. Yoshida¹, M. Aoki¹ and Y. Sugiyama¹. *1. Fujitsu Laboratories Ltd., Atsugi, Japan*
- AR-12. Search for current-driven magnetoresistive effects in multilayers containing ferromagnetic and antiferromagnetic layers.** Z. Wei¹, A. Sharma², J. Bass² and M. Tsoi¹. *1. University of Texas at Austin, Austin, TX; 2. Michigan State University, East Lansing, MI*
- AR-13. Effect of polarized current on the exchange bias in a current-in-plane spin valve.** X. Tang¹, H. Zhang¹, H. Su¹, Y. Jing¹, Z. Zhong¹ and J. Sheng². *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, Chengdu, Sichuan, China; 2. Department of Physics and Astronomy, Newark, DE*
- AR-14. Current—perpendicular-to-plane magnetoresistance of a domain wall confined in a nano-oxide-layer.** J. Sato¹, K. Matsushita¹ and H. Imamura¹. *1. Nanotechnology Research Institute (NRI), Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*
- AR-15. Effect of disorder on the bias dependence of spin torque in Magnetic Tunnel Junctions.** Y. Tang¹, A. Kalitsov² and N. Kioussis¹. *1. Department of Physics, California State University, Northridge, Northridge, CA; 2. Institut Neel, Grenoble, France*
- AR-16. Spin induced excitations in coupled magnetic layers.** D. Gusakova^{1,2}, D. Houssameddine¹, U. Ebels¹, M. Cyrille², B. Delaët², B. Dieny¹ and L. Buda-Prejbeanu^{1,3}. *1. CEA-INAC/CNRS/UJF/INPG, SPINTEC, Grenoble, France; 2. CEA-LETI-MINATEC, Grenoble, France; 3. Institut Polytechnique de Grenoble, Grenoble, France*
- AR-17. Micromagnetic computation of interface conductance of spin-transfer driven ferromagnetic resonance in nanopillar spin valves.** M. Carpentieri¹ and L. Torres². *1. Elettronica, Informatica e Sistemistica, University of Calabria, Arcavacata di Rende, Cosenza, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Salamanca, Spain*

TUESDAY

AUSTIN BALLROOM

MORNING

8:00

Session AS

SPIN TORQUE AND OTHER EXCITATIONS IN MAGNETIC NANOSTRUCTURES (POSTER SESSION)

Maxim Tsoi, Chair

- AS-01. Modeling stability phase diagrams in spin-valves with perpendicular anisotropy Co/Ni layers.** A.M. Deac^{1,2}, W.H. Rippard¹, J.M. Shaw¹, R. Heindl¹ and M. Schneider^{3,1}. *1. Electromagnetics Division, National Institute of Standards and Technology (NIST), Boulder, CO; 2. Institut fuer Festkoerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany; 3. Department of Physics, University of Montana, Missoula, MT*

- AS-02. Current-Induced Magnetic Excitation of Synthetic Antiferromagnet.** S. Lee¹ and K. Lee¹. *Dept. of Mater. Sci. & Eng., Korea University, Seoul, South Korea*
- AS-03. Temperature dependence of spin-torque point contacts with perpendicular free layers.** M.L. Schneider¹, W.H. Rippard², A.M. Deac² and J.M. Shaw². *1. Physics and Astronomy, University of Montana, Missoula, MT; 2. Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO*
- AS-04. Mode excitation by AC spin torque for point contacts with in-and out of plane magnetizations.** M.R. Puffall^{1,2}, W.H. Rippard², M.L. Schneider³ and J. Shaw². *1. Dept. of Physics, University of Denver, Denver, CO; 2. Electromagnetics Division, NIST, Boulder, CO; 3. Dept. of Physics, University of Montana, Missoula, MT*
- AS-05. Analytical and Numerical Modeling of Nonlinear Spin-Transfer Frequency Modulators.** G. Consolo¹, V. Puliafito¹, G. Finocchio¹, L. Lopez-Diaz² and B. Azzèrboni¹. *Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Departamento de Física Aplicada, University of Salamanca, Salamanca, Spain*
- AS-06. Precession modes excited by spin-transfer in a pinned synthetic antiferromagnetic layer.** A.M. Deac^{1,3}, T.J. Silva¹, W.H. Rippard¹, J.A. Katine², M.J. Carey² and M. Schneider⁴. *1. Electromagnetics Division, National Institute of Standards and Technology (NIST), Boulder, CO; 2. Hitachi San Jose Research Center, San Jose, CA; 3. Institut fuer Festkoerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany; 4. Department of Physics, University of Montana, Missoula, MT*
- AS-07. Spin Torque based Magnetic Content Addressable Memory.** W. Wang¹ and Z. Jiang¹. *Electrical Engineering, University of Wisconsin - Milwaukee, Milwaukee, WI*
- AS-08. Magnetic Coupled Spin-torque Devices and 400MHz Ring Oscillator Design.** L. Leem¹ and J.S. Harris¹. *Electrical Engineering, Stanford University, Stanford, CA*
- AS-09. Spin torque transfer operated spintronic logic circuit.** X. Yao¹, Y. Zhang¹, X. Wang¹ and J.P. Wang¹. *MINT Center, ECE Department, Univ. of Minnesota, Minneapolis, MN*
- AS-10. Detection of current-induced resonance of magnetic vortices using tunnel magneto-resistance.** T. Nozaki¹, H. Kubota², S. Yuasa², M. Shiraishi¹, T. Shinjo¹ and Y. Suzuki¹. *1. Materials Engineering Science, Osaka University, Osaka, Japan; 2. National Institute of Advanced Industrial Science and Technology(AIST), Tsukuba, Japan*
- AS-11. Spin-polarized current stimulation of 100 nm dual vortex Co/Cu/Py spin valve nanopillars.** A. Lyle^{1,2}, Y. Hong^{1,2}, B.C. Choi³, G.S. Abo^{1,2}, H. Han^{1,2}, J. Jalli^{1,2}, S. Bae^{1,2}, J. Lee^{1,2}, P. LeClaire¹, R. Syslo², G.W. Donohoe⁴ and S. Gee⁵. *1. MINT Center, University of Alabama, Tuscaloosa, AL; 2. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 3. Physics and Astronomy, University of Victoria, Victoria, BC, Canada; 4. Electrical and Computer Engineering, University of Idaho, Moscow, ID; 5. Seagate Technology, Bloomington, MN*

- AS-12. Domain wall motion under spatially varying non-uniform transverse magnetic field for field driven memory applications.** C. You¹. *Department of Physics, Inha University, Incheon, South Korea*
- AS-13. Domain wall depinning in half-ring series wires with varied linewidth.** K. Cheng^{1,2}, C. Yu¹, S. Lee¹, Y. Liou¹, Y. Yao³ and J. Huang². *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Materials Science and Engineering, National Tsing-Hua University, Hsinchu, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan*
- AS-14. Analysis of the domain wall resistance by magneto-transport in centipede-like structures consisting of different shape anisotropic Py wires.** T. Chung¹ and S. Hsu¹. *Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan*
- AS-15. In-situ observation of magnetic domain wall motion in magnetic nanowires by magneto-optical imaging.** Y. Miyamoto¹, K. Machida¹, N. Funabashi¹, N. Kawamura¹, K. Aoshima¹, K. Kuga¹ and N. Shimidzu¹. *Science & Technical Research Labs., NHK (Japan Broadcasting Corporation), Tokyo, Japan*
- AS-16. Current-Driven Domain Wall Motion in Co/Ni Wires with Perpendicular Magnetic Anisotropy.** H. Tanigawa¹, T. Koyama¹, N. Ohshima², S. Fukami², N. Ishiwata², S. Kasai¹ and T. Ono¹. *1. Graduate School of Science, Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 2. Device Platforms Research Laboratories, NEC Corporation, Sagami-hara, Kanagawa, Japan*

TUESDAY
MORNING
8:00

AUSTIN BALLROOM

Session AT
CMR OXIDES II: FILMS AND
HETEROSTRUCTURES
(POSTER SESSION)

Tiffany Santos, Chair

- AT-01. Strong photovoltaic effect at low temperature in La_{0.7}Sr_{0.3}MnO₃- δ /SrTiO₃-Nb heterojunction.** J. Shen^{1,2}, J. Gao¹, F. Hu³ and J. Sun³. *1. Department of Physics, The University of Hong Kong, Hong Kong, China; 2. Material Science and Engineering, Hebei University of Technology, Tianjin, China; 3. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*
- AT-02. Voltage control of magnetic and electrical properties of La_{0.7}Ca_{0.3}MnO₃/PMN-PT structures.** S. Zhigao^{1,2}, G. Ju¹, S. Yuping² and S. Wenhai². *1. Department of Physics, The University of Hong Kong, Hong Kong, China; 2. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Science, Hefei, China*

- AT-03. Magneto-transport properties of c-axis oriented $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ thin films on MgO-buffered SiO_2/Si substrates.** Y. Kang¹, G. Shin¹, S. Lee¹, D. Yoo¹, A. Ulyanov¹ and S. Yoo¹. *Materials Science and Engineering, Seoul National University, Seoul, South Korea*
- AT-04. Anomalous behaviors of the MnO6 octahedron in perovskite colossal magnetoresistance material under strain effect.** C. Wu¹ and H. Chou¹. *National Sun Yat-sen University, Kaohsiung, Taiwan*
- AT-05. Phase separation induced by cation disorder and strain in $(\text{La},\text{Y})_2/3(\text{Sr},\text{Ca})_1/3\text{MnO}_3$ films.** H. Cai¹, X. Wu¹, B. Qian¹, Z. Wang¹, X. Lu¹ and J. Gao². *1. Physics, Nanjing University, Nanjing, China; 2. Physics, The University of Hong Kong, Hong Kong, China*
- AT-06. Scanning Tunneling Microscopy and Spectroscopy (STM/STS) studies of annealing effects in colossal magnetoresistance (CMR) manganite films.** A. Rana¹, K. Bogle², R. Kale¹ and S. Ogale². *1. Nanotechnology Lab, Defence Institute of Advanced Technology (Deemed University), Pune, Maharashtra, India; 2. Physical and Materials Chemistry Division, National Chemical Laboratory (NCL), Pune, Maharashtra, India*
- AT-07. Electronic and Magnetic Reconstructions at the Interface between Ferromagnetic and Nonmagnetic Oxides.** J. Park¹, D.R. Lee², Y. Choi³, J.W. Freeland³, K. Lee¹, S.K. Sihna^{4,5} and A.M. Goldman⁶. *1. Department of Physics, Pohang University of Science and Technology, Pohang, Gyeongbuk, South Korea; 2. Pohang Accelerator Laboratory, Pohang, Gyeongbuk, South Korea; 3. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 4. Department of Physics, University of California, San Diego, CA; 5. Los Alamos National Laboratory, Los Alamos, NM; 6. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN*
- AT-08. Thickness dependent weak ferromagnetism and insulator metal transition in $\text{Nd}_{0.37}\text{Sr}_{0.63}\text{MnO}_3$ thin films.** R. Prasad¹, P.K. Siwach¹, M.P. Singh³, P. Fournier³, A. Kaur² and H.K. Singh¹. *1. QHRS and Superconducting Devices Group, National Physical Laboratory, New Delhi, India; 2. Department of Physics and Astrophysics, University of Delhi, Delhi-110007, India; 3. Département de Physique, Université de Sherbrooke, Sherbrooke-J1K 2R1, QC, Canada*
- AT-09. X-ray Photoemission study in $\text{Re}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ epitaxial thin films.** T. Hsu¹, A. Mani², C. Chuang^{3,4}, C. Chen⁴, M. Lin^{3,5} and J. Lin¹. *1. Center for Condensed Sciences, National Taiwan University, Taipei, Taiwan; 2. Materials Science Division, Indira Gandhi Centre for Atomic Research, Kalpakkam, India; 3. Department of Physics, National Taiwan University, Taipei, Taiwan; 4. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 5. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan*

- AT-10. Magnetic and transport properties of epitaxial $\text{La}_{0.47}\text{Ce}_{0.20}\text{Ca}_{0.33}\text{MnO}_{3-6}$ films.** W.J. Ren¹, J.L. Yang¹, Y.Q. Zhang¹, D. Li¹, Z.H. Wang¹, X.G. Zhao¹ and Z.D. Zhang¹. *Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*
- AT-11. Anisotropic magnetoresistance and planar Hall effect in epitaxial films of $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$.** N. Naftalis¹, Y. Bason¹, J. Hoffman², C. Ahn² and L. Klein¹. *1. Physics, Bar-Ilan University, Ramat Gan, Israel; 2. Applied Physics, Yale University, New-Haven, CT*

TUESDAY
MORNING
8:00

AUSTIN BALLROOM

Session AU
MAGNETIC MICROSCOPY AND IMAGING I
(POSTER SESSION)
Mihaela Tanase, Chair

- AU-01. Structure and charge ordering behavior of the colossal magnetoresistive manganite $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$.** Z. Luo¹, D.J. Miller² and J.F. Mitchell². *1. Microscopy and Imaging Center, Texas A&M University, College Station, TX; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL*
- AU-02. High-resolution transmission electron microscopy and bulk magnetometry study of $\text{LaFe}_{11.5}\text{Si}_{1.5}$ compound.** J. Zou^{1,2}, B. Shen² and W. Li¹. *1. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*
- AU-03. Surface magnetic structure of epitaxial magnetite thin films grown on $\text{MgO}(001)$.** E. Kaji¹, A. Subagyo¹ and K. Sueoka¹. *Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Japan*
- AU-04. X-rays and Magnetism – A Perfect Match.** H. Ohldag¹, Y.M. Acremann², E. Arenholz³, A. Scholl³ and J. Stohr¹. *1. SSRL, SLAC, Menlo Park, CA; 2. PULSE, SLAC, Menlo Park, CA; 3. ALS, LBNL, Berkeley, CA*
- AU-05. Instrumentation for the investigation of switching field distribution on permalloy ($\text{Ni}_{81}\text{Fe}_{19}$) nanoscale structures.** J.R. Bates¹, C.V. Cojocaru¹, Y. Miyahara¹ and P. Grütter¹. *Physics, McGill University, Montreal, QC, Canada*
- AU-06. Setup of a new Brillouin light scattering apparatus with submicrometric lateral resolution and application to the study of localised spin waves in nanomagnets.** G. Gubbiotti¹, M. Madami¹, S. Tacchi¹, G. Carlotti¹, G. Capuzzo² and P. Vavassori^{2,3}. *1. Dipartimento di Fisica, University of Perugia, Perugia, Italy; 2. Dipartimento di Fisica, University of Ferrara, Ferrara, Italy; 3. CIC nanoGUNE Consolider, San Sebastian, Spain*

AU-07. Development and Testing of our In-situ Torque Apparatus for Magnetic Force Microscopy Measurements Comparing Solid and Hollow Torque Transducer Response for High Alloy Stainless Steel. C.L. Milby¹ and D.S. Boley¹. *Physics, Western Illinois University, Macomb, IL*

AU-08. High-resolution and High-coercivity FePt L10 Magnetic Force Microscopy Nanoprobes to Study Next-generation Magnetic Recording Media. N. Amos¹, A. Lavrenov¹, R. Fernandez¹, R. Ikkawi¹, D. Litvinov² and S. Khizroev¹. *Electrical Engineering, University of California-Riverside, Riverside, CA; 2. Center for Nanomagnetic Systems, University of Houston, Houston, TX*

AU-09. Heat-assisted high speed MOSLM with rare earth-transition metal in broadband wavelength. J. Heo¹, J. Kim¹, T. Miyazawa¹ and M. Inoue¹. *Toyohashi University of Technology, Toyohashi, Aichi, Japan*

**TUESDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session AV
FERRITES, GARNETS I
(POSTER SESSION)
Pavol Kabos, Chair**

AV-01. Magnetic and structural properties of Co_{0.8}MnxFe_{2.2-x}O₄ (x=0.2, 0.4, 0.6, 0.8) polycrystalline powders synthesized by sol-gel process. Z. Lu¹, Z. Li¹ and Y. Li¹. *Hebei University of Technology, Tianjin, China*

AV-02. Structural and Magnetic Properties of Electrospun Nickel Zinc Ferrite Nanofiber. J. Nam¹, Y. Joo¹, J. Cho¹, M. Chun¹ and B. Kim¹. *Advanced Materials & Components Laboratory, Korea Institute of Ceramic Engineering and Technology, Seoul, South Korea*

AV-03. Synthesis of thin ferrite films for RF applications by metal organic decomposition. V.V. Zagorodnii^{1,2}, A.J. Hutchison¹ and Z.J. Celinski¹. *Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. On leave from National Taras Shevchenko University, Kyiv, Ukraine*

AV-04. Frequency-dependent Complex Permittivity and Permeability of Iron-based Powders in 2-18 GHz. R. Yang¹, S. Hsu¹ and C. Lin¹. *Dept. of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Dept. of Materials Science and Engineering, Feng Chia University, Taichung, Taiwan*

AV-05. The effect of proton irradiation on magnetic properties of lithium ferrites. S. Hyun¹, T. Kouh¹, S. Kim¹ and C. Kim¹. *Department of Physics, Kookmin University, Seoul, South Korea*

AV-06. Room temperature ferromagnetic ordering in indium substituted nano nickel zinc ferrite. S. Thakur¹, S.C. Katyal¹, M. Singh², A.K. Gupta³ and V.R. Reddy³. *Physics, JUIT, Solan, Himachal Pradesh, India; 2. Physics, H.P. University, Shimla, Himachal Pradesh, India; 3. UGC-DAE Consortium, University, Indore, Madhya Pradesh, India*

AV-07. Microwave-Induced Combustion Synthesis of Li_{0.5}Fe_{2.5-x}MgxO₄ Powder and Their Characterization. Y. Fu¹ and C. Lin². *Department of Materials Science and Engineering, National Dong-Hwa University, Hualien, Taiwan; 2. Department of Graduate School of Optomechatronic and Materials, Wu-Feng Institute of Technology, Chiayi, Taiwan*

AV-08. Faceting and magnetic response of Mn_{3-x}Mg_xO₄ (x=0 and 0.6) thin films grown on MgO(001) and (011) by molecular beam epitaxy. Y. Tseng¹, K. Kuo¹ and G. Chern¹. *SPIN Research Center and Physics Department, National Chung Cheng University, Chia-Yi, Taiwan*

AV-09. Resonantly enhanced stripe-line technique to measure microwave permeability of thin films. S.N. Starostenko¹, K.N. Rozanov¹ and A.V. Osipov¹. *ITAE (former SCAPE), Moscow, Russian Federation*

AV-10. Permeability calculation in composite media with low filler concentration: A new method based on effective media theory (EMT). J. Jiang¹, L. Zhen¹, X. Wei¹, Y. Gong¹, W. Shao¹ and C. Xu¹. *School of Materials Science and Engineering, Harbin Institute of Technology, Harbin, China*

AV-11. Magnetic and optical properties of RF- sputtered zinc ferrite thin films. M. Sultan¹ and R. Singh¹. *School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

AV-12. FEM Analysis on Power Loss Mechanism of Fe₅₅Al₁₈O₂₇ Thin Films for Conduction Noise through Microstrip Line. G. Ryu¹ and S. Kim¹. *Department of Materials Engineering, Chungbuk National University, Cheongju, South Korea*

AV-13. Ab-initio study on manganese substituted barium M-type hexaferrite. X. Zuo¹, A. Geiler², A. Yang², C. Vittoria² and V.G. Harris². *College of Information Technical Science, Nankai University, Tianjin, China; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA*

AV-14. Superparamagnetic polymer nanocomposites for microwave applications. M.J. Miner¹, S. Skidmore², T. Weller² and H. Srikanth¹. *Department of Physics, University of South Florida, Tampa, FL; 2. Electrical Engineering, University of South Florida, Tampa, FL*

AV-15. Low loss Z-type Barium ferrite (CoZ) for T-DMB antenna application. S. Bae¹, Y. Hong¹, J. Lee¹, J. Jalli¹, G.S. Abo¹, A. Lyle¹, W. Seong² and J. Keum². *MINT Center and Department of Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 2. E.M.W. Antenna Co., Ltd., Seoul, South Korea*

- AV-16. Bounds on the dynamic magnetic properties of multiresonant composites in exchange resonance model.** *P. Zhou¹ and L. Deng¹. School of Microelectronics and Solidstate Electronics, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

**TUESDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session AW
NEW APPLICATIONS
(POSTER SESSION)**

Peter Mach, Chair

- AW-01. High Performance Induction Heating of FeCo Nanoparticles for the RF Curing of Epoxy Composites.** *K.J. Miller¹, H.B. Soll-Morris¹, K.N. Collier^{1,2}, R. Swaminathan³ and M.E. McHenry^{1,4}. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Intel Corporation, Chandler, AZ; 4. Physics, Carnegie Mellon University, Pittsburgh, PA*
- AW-02. Magnetorheological Carbonyl Iron Particles Doubly Wrapped with Polymer and Carbon Nanotube.** *S. Ko¹, J. Lim¹, B. Park¹ and H. Choi¹. Department of Polymer Science and Engineering, Inha University, Incheon, South Korea*
- AW-03. Magnetic field driven nanowire rotation in suspensions.** *L. Sun¹, K. Keshoju¹ and H. Xing¹. Mechanical Engineering, University of Houston, Houston, TX*
- AW-04. Sagnac Interferometric Switch Utilizing Faraday Rotation.** *S. Kemmet¹, M. Mina¹ and R.J. Weber¹. Electrical and Computer Engineering, Iowa State University, Ames, IA*
- AW-05. Minimum Inductance Coils for Magneto-Optic Switching.** *J. Tioh¹, M. Mina¹ and R.J. Weber¹. Electrical and Computer Engineering, Iowa State University, Ames, IA*
- AW-06. Development of new magnetic circuit for slim microspeakers.** *C. Lee¹, J. Kwon¹ and S. Hwang¹. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea*
- AW-07. FeCoCrV alloy by the powder metallurgy route.** *J. Leicht¹, D. Rodrigues¹, N.A. Castro¹, F.G. Landgra² and V.C. Ferrao Jr³. Metallurgy, IPT, Sao Paulo, Sao Paulo, Brazil; 2. Metallurgy, EPUSP, Sao Paulo, Sao Paulo, Brazil; 3. THEMA, Jandira, Sao Paulo, Brazil*
- AW-08. Study of electromagnetic wave absorption characteristics and component parameters of laminating-type magnetic wood with stainless steel and ferrite powder for use as building materials.** *H. Oka¹, K. Tanaka¹, K. Kubota¹, H. Osada¹ and F.P. Dawson². Electric & Electronic Engineering, Iwate University, Morioka, Japan; 2. Electrical & Computer Engineering, University of Toronto, Toronto, ON, Canada*

- AW-09. Magnetic field amplifier using high-T_c bulk superconductor.** *S. Choi¹, S. Matsumoto¹ and T. Kiyoshi¹. Magnet development group, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

**TUESDAY
AFTERNOON
2:00**

SALON C

**Session BA
SYMPOSIUM ON SPIN TRANSPORT AND
SINGLE SPIN MANIPULATION**

Nitin Samarth, Chair

2:00

- BA-01. Manipulating Single Spins and Coherence in Diamond.** *(Invited) R. Hanson^{1,3}, V.V. Dobrovitski², A.E. Feiguin¹ and D.D. Awschalom¹. California NanoSystems Institute, University of California, Santa Barbara, CA; 2. Ames Laboratory and Iowa State University, Ames, IA; 3. Kavli Institute of Nanoscience, Delft, Netherlands*

2:36

- BA-02. Control of electron and hole spins in self-assembled InGaAs quantum dots.** *(Invited) G. Abstreiter¹, J.J. Finley¹, D. Heiss¹ and V. Jovanov¹. Walter Schottky Institut, TUM, Garching, Germany*

3:12

- BA-03. Electrical control of single spins in semiconductor nanostructures.** *(Invited) M.E. Flatté^{1,2}, J. Pingenot^{1,2}, J. Tang^{1,2}, J. Levy³, A. De^{1,2} and C.E. Pryor^{1,2}. Physics and Astronomy, University of Iowa, Iowa City, IA; 2. Optical Science and Technology Center, University of Iowa, Iowa City, IA; 3. Physics and Astronomy, University of Pittsburgh, Pittsburgh, PA*

3:48

- BA-04. Electrically tunable spin polarization in a carbon-nanotube spin diode.** *(Invited) C.A. Merchant¹ and N. Markovic¹. Physics and Astronomy, Johns Hopkins University, Baltimore, MD*

4:24

- BA-05. Coupling of Spin and Orbital Motion of Electrons in Carbon Nanotubes.** *(Invited) F. Kuemmeth^{1,2}, S. Ilani^{3,2}, D.C. Ralph² and P.L. McEuen². Department of Physics, Harvard University, Cambridge, MA; 2. Department of Physics, Cornell University, Ithaca, NY; 3. Department of Condensed Matter Physics, Weizmann Institute of Science, Rehovot, Israel*

TUESDAY
AFTERNOON
2:00

SALON G

Session BB
DOMAIN WALL MOTION
Vitali Metlushko, Chair

2:00

BB-01. The four distinct dynamic modes in the field-driven domain wall motions in soft ferromagnetic nanowires. *J. Yang¹, G.S. Beach¹ and J.L. Erskine¹. Department of Physics, The University of Texas at Austin, Austin, TX*

2:12

BB-02. Effect of anisotropy constant distribution on domain wall motion. *S. Lee¹, Y. Cho¹, U. Pi¹, J. Bae¹ and S. Seo¹. SDL, SAIT, Youngin-si, Gyunggi-do, South Korea*

2:24

BB-03. Motion of a vortex domain wall in a rough magnetic nanowire. *P. Mellado¹, D. Clarke¹ and O. Tchernyshyov¹. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD*

2:36

BB-04. Current and Field Induced Domain-Wall Depinning in Curved Permalloy Nanowires. *G. Nahrwold¹, L. Bocklage¹, T. Matsuyama¹, B. Krüger², J.M. Scholtyssek¹, U. Merkt¹ and G. Meier¹. 1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. I. Institute for Theoretical Physics, University of Hamburg, Hamburg, Germany*

2:48

BB-05. Thermal stability of domain wall memory. *S. Bance¹, T. Schrefl¹, G. Hrkac¹, A. Goncharov¹, J. Dean¹, M. Bashir¹ and D.A. Allwood¹. Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

3:00

BB-06. Magnetic configurations and magnetization reversal in thin ferromagnetic rings. *G.D. Chaves-O'Flynn¹, A.D. Kent¹ and D.L. Stein¹. Physics, New York University, New York, NY*

3:12

BB-07. Experimental suppression of Walker breakdown in transverse domain wall motion. *E. Lewis¹, D. Petit¹, A.V. Jausovec¹, H.T. Zeng¹, D.E. Read¹, L.A. O'Brien¹, J. Sampaio¹ and R.P. Cowburn¹. Physics, Imperial College London, London, United Kingdom*

3:24

BB-08. Current-excited magnetic domain and domain walls motion in small magnetic field observed by means of Lorentz microscopy. *Y. Togawa¹, T. Kimura^{1,2}, K. Harada^{1,3}, T. Akashi^{3,4}, T. Matsuda³, A. Tonomura^{1,3} and Y. Otani^{1,2}. 1. Advanced Science Institute, Institute of Physical and Chemical Research (RIKEN), Wako, Saitama, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Advanced Research Laboratory, Hitachi, Ltd., Hatoyama, Japan; 4. Hitachi High-Technologies Co., Hitachinaka, Japan*

3:36

BB-09. Field- and Current-induced Domain Wall Motion in Permalloy Nanowires probed by single shot Kerr-microscopy. *P. Möhrke¹, T.A. Moore^{2,1}, M. Kläui¹, S. Krzyk¹, J. Rhensius^{3,1}, D. Backes^{3,1}, L.J. Heyderman³ and U. Rüdiger¹. 1. Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 2. SPINTEC, CEA Grenoble, Grenoble, France; 3. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland*

3:48

BB-10. Domain wall motion and spin structure transformations in Permalloy nanowires induced by current and field. *T.A. Moore^{1,2}, M. Kläui¹, P. Möhrke², L. Heyne², D. Backes^{2,3}, J. Rhensius^{2,3}, U. Rüdiger², L.J. Heyderman³ and J. Thiele⁴. 1. SPINTEC, Grenoble, France; 2. Fachbereich Physik, University of Konstanz, Konstanz, Germany; 3. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland; 4. Hitachi Global Storage Industries, San Jose, CA*

4:00

BB-11. Domain wall in ferromagnetic nanowires moving in a high applied field. *D. Clarke¹, G. Chern¹ and O. Tchernyshyov¹. Johns Hopkins University, Baltimore, MD*

4:12

BB-12. Magnetic domain wall velocity surge above Walker breakdown. *G. Beach¹, J. Yang¹, C. Knutson¹, M. Tsai¹ and J. Erskine¹. The University of Texas at Austin, Austin, TX*

4:24

BB-13. Controlling anti-vortices for fast domain wall motion in nanowires. *A. Kunz¹, S.C. Reiff¹, E.C. Breitbach¹ and A.J. Smith¹. I. Physics, Marquette University, Milwaukee, WI*

4:36

BB-14. Tuning the domain-wall velocity by a perpendicular magnetic field. *J. He¹ and S. Zhang¹. I. Department of Physics, University of Arizona, Tucson, AZ*

4:48

BB-15. Domain wall dynamics in the ferromagnetic semiconductor (Ga,Mn)As. *V. Jeudy^{1,2}, A. Dourlat¹, A. Lemaître³ and C. Gourdon¹. I. Institut des Nanosciences de Paris, Université Pierre et Marie Curie-Paris 6 and CNRS, Paris, France; 2. Université de Cergy-Pontoise, Cergy-Pontoise, France; 3. Laboratoire de Photonique et Nanostructures, CNRS, Marcoussis, France*

**TUESDAY
AFTERNOON
2:00**

SALON A

**Session BC
RECORDING HEADS I**

Adam Torabi, Chair

2:00

BC-01. "All-Heusler" alloy CPP-GMR read heads for narrow-track magnetic recording. *(Invited) K. Nikolaev¹, P. Kolbo¹, T. Pokhil¹, X. Peng¹, Y. Chen¹, T. Ambrose² and O. Mryasov². I. Seagate Technology, Bloomington, MN; 2. Seagate Technology, Pittsburgh, PA*

2:36

BC-02. Enhancement of CPP-GMR by using Co-Fe-Ge high-resistivity ferromagnetic material for a narrow-gap read head. *A. Jogo¹, K. Nagasaka¹, H. Oshima¹, Y. Shimizu¹, S. Eguchi¹ and A. Tanaka¹. I. Storage Systems Laboratories, Fujitsu Laboratories Ltd, Atsugi, Kanagawa, Japan*

2:48

BC-03. Enhancement of spin-torque critical currents in CPP-GMR spin-valves with synthetic-ferrimagnet free-layer. *N. Smith¹, M.J. Carey¹, S. Maat¹ and J.R. Childress¹. I. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

3:00

BC-04. Low noise dual free layer magneto-resistive sensor. *Y. Zhou¹. R&D, Headway Technology, Milpitas, CA*

3:12

BC-05. The MR origin of FeCo nanocontacts with CPP spin-valve structure. *(Invited) M. Takagishi¹, H.N. Fuke¹, S. Hashimoto¹, H. Iwasaki¹, S. Kawasaki², R. Shiozaki² and M. Sahashi². I. Corporate Research & Development Center, Toshiba Corporation, 1, Komukai Toshiba-cho, Saiwai-ku, Kawasaki 212-85, Japan; 2. Department of Electronic Engineering, Tohoku University, Aoba-yama 05, Sendai 980-8579, Japan*

3:48

BC-06. Effects of Pinning Defects on Current-Perpendicular-to-Plane Magnetic Recording Head. *L.L. Chen¹, F. Liu¹, K. Stoev¹, S. Li¹, M. Ho¹ and S. Mao¹. I. Western Digital Corp, Fremont, CA*

4:00

BC-07. Intrinsic asymmetry and angular dependence of the junction resistance for high TMR read sensors. *V.B. Sapozhnikov¹, K. Gao¹ and Y. Chen¹. I. Seagate Technology, Minneapolis, MN*

4:12

BC-08. Impact of Leading Edge Bevel on Perpendicular Writer Performance. *S. Song¹, L. Zhong¹, M. Ho¹, K. Stoev¹ and S. Mao¹. I. Magnetic Head Operations, Western Digital Corporation, Fremont, CA*

4:24

BC-09. Cross-track performance of wrap around shield writer with capped media beyond 500 Gb/in² recording. *S. Das¹, M. Sugiyama¹, A. Nakamura¹, H. Hoshiya¹ and K. Nakamoto¹. I. Hitachi Central Research Laboratory, Odawara, Kanagawa, Japan*

4:36

BC-10. Effect of Ion-beam Etching Damage in Fe-Co Tapered Main Pole. *Y. Ohsawa^{1,2}, K. Yamakawa² and H. Muraoka². I. CR&D center, Toshiba Corp., Kawasaki, Japan; 2. RIEC, Tohoku Univ, Sendai, Japan*

4:48

BC-11. Analysis of Writer Pole Remanence of a Tapered Main Pole Head. *M. Maeda*¹, *H. Kobayashi*², *J. Toda*¹, *Y. Sato*² and *S. Eguchi*¹. *1. Magnetic Device Laboratory, Fujitsu Laboratories Ltd., Atsugi, Kanagawa, Japan; 2. Autonomous System Laboratory, Fujitsu Laboratories Ltd., Atsugi, Kanagawa, Japan*

**TUESDAY
AFTERNOON
2:00**

SALON B

Session BD

ANISOTROPY IN MULTILAYERS AND SURFACES

Dario Arena, Chair

2:00

BD-01. Voltage induced large magnetic anisotropy change in ultrathin Fe/MgO/Polyimide/ITO junctions. (*Invited*) *T. Maruyama*¹, *K. Ohta*¹, *T. Nozaki*¹, *T. Shinjo*¹, *M. Shiraishi*¹, *S. Mizukami*², *Y. Ando*³ and *Y. Suzuki*¹. *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan; 2. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 3. Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

2:36

BD-02. 400-Fold Reduction in Saturation Field by Interlayering. *J. Bonevich*¹, *P. Pong*¹, *C. Beauchamp*¹, *G. Stafford*¹, *W.F. Egelhoff*¹, *J. Unguris*² and *R.D. McMichael*². *1. Metallurgy Division, NIST, Gaithersburg, MD; 2. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD*

2:48

BD-03. Ferromagnetic resonance study of ion irradiated Co/Ni multilayers with perpendicular magnetic anisotropy. *J.L. Beaujour*¹, *A.D. Kent*¹, *D. Ravelosona*², *E.E. Fullerton*³, *Y. Samson*⁴ and *C. Beigné*⁴. *1. Department of Physics, New York University, New York, NY; 2. Institut d'Electronique Fondamentale, UMR CNRS 8622, Université Paris Sud, Orsay, France; 3. Center for Magnetic Recording Research, University of California, San Diego, CA; 4. CEA Grenoble, DRFMC/SP2M, Grenoble, France*

3:00

BD-04. Magneto-optical measurement of spin dynamics in perpendicular anisotropy Co/Pd multilayers with varying Co layer thickness. *Z. Liu*¹, *H. Schmidt*¹, *O. Hellwig*² and *B. Terris*². *1. Electrical Engineering, University of California Santa Cruz, Santa Cruz, CA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

3:12

BD-05. Domain wall dynamics in a spin-reorientation transition system Au/Co/Au. *K.A. Seu*^{1,2}, *S. Roy*¹, *S. Park*³, *C.M. Falco*⁴ and *S.D. Kevan*². *1. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA; 2. Physics, University of Oregon, Eugene, OR; 3. Department of Physics, Pusan National University, Busan 609-735, South Korea; 4. College of Optical Sciences, University of Arizona, Tucson, AZ*

3:24

BD-06. Magnetic anisotropy and the cone state in Co/Pt multilayer films. *H. Stillrich*¹, *C. Menk*¹, *R. Frömter*¹ and *H. Oepen*¹. *Institut für Angewandte Physik, Universität Hamburg, Hamburg, Hamburg, Germany*

3:36

BD-07. Frustrated magnetization reversal in Co/Pt multilayers. *J.E. Davies*^{1,2}, *O. Hellwig*³, *E.E. Fullerton*^{3,4}, *M. Winklhofer*⁵, *R.D. Shull*¹ and *K. Liu*². *1. Metallurgy/Magnetic Materials, NIST, Gaithersburg, MD; 2. Physics Department, University of California, Davis, CA; 3. Hitachi Global Storage Technologies, San Jose, CA; 4. Center for Magnetic Recording, University of California, San Diego, CA; 5. Department of Geosciences, University of Munich, München, Germany*

3:48

BD-08. Design of Co/Pd multilayer system with antiferromagnetic-to-ferromagnetic phase transition. *J. Thiele*¹, *T. Hauet*² and *O. Hellwig*². *1. Research & Technology Development, Seagate Technology, Fremont, CA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

4:00

BD-09. Strain-modulated Transition Temperatures in Epitaxial Thin Films of FeRh. *J. Kim*¹, *P. Ryan*¹, *Y. Ding*², *D. Arena*², *L.H. Lewis*³, *C. Kinane*⁴, *B. Hickey*⁴, *C. Marrows*⁴ and *M. Ali*⁴. *1. μ -CAT Consortium, Advanced Photon Source, Argonne, IL; 2. National Synchrotron Light Source, Brookhaven National Lab, Upton, NY; 3. Dept. of Chemical Engineering, Northeastern University, Boston, MA; 4. School of Physics and Astronomy, University of Leeds, Leeds, Yorkshire, United Kingdom*

4:12

BD-10. Alternating out-of-plane and in-plane magnetization in (Rh/Fe_{1-x}Co_x)_N/Rh(001) multilayers. *F. Yildiz*¹, *M. Przybylski*¹ and *J. Kirschner*¹. *1. Experimental I, Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany*

4:24

- BD-11. Perpendicular magnetic anisotropy of ultrathin FeCo alloy films on Pd(001) surface: First principles study.** D. Kim¹ and J. Hong¹. *Physics, Pukyong National University, Busan, South Korea*

4:36

- BD-12. Role of spin-orbit coupling in spin-spiral structures in Fe monolayer on W(110): A first-principles noncollinear magnetism study.** K. Nakamura¹, T. Akiyama¹, T. Ito¹ and A.J. Freeman². *1. Physics Engineering, Mie University, Tsu, Mie, Japan; 2. Physics and Astronomy, Northwestern University, Evanston, IL*

4:48

- BD-13. Magnetic anisotropy of single 3d-spins on CuN surface.** A.B. Shick¹, F. Maca¹ and A.I. Lichtenstein². *1. CMT, Institute of Physics ASCR, Prague, Czech Republic; 2. University of Hamburg, Hamburg, Germany*

TUESDAY
AFTERNOON
2:00

SALON D

**Session BE
ITINERANT MAGNETISM AND ELECTRONIC
STRUCTURE**

Julian Velev, Chair

2:00

- BE-01. Quasiparticle self-consistent *GW* method applied to localized and itinerant magnets. (Invited)** M. van Schilfgaarde¹ and T. Kotani¹. *1. School of Materials, Arizona State University, Tempe, AZ*

2:36

- BE-02. Ferromagnetism in Transition metals.** C. Chaves¹ and A. Troper^{1,2}. *1. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, RJ, Brazil; 2. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, RJ, Brazil*

2:48

- BE-03. Spin wave dispersion in ferromagnetic Co and Ni.** J.M. Rejcek¹, N.G. Fazleev¹ and J.L. Fry¹. *1. Physics, University of Texas at Arlington, Arlington, TX*

3:00

- BE-04. Invar effect and non-collinear magnetism in CuFe alloys.** M. Eisenbach¹ and G. Stocks². *1. National Center for Computational Sciences, Oak Ridge National Lab, Oak Ridge, TN; 2. Material Sciences and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN*

3:12

- BE-05. Oscillatory magnetic exchange coupling at the atomic level: a direct real-space study by a subkelvin spin-polarized STM. (Invited)** L. Zhou¹, F. Meier¹, J. Wiebe¹ and R. Wiesendanger¹. *Institute of Applied Physics and Microstructure Research Center, University of Hamburg, Hamburg, Germany*

3:48

- BE-06. Femtosecond and sub-femtosecond magnetization dynamics in diluted ferromagnetic metals.** A. Tagliaferri¹, V. Bisogni² and N.B. Brookes². *1. Politecnico di Milano, Milano, Italy; 2. ESRF, Grenoble, France*

4:00

- BE-07. High energy photoemission spectroscopy as a tool for non-destructive depth profiling of Heusler compounds.** A. Gloskovskii¹, G.H. Fecher¹, S. Chadov¹, S. Ouardi¹, B. Balke¹, C.A. Jenkins¹, C. Felser¹, E. Ikenaga², S. Ueda³, K. Kobayashi³, M. Merten⁴, F. Schäfers⁴ and M. Gorgoi⁴. *1. Institut für Anorganische Chemie und Analytische Chemie, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 2. Japan Synchrotron Radiation Research Institute, SPring-8, Hyogo, Japan; 3. National Institute for Materials Science, SPring-8, Hyogo, Japan; 4. BESSY GmbH, Berlin, Germany*

4:12

- BE-08. Calculated Electronic and Magnetic Structure of Rutile Phase $V_{1-x}Cr_xO_2$** M.E. Williams², W.H. Butler¹, C.K. Mewes¹, H. Sims¹ and M. Chshiev¹. *1. MINT Center, University of Alabama, Tuscaloosa, AL; 2. Math and Computer Science, University of Maryland Eastern Shore, Princess Anne, MD*

4:24

- BE-09. Ferromagnetism in $LaCoO_3$ Epitaxial Thin Films.** V.V. Mehta^{1,2}, M. Liberati^{1,2}, F. Wong¹, R.V. Chopdekar^{1,3}, E. Arenholz⁴ and Y. Suzuki^{1,2}. *1. Department of Materials Science and Engineering, UC Berkeley, Berkeley, CA; 2. Material Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. School of Applied Physics, Cornell University, Ithaca, NY; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

TUESDAY
AFTERNOON
2:00

SALON E

Session BF
NONLINEAR DYNAMICS

Radik Lopusnik, Chair

2:00

BF-01. New Nonlinear Modes Excited by Spin-Polarized Current in Ferromagnetic Nano-Contacts. (Invited) *M. Hoefer*¹, T.J. Silva¹ and M.D. Stiles². *1. NIST, Boulder, Boulder, CO; 2. NIST, Gaithersburg, Gaithersburg, MD*

2:36

BF-02. Methods of nonlinear dynamics in the theory of spin-torque excitations. (Invited) *C. Serpico*¹, G. Bertotti², I.D. Mayergoyz³, M. d'Aquino⁴ and R. Bonin⁵. *1. Dept. of Electrical Engineering, University of Naples Federico II, Napoli, NA, Italy; 2. INRIM, Torino, TO, Italy; 3. Dept. of Electrical and Computer Eng. and UMIACS, University of Maryland, College Park, MD; 4. Dip. per le Tecnologie, Università di Napoli Parthenope, Napoli, NA, Italy; 5. Osservatorio Astronomico della Valle d'Aosta, Nus, Aosta, Italy*

3:12

BF-03. Influence of the Oersted field on the current-induced magnetization dynamics of nanodisks. *A. Kakay*¹, *R. Hertel*¹, *S. Gliga*¹, *R. Lehnndorff*¹, *D.E. Bürgler*¹ and *C.M. Schneider*¹. *Institute of Solid State Research, Julich Research Center, Julich, Germany*

3:24

BF-04. The Hamiltonian coefficients in nonlinear spin wave dynamics. *P. Krivosik*^{1,2} and *C.E. Patton*¹. *1. Colorado State University, Fort Collins, CO; 2. Slovak University of Technology, Bratislava, Slovakia*

3:36

BF-05. Nonlinear Effects in Microstrip Structures with Permalloy Ribbons: Instability Thresholds and FMR Frequency Shifts. *Y.V. Khivintsev*^{1,2}, *R.E. Camley*¹ and *Z.J. Celinski*¹. *1. Center for Magnetism and Magnetic Nanostructures, University of Colorado, Colorado Springs, Colorado Springs, CO; 2. Kotel'nikov SBIRE RAS, Saratov, Russian Federation*

3:48

BF-06. Interaction of magnetic solitons with potential barriers and wells. *U. Hansen*¹, *V.E. Demidov*¹ and *S.O. Demokritov*¹. *University of Muenster, Muenster, Germany*

4:00

BF-07. Stability of weakly dissipative Bose-Einstein condensate of parametrically pumped magnons. *V. Tyberkevych*¹ and *A. Slavin*¹. *Department of Physics, Oakland University, Rochester, MI*

4:12

BF-08. Microwave-assisted spin wave hybridization in patterned ferromagnets. *V. Novosad*¹, *S. Chui*², *F.Y. Fradin*¹, *M. Grimsditch*¹ and *S.D. Bader*¹. *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Bartol Research Institute, University of Delaware, Newark, DE*

4:24

BF-09. Time- and vector-resolved Kerr measurements of large angle precessional reorientation in a 2x2 μm² ferromagnetic element. *P.S. Keatley*¹, *V.V. Kruglyak*¹, *A. Neudert*¹, *R.J. Hicken*¹, *J.R. Childress*² and *J.A. Katine*². *1. School of Physics, University of Exeter, Exeter, United Kingdom; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

4:36

BF-10. Direct Brillouin light scattering observation of microwave three magnon confluence process in nonlinear spin wave dynamics for yttrium iron garnet films. *C.L. Ordóñez-Romero*^{1,2}, *W. Tong*¹, *B.A. Kalinikos*^{1,3} and *C.E. Patton*¹. *1. Physics, Colorado State University, Fort Collins, CO; 2. Centro de Ciencias Aplicadas y Desarrollo Tecnológico, Universidad Nacional Autónoma de México, México D.F., D.F., Mexico; 3. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation*

TUESDAY
AFTERNOON
2:00

400/402

Session BG
MAGNETIC MICROSCOPY AND IMAGING II

June Lau, Chair

2:00

BG-01. Imaging of Vortex Gyration Driven by a DC Spin-Polarized Current. *X. Yu*¹, *V.S. Pribiag*², *Y. Acremann*³, *A. Tulapurkar*⁴, *V. Chembrolu*¹, *T. Tyliczszak*⁵, *K. Chou*⁵, *Z. Li*², *R. Buhrman*², *H.C. Siegmann*³ and *J. Stöhr*⁴. *1. Stanford University, Stanford, CA; 2. Cornell University, Ithaca, NY; 3. Pulse Institute, Menlo Park, CA; 4. Stanford Synchrotron Radiation Laboratory, Menlo Park, CA; 5. Advanced Light Source, Berkeley, CA*

2:12

BG-02. X-ray diffraction study of magnetic states in patterned nanoscopic elements. *F.Y. Ogrin¹, G. van der Laan², G. Beutier², C. Tieg³ and E. Sirotkin¹*. *1. University of Exeter, Exeter, United Kingdom; 2. Diamond Light Source, Oxfordshire, United Kingdom; 3. ESRF, Grenoble, United Kingdom*

2:24

BG-03. Remanent States and Magnetization Reversal of Nanopatterned Spin Valve Elements using Off-Axis Electron Holography. *K. He¹, D.J. Smith² and M.R. McCartney²*. *1. School of Materials, Arizona State University, Tempe, AZ; 2. Department of Physics, Arizona State University, Tempe, AZ*

2:36

BG-04. Exchange bias and pinning in patterned ferromagnetic-antiferromagnetic heterostructures. *M. Tanase¹, A.K. Petford-Long¹ and O.G. Heinonen²*. *1. Materials Science Division, Argonne National Laboratory, Lemont, IL; 2. Seagate Research, Bloomington, MN*

2:48

BG-05. Tomographic reconstruction of 3-D Magnetic Induction using Lorentz Microscopy. *C. Phatak¹, M. De Graef¹, A. Petford-Long², M. Tanase² and A. Imre²*. *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Argonne National Laboratory, Argonne, IL*

3:00

BG-06. Observation of in-plane domain structure and magnetization process in writer pole for perpendicular recording heads by electron holography. *K. Hirata¹, J. Kim², Y. Ishida¹, D. Shindo³, M. Takahashi⁴ and A. Tonomura^{2,5}*. *1. Head Business Group, TDK Corporation, Saku, Nagano, Japan; 2. Initial Research Project, Okinawa Institute of Science and Technology, Kunigami, Okinawa, Japan; 3. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi, Japan; 4. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan; 5. Advanced Research Laboratory, Hitachi Ltd., Hatoyama, Saitama, Japan*

3:12

BG-07. Imaging submicron ferroelectric domains using slow electrons. *S. Cherifi¹, S. Fusil², R. Hertel³, H. Béa², M. Bibes² and A. Barthélémy²*. *1. Nanoscience, Institut Néel, CNRS-UJF, Grenoble, France; 2. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 3. Electronic Properties (IFF-9), Institut für Festkörperforschung, Forschungszentrum Jülich GmbH, Jülich, Germany*

3:24

BG-08. Hot electron transport and quantitative study of ballistic electron magnetic imaging on Co/Cu multilayers. *S. Rohart¹, K. Andreas¹, T. André¹ and M. Jacques¹*. *1. Laboratoire de Physique des Solides, Orsay, France*

3:36

BG-09. Ballistic electron emission on pyramidal ferromagnet-semiconductor heterostructures for spin-filtering STM. *I.J. Vera Marín¹ and R. Jansen¹*. *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

3:48

BG-10. Investigations on a Permalloy Keeper Layer for the Readout of Magnetically Stored Data based on the Magneto-optical Kerr Effect. *K. Wu¹, S. Rudolf² and H.H. Gatzel¹*. *1. Institute for Microtechnology, Leibniz Universität Hannover, Garbsen, Lower Saxony, Germany; 2. Institute for Metallic Materials, Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Saxony, Germany*

4:00

BG-11. Growth, Interfacial Structure and Chemistry of CoFe₂O₄ Thin Films on SrTiO₃ and MgO substrates. *S. Xie^{1,2}, J. Cheng^{1,3}, B.W. Wessels^{1,3} and V.P. Dravid^{1,3}*. *1. Department of Materials Science and Engineering, Northwestern University, Evanston, IL; 2. EPIC-NUANCE Center, Northwestern University, Evanston, IL; 3. Materials Research Center, Northwestern University, Evanston, IL*

4:12

BG-12. Backscattered electron limitations on magnetic imaging resolution in SEMPA. *J. Unguris¹ and S. Chung^{1,2}*. *1. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD; 2. Maryland NanoCenter, University of Maryland, College Park, MD*

4:24

BG-13. Dynamical Measurements with a Nuclear Magnetic Resonance Force Microscope. *H. Chia¹, M. Monti¹, Y. Lee², W. Lu¹, J. Choi³ and J.T. Markert¹*. *1. Department of Physics, University of Texas at Austin, Austin, TX; 2. Department of Mechanical Engineering, University of Texas at Austin, Austin, TX; 3. Mechanical Metrology Group, Division of Physical Metrology, KRISS, Daejeon 305-340, South Korea*

4:36

BG-14. A Compact, Wide Temperature Range (300mK-300K) Magnetic Force Microscope using High Resolution Fibre Interferometer. O. Karci¹, A. Oral² and M. Dede³. *1. R&D, NanoMagnetics Instruments Ltd, Oxford, United Kingdom; 2. Natural Sciences and Engineering Department, Sabanci University, Istanbul, Turkey; 3. Physics Department, Bilkent University, Ankara, Turkey*

4:48

BG-15. Magnetic force microscopy of alternating magnetic field by frequency modulation of tip oscillation. H. Saito¹, S. Ishio¹, H. Ikeya¹, G. Egawa¹ and S. Yoshimura¹. *1. Faculty of Engineering and Resource Science, Akita University, Akita, Akita, Japan*

**TUESDAY
AFTERNOON
2:00**

410

**Session BH
LOW-DIMENSIONAL SYSTEMS AND
CRITICAL PHENOMENA**

V. Dobrovitski, Chair

2:00

BH-01. Bose-Einstein condensation of magnons confined to a nanoparticle. L.H. Bennett^{1,4}, E. Della Torre^{1,4}, P.R. Johnson² and R.E. Watson³. *1. ECE, George Washington University, Ashburn, VA; 2. CAS, American University, Washington, DC; 3. Physics, Brookhaven National Laboratory, Upton, NY; 4. Metallurgy, NIST, Gaithersburg, MD*

2:12

BH-02. Exotic vortex effect on the alternating order around impurities in antiferromagnets. R. Vaia¹ and A. Cuccoli². *1. Istituto dei Sistemi Complessi, Consiglio Nazionale delle Ricerche, Sesto Fiorentino, FI, Italy; 2. Dipartimento di Fisica, Università di Firenze, Sesto Fiorentino, FI, Italy*

2:24

BH-03. Thermal properties and critical behavior of transition-metal magnetic monoxides MnO, CoO, NiO. A. Oleaga¹, M. Massot¹, A. Salazar¹, D. Prabhakaran², M. Martin³, P. Berthet⁴ and G. Dhalenne⁴. *1. Fisica Aplicada I, Escuela Tecnica Superior de Ingenieria/Universidad del Pais Vasco UPV/EHU, Bilbao, Spain; 2. Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom; 3. Institut für Physikalische Chemie, RWTH Aachen, Aachen, Germany; 4. UMR8182, ICMMO/LPCEs, Université Paris Sud and CNRS, Orsay, France*

2:36

BH-04. Magnetism on quasi-2D triangular lattices. (Invited) M.D. Johannes¹ and I.I. Mazin¹. *1. Center for Computational Materials Science, Naval Research Laboratory, Washington, DC*

3:12

BH-05. Exchange and dipolar interaction in ultrathin films and nanostructures. G. Bayreuther¹ and R. Meier¹. *1. Inst. f. Exp. Physik, Universitaet Regensburg, Regensburg, Germany*

3:24

BH-06. Raman Studies of doped Magnetite above and below the Verwey Transition. L. Gasparov¹, A. Rush¹, T. Pekarek¹, N. Patel¹ and H. Berger². *1. Chemistry and Physics, University of North Florida, Jacksonville, FL; 2. EPFL, Lausanne, Switzerland*

3:36

BH-07. On the origin of strong perpendicular anisotropy in Fe_{1-x}Co_x alloy films grown on Pd(001), Ir(001) and Rh(001). F. Yildiz¹, M. Przybylski¹ and J. Kirschner¹. *1. Experimental I, Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany*

3:48

BH-08. Comparative studies of Co nanowires of different diameters electroplated into porous aluminum oxide membranes. Z. Ye¹, H. Liu¹, Z. Luo², H. Lee¹, W. Wu¹, D.G. Naugle¹ and I. Lyuksyutov¹. *1. Physics, Texas A & M University, College Station, TX; 2. Microscopy and Imaging Center, Texas A & M University, College Station, TX*

4:00

BH-09. Proximity effects in multilayered ferromagnet/superconductor nanostructures. N.G. Fazleev^{1,2}, Y.N. Proshin², M.G. Khusainov^{2,3} and R.G. Luchkin². *1. Physics, University of Texas at Arlington, Arlington, TX; 2. Physics, Kazan State University, Kazan, Russian Federation; 3. Vostok Branch, Kazan State Technical University, Chistopol', Russian Federation*

4:12

BH-10. Magnetic Phase Transition in Ultrathin Helimagnetic Ho Films. F. Cinti¹, A. Cuccoli¹ and A. Rettori¹. *1. Dipartimento di Fisica, Università di Firenze, Sesto Fiorentino (FI), Italy*

4:24

- BH-11. Exploring Magnon Heat Transport and Thermal Spin Currents in Ferromagnetic Thin Films.** *A.D. Avery¹, R. Sultan¹, M.R. Pufall¹ and B.L. Zink¹. Department of Physics & Astronomy, University of Denver, Denver, CO*

4:36

- BH-12. Magnetic phase transition for 3D Heisenberg weak random anisotropy model: Monte Carlo study.** *H.M. Nguyen¹ and Y.P. Hsiao¹. Department of Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan*

4:48

- BH-13. Magnetization Fluctuations in NiO nanoparticles.** *S.K. Mishra¹ and V. Subrahmanyam¹. Physics, IIT Kanpur, Kanpur, U.P., India*

**TUESDAY
AFTERNOON
1:00**

AUSTIN BALLROOM

**Session BP
MULTIFERROICS I: FILMS AND
NANOSTRUCTURES
(POSTER SESSION)**

Christian Binek, Chair

- BP-01. Surface magnetoelectric effect in ferromagnetic metal films.** *C. Duan², R.F. Sabirianov^{4,3}, Z. Zhu², J. Chu², S.S. Jaswal^{1,3} and E. Tsymbal^{1,3}. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Key Laboratory of Polarized Materials and Devices, Ministry of Education, East China Normal University, Shanghai, China; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 4. Department of Physics, University of Nebraska, Omaha, NE*
- BP-02. Artificially controlled magnetic domain structures in ferromagnetic dots/ferroelectric heterostructures.** *T. Taniyama^{1,2}, K. Akasaka¹, D. Fu^{3,1} and M. Itoh¹. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan; 3. ERATO, Japan Science and Technology Agency, Kawaguchi, Japan*
- BP-03. Effect of the Ni80Fe20 inserted layers on multiferroic property for [NiFe/AlN]_n multilayers.** *D. Wei¹, Y. Yao² and D. Hung³. Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 3. Ming Chuan University, Taipei, Taiwan*
- BP-04. Relationships between magneto-capacitance-voltage characteristics and magneto-resistance of Au/Cr₂O₃/Cr₂O_{3-x}/FeCr/CeO₂/Si MIS capacitor.** *T. Yokota¹, S. Murata¹, S. Kito¹ and M. Gomi¹. Environmental and Materials Engineering, Nagoya Institute of Technology, Nagoya, Aichi, Japan*

- BP-05. Structural analysis of interfacial strained epitaxial BiMnO₃ films fabricated by chemical solution deposition.** *T. Harima¹, H. Naganuma¹, H. Shima¹, S. Okamura¹, A. Kovacs² and Y. Hirotsu². Tokyo University of Science, Tokyo, Japan; 2. ISIR Osaka University, Osaka, Japan*

- BP-06. Magnetic properties of SrTiO₃-buffered Ba(Fe_{0.2}Zr_{0.8})O_{3-δ} films on Si(001) substrates.** *H. Kanatani¹ and T. Matsui¹. Graduate School of Engineering, Osaka Prefecture University, Sakai, Osaka, Japan*

- BP-07. Effect of valence state on structure and magnetic properties of Ba(Fe_{0.5}Mn_{0.5})O_{3-δ} single-crystal films on SrTiO₃ substrates.** *K. Katsube¹ and T. Matsui¹. Graduate School of Engineering, Osaka Prefecture University, Sakai, Osaka, Japan*

- BP-08. Soft x-ray absorption spectroscopy and magnetic circular dichroism study of core@shell ferromagnetic nanoparticles: BaTiO₃@X (X= γ-Fe₂O₃, Fe₃O₄, Fe, α-Fe₂O₃).** *D.H. Kim¹, H.J. Lee¹, G. Kim¹, Y.S. Koo², J.H. Jung², H. Lee³, J.Y. Kim³ and J.S. Kang¹. Department of Physics, The Catholic University, Bucheon, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea; 3. Pohang Accelerator Laboratory, POSTECH, Pohang, South Korea*

- BP-09. Wide-Bandwidth Vortex Electric Current Sensor Based on Ring-Shaped Magnetoelectric Laminate of Terfenol-D/Epoxy Magnetostrictive Composite and PZT Piezoelectric Ceramic.** *C. Leung¹, C. Lo¹ and S. Or¹. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China*

- BP-10. Electromagnetic Properties of Ferroelectric/Ferromagnetic Composite Materials base on LTCC Technology.** *W. Ling¹, H. Zhang¹, Y. Li¹, Y. He¹ and L. Peng¹. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

- BP-11. Spin-spray deposited multiferroic composite Fe₃O₄/Pb(Zr,Ti)O₃ with strong microwave magnetoelectric effect.** *M. Liu¹, O. Obi¹, J. Lou¹ and N.X. Sun¹. Electrical and Computer Engineering, Northeastern University, Boston, MA*

**TUESDAY
AFTERNOON
1:00**

AUSTIN BALLROOM

**Session BQ
INTERMETALLIC AND OTHER HARD
MAGNETIC MATERIALS I
(POSTER SESSION)**

Kevin Coffey, Chair

- BQ-01. Effects of SiO₂ underlayer on the formation of (001)-oriented FePt nanoparticles.** *Y. Wu¹, L. Wang¹ and C. Lai¹. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

BQ-02. Magnetic assembles of FePt (001) nanoparticles with ultrathin SiO₂ addition. K. You¹, D. Wei² and Y. Yao³. *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan*

BQ-03. Microstructure and magnetic properties of FePt films on anodized aluminum oxide membranes. S. Chen¹, Y. Yao², J. Wu¹ and C. Yu³. *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Engineering, Tatung University, Taipei, Taiwan; 3. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

BQ-04. Spacer layer effect and microstructure on multilayer [(FePt)_x/Os]_n films. S. Chen¹, Y. Yao², J. Wu¹, Y. Teng³ and C. Yu³. *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Engineering, Tatung University, Taipei, Taiwan; 3. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

BQ-05. Effects of heating rates of rapid thermal annealing on the microstructures and magnetic properties of FePt thin films. S. Chen^{1,2}, T. Sun¹, T. Kuo¹ and P. Kuo³. *1. Department of Materials Engineering, Ming Chi University of Technology, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan*

BQ-06. Evolution of residual strain with ordering transformation in FePt films via XRD analysis. S. Hsiao^{1,3}, S. Chen¹, H. Huang¹, Y. Hsu¹, F. Yaun² and H. Lee³. *1. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. National Synchrotron Radiation Research Center, HsinChu, Taiwan*

BQ-07. A new metastable tetragonal phase in sputtered Fe₂Pt thin films. S. Hsiao^{1,3}, S. Chen¹, Y. Hsu¹, F. Yaun², T. Chin¹ and H. Lee³. *1. Feng Chia University, Taichung, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. National Synchrotron Radiation Research Center, HsinChu, Taiwan*

BQ-08. Abnormal evolution of phase and magnetism in high temperature annealed CoPt thin films. F. Yuan¹, H. Huang², S. Hsiao², W. Liao³, S. Chen², H. Lee³ and Y. Yao⁴. *1. Physics, Academia Sinica, Taipei, Taiwan; 2. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 3. National Synchrotron Radiation Research Center, HsinChu, Taiwan; 4. Materials and Engineering, Tatung University, Taipei, Taiwan*

BQ-09. Thermal process effect on microstructure and magnetic properties of epitaxial FePd (001) multilayer films. S. Fong¹, D. Wei² and Y. Yao³. *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan*

BQ-10. Fabrication and characterization of novel ordered alloy “L1₀-FeNi” M. Mizuguchi¹, S. Sekiya¹, S. Mitani¹ and K. Takashi¹. *1. Institute for Materials Research, Tohoku University, Sendai, Japan*

BQ-11. Anisotropic properties in Fe-Pt thick film magnets. S. Shibata¹, T. Yanai¹, M. Nakano¹ and H. Fukunaga¹. *1. Electrical and Electronic Engineering, Nagasaki University, Nagasaki, Japan*

BQ-12. Fabrication and properties of FePt thick films for micro-undulator. P. Jang¹, K. Seomoon¹, B. Lee¹, S. Choi² and K. Rhie². *1. Div. of Applied Science, Cheongju University, Cheongju, Chungcheongbuk-do, South Korea; 2. Department of Display, Semiconductor and Physics, Korea university, Chochiwon, South Korea*

BQ-13. Effect of B content on the magnetic properties, phase evolution, and aftereffect of nanocrystalline FeCoPtB ribbons. C.W. Chang¹, H.W. Chang², C. Hsieh¹, Z.H. Guo^{1,3} and W.C. Chang¹. *1. Department of Physics, National Chung-Cheng University, Chia-Yi, 621, Taiwan; 2. Department of Physics, Tunghai University, Taichung, 40704, Taiwan; 3. Institute of Functional Materials, Central Iron and Steel Research Institute, Beijing, 100081, China*

**TUESDAY
AFTERNOON
1:00**

AUSTIN BALLROOM

Session BR

**MAGNETIC TUNNEL JUNCTIONS - MgO BASED
(POSTER SESSION)**

Xiufeng Han, Chair
Seiji Mitani, Chair

BR-01. Half-metallic behavior of Co₂MnSi/Co₂CrAl/MgO junction and its coherent tunneling conductance: A first-principles study. Y. Miura¹, K. Abe¹ and M. Shirai¹. *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

BR-02. Atom probe tomography of CoFeB-MgO magnetic tunnel junctions. D.K. Schreiber^{1,2}, Y. Choi³, A.K. Petford-Long², A.N. Chiamonti², D.N. Seidman¹ and D.D. Djayaprawira³. *1. Materials Science and Engineering, Northwestern University, Evanston, IL; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL; 3. Electronic Devices Engineering Headquarters, Canon ANELVA Corporation, Kanagawa, Japan*

BR-03. Magnetic properties of MgO-based RE-TM perpendicular magnetic tunnel junctions. L. Ye¹, C. Lee^{1,2}, J. Lai^{1,3} and T. Wu^{1,2}. *1. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Douliou, Taiwan; 2. Graduate School of Materials Science, National Yunlin University of Science and Technology, Douliou, Taiwan; 3. Graduate School of Optoelectronics, National Yunlin University of Science and Technology, Douliou, Taiwan*

- BR-04. Fabrication of MgO-based Magnetic Tunnel Junctions with CoCrPt Perpendicularly Magnetized Electrodes.** *D. Watanabe¹, S. Mizukami¹, M. Oogane², Y. Ando² and T. Miyazaki¹*. *WPI-AIMR, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan*
- BR-05. Inelastic tunneling spectra of MgO barrier magnetic tunnel junctions showing large magnon contribution.** *B. Do¹, T. Nozaki¹, A. Fukushima², H. Kubota², T. Nagahama², S. Yuasa², M. Shiraishi¹ and Y. Suzuki^{1,2}*. *Graduate School of Engineering Science, Osaka University, Osaka, Japan; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*
- BR-06. Formation of hydroxide at an interface in CoFeB/MgO/CoFeB tunnel junction.** *S. Lee¹, Y. Jang¹, K. Lee¹, S. Yoon¹, B. Cho¹, Y. Cho², K. Kim² and K. Kim²*. *1. Materials Science and Technology, Gwangju-Institute of Science and Technology, Gwangju, South Korea; 2. Material and Device Laboratory, Samsung Advanced Institute of Technology (SAIT), Suwon, South Korea*
- BR-07. TMR effect in a spin filter structure of TiN/ γ -Fe₂O₃/MgO/Fe.** *H. Yanagihara¹, J. Hagiwara¹, T. Nagahama², A. Fukushima², S. Yuasa² and E. Kita¹*. *1. Applied Physics, Univ. Tsukuba, Tsukuba, Japan; 2. AIST, Tsukuba, Japan*
- BR-08. Tunnel Magnetoresistance for Magnetic Tunnel Junctions with a Co₂FeAl_{0.5}Si_{0.5} Full Heusler Electrodes fabricated by MBE system.** *N. Tezuka¹, N. Ikeda¹, F. Mitsunashi¹ and S. Sugimoto¹*. *1. Department of Materials Science, Tohoku University, Sendai, Japan*
- BR-09. MgO-based Double Barrier Magnetic Tunnel Junction with Very Thin Free Layer.** *G. Feng¹, S. Dijken¹ and J.M. Coey¹*. *CRANN and Physics Department, Trinity College Dublin, Dublin, Ireland*
- BR-10. The influence of buffer layer on tunnel magnetoresistance in full-Heusler alloy Co₂Fe(AI_{0.5}Si_{0.5})/MgO/Co₂Fe(AI_{0.5}Si_{0.5}) tunnel junctions.** *M. Ishikawa¹, T. Marukame¹, T. Inokuchi¹, H. Sugiyama¹ and Y. Saito¹*. *Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*
- BR-11. The effect of pinhole formation/growth on the tunnel magnetoresistance of MgO-based magnetic tunnel junctions.** *J.M. Teixeira¹, J. Ventura¹, F. Carpinteiro¹, J.P. Araújo¹, J.B. Sousa¹, P. Wisniowski² and P.P. Freitas²*. *1. Physics, IN, IFIMUP unit - Oporto University, Oporto, Oporto, Portugal; 2. Physics, IN, INESC-MN unit - IST, Lisbon, Lisbon, Portugal*
- BR-12. Influence of pinned layer coupling on magnetization switching of magnetic tunnel junction.** *C. Huang^{1,2}, Y. Wu³, K. Wu^{1,2}, J. Wu^{1,2} and L. Horng^{1,2}*. *1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. Taiwan SPIN Research Center, National Changhua University of Education, Changhua, Taiwan; 3. Graduate Institute of Photonics, National Changhua University of Education, Changhua, Taiwan*

- BR-13. Enhancement of tunneling magnetoresistance by optimization of magnetic and top layer thicknesses in CoFeB/MgO/CoFeB magnetic tunnel junctions.** *W. Pong¹, M. Shmoueli², A. Castillo² and W.F. Egelhoff²*. *1. Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. Metallurgy Division, National Institute of Standards and Technology, Gaithersburg, MD*
- BR-14. Electrical and magnetic properties of defect-mediated magnetic tunnel junctions using MgO.** *K. Nam¹, S. Oh¹, W. Kim¹, J. Jeong¹, D. Kim¹, S. Lee¹, Y. Kim¹, K. Kim¹, J. Lee¹, I. Yeo¹, U. Chung¹ and J. Moon¹*. *1. Process Development Team, Semiconductor R&D Division, Samsung Electronics Co., Ltd., Yongin-City, Gyeonggi-Do, South Korea*
- BR-15. Theoretical study on the stability of magnetic structures of Heusler alloys, Co₂MnAl and Co₂MnSi.** *A. Sakuma¹, Y. Toga¹ and H. Tsuchiura¹*. *1. Applied Physics, Tohoku University, Sendai, Japan*
- BR-16. Tunnel magnetoresistance in MgO - Al₂O₃ composite magnetic tunnel junctions.** *O. Schebaum¹, V. Drewello¹, A. Auge¹, A. Thomas¹ and G. Reiss¹*. *1. Thin films & physics of nanostructures, Bielefeld University, Bielefeld, Germany*
- BR-17. Enhanced Magneto-Coulomb Effect in Asymmetric Ferromagnetic Single Electron Transistors.** *M. Jalil¹, S. Tan² and M. Ma¹*. *1. Department of Electrical and Computer Engineering, Information Storage Materials Laboratory, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*
- BR-18. Influence of magnetic insulator in Tunneling Magnetoresistance of double-barrier tunnel junctions.** *P. Chang¹ and C. Chang¹*. *1. Physics, National Taiwan University, Taipei, Taiwan*

TUESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session BS
BIOMAGNETISM
(POSTER SESSION)
Shoogo Ueno, Co-Chair
Frank Prato, Co-Chair

- BS-01. Calculating the Electric Field in Real Human Head by Transcranial Magnetic Stimulation with Shield Plate.** *M. Lu¹ and S. Ueno²*. *1. University of Lisbon, Lisbon, Portugal; 2. Kyushu University, Fukuoka, Japan*

- BS-02. Comparison of stem cells labeling using paramagnetic and superparamagnetic MRI contrast agents.** C. Yang^{1,3}, J. Hsiao^{1,2}, M. Tai⁴, S. Chen⁵, Y. Wang², Y. Chen², J. Wang¹ and H. Liu². *Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; 2. Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan; 3. Department of Medical Imaging, Yun-Lin Branch, National Taiwan University Hospital, Yun-Lin, Taiwan; 4. Department of Science, Taipei Municipal University of Education, Taipei, Taiwan; 5. Musculoskeletal Disease Center, J.L. Pettis VA Medical Center and Department of Biochemistry, Loma Linda University, Loma Linda, CA*
- BS-03. Quantitative MRI System Phantom.** S.E. Russek¹ and R. Usselman¹. *National Institute of Standards and Technology, Boulder, CO*
- BS-04. Effect of Transcranial Magnetic Stimulation on Force of Finger Pinch.** M. Odagaki¹, H. Fukuda¹ and O. Hiwaki¹. *Hiroshima City University, Hiroshima, Japan*
- BS-05. Effects of stimulus parameters and tissue inhomogeneity on nerve excitation processes in magnetic stimulation of the brain.** A. Hyodo^{1,2}, S. Tsuyama¹, K. Iramina¹ and S. Ueno¹. *Kyushu University, Fukuoka, Japan; 2. Nihon Kohden Co., Tokyo, Japan*
- BS-06. Brain activity during bilateral rapid alternate finger tapping measured with magnetoencephalography.** H. Fukuda¹, M. Odagaki¹, A. Kodabashi², T. Fujimoto² and O. Hiwaki¹. *Graduate School of Information Sciences, Hiroshima City University, Hiroshima, Japan; 2. Fujimoto Hayasuzu Hospital, Miyakonojo, Japan*
- BS-07. A Method for Estimation of Stimulated Brain Sites Based on Columnar Structure of Cerebral Cortex in Transcranial Magnetic Stimulation.** O. Hiwaki¹ and T. Inoue¹. *Graduate School of Information Sciences, Hiroshima City University, Hiroshima, Japan*
- BS-08. Disturbance of Visual Search by Stimulating to PPC in the Brain using Transcranial Magnetic Stimulation.** K. Iramina^{1,2}, G. Sheng¹, T. Hayami³, A. Hyodo² and S. Ueno⁴. *Department of Intelligent Systems, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Systems Life Sciences, Kyushu University, Fukuoka, Fukuoka, Japan; 3. Digital Medicine Initiative, Kyushu University, Fukuoka, Fukuoka, Japan; 4. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Fukuoka, Japan*
- BS-09. Effects of coil configurations on the induced eddy current by Transcranial Magnetic Stimulation.** S. Tsuyama¹, A. Hyodo², T. Hayami³, S. Ueno⁴ and K. Iramina^{1,2}. *Department of Intelligent Systems, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Systems Life Sciences, Kyushu University, Fukuoka, Japan; 3. Digital Medicine Initiative, Kyushu University, Fukuoka, Japan; 4. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan*

- BS-10. Measurements of Evoked EEG by Transcranial Magnetic Stimulation Applied to Motor Cortex and Posterior Parietal Cortex.** M. Iwahashi¹, Y. Koyama¹, A. Hyodo¹, T. Hayami¹, S. Ueno¹ and K. Iramina¹. *Kyushu Univ., Fukuoka, Japan*

**TUESDAY
AFTERNOON
1:00**

AUSTIN BALLROOM

**Session BT
INTERMETALLICS AND OTHER HARD
MAGNETIC MATERIALS II
(POSTER SESSION)**

J. Ping Liu, Chair

- BT-01. Vanadium substitution effect on magnetic properties of NdFe_{10.5}Mo_{1.5}-xVx and their nitrides.** Y. Shan¹, H. Du¹, G. Tian¹, J. Han¹, C. Wang¹, S. Liu¹ and Y. Yang¹. *School of Physics, Peking University, Beijing, China*
- BT-02. Effects of hydrostatic pressure and substitutions on magnetism of Lu₂Fe₁₇-based intermetallics.** E.A. Tereshina^{1,2}, A.V. Andreev¹, J. Kamarád¹, O. Isnard³, T. Komatsubara⁴ and I. Satoh¹. *Institute of Physics ASCR, Prague, Czech Republic; 2. Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic; 3. Institut Néel, CNRS / University J. Fourier, Grenoble, France; 4. Institute for Materials Research, Tohoku University, Sendai, Japan*
- BT-03. Change in the direction of anisotropy in PLD-fabricated Sm-Co thick film magnets.** K. Yamaguchi¹, T. Yanai¹, M. Nakano¹, H. Fukunaga¹ and F. Yamashita². *Electrical and Electronic Engineering, Nagasaki University, Nagasaki, Japan; 2. Rotary Component Basic Technology Development Division, Minebea Co., Ltd, Shizuoka, Japan*
- BT-04. Stabilization of TbCu₇-type SmCo ribbons by Nb or Ta substitution and rapid quenching.** Z.H. Guo^{1,2}, H.W. Chang³, C.W. Chang¹, C.C. Hsieh¹, A.C. Sun⁴, W.C. Chang¹, W. Pan² and W. Li². *Department of Physics, National Chung-Cheng University, Chia-Yi, Taiwan; 2. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China; 3. Department of Physics, Tunghai University, Taichung, Taiwan; 4. Department of Physics, National Taiwan University, Taipei, Taiwan*
- BT-05. Magnetic properties and Structure of bulk nanocrystalline Sm(Co,Fe,Cu,Zr)_{7.5} sintered magnet.** D. Zhang¹, M. Yue¹, J. Yang¹, G. Xu¹, W. Liu¹, J. Zhang¹ and X. Liu². *Beijing University of Technology, Beijing, China; 2. McGill University, Montreal, QC, Canada*
- BT-06. Sm₂Co₁₇-based magnets with superhigh fracture toughness and excellent hard-magnetic properties.** L. Li^{1,2}, A. Yan¹, Y. Sun¹ and G. Zhang². *Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science, Ningbo, China; 2. The State Key Laboratory for Powder Metallurgy, The Central South University, Chang Sha, China*

- BT-07. High temperature magnetic properties of nanocrystalline PrCo₅ and YCo₅ alloys obtained by mechanical milling.** J.T. Elizalde Galindo², F.J. Rivera-Gómez¹ and J.A. Matutes-Aquino¹. *Física de Materiales, Centro de Investigación en Materiales Avanzados, S.C, México, Chihuahua, Mexico; 2. Ciencias Básicas, Universidad Autónoma de Ciudad Juárez, Chihuahua, Chihuahua, Mexico*
- BT-08. Nanocrystalline magnetic Y_{0.5}Sm_{0.5}Co₅ ribbons obtained by Melt Spinning.** J.L. Hidalgo-González¹, F.J. Rivera-Gómez¹ and J.A. Matutes-Aquino¹. *Física de Materiales, Centro de Investigación en Materiales Avanzados, S. C, Chihuahua, Chihuahua, Mexico*
- BT-09. Pulse annealing of anisotropic SmFeN powder.** Y. Shibata¹, T. Yanai¹, M. Nakano¹ and H. Fukunaga¹. *Department of Electrical Engineering and Electronics, Nagasaki University, Nagasaki 852-8521, Japan*
- BT-10. Co₈₀Ni₂₀ and Co anisotropic metal nanoparticles for the bottom-up preparation of new permanent magnets.** Y. Soumare¹, J. Piquemal¹, G. Viau², C. Garcia², T. Maurer³, F. Ott³ and G. Chaboussant³. *1. Laboratoire ITODYS, University of Paris Diderot (Paris 7), Paris Cedex 05, France; 2. Laboratoire de Physique et Chimie des Nano-objets, University of Toulouse, INSA, Toulouse, France; 3. Laboratoire Léon Brillouin, CEA Saclay, Gif sur Yvette, France*
- BT-11. Study on strengthening and toughening of Sintered rare-earth permanent magnets.** A. Li¹, H. Wang¹, W. Pan¹ and W. Li¹. *Central Iron & Steel Research Institute, Beijing, China*
- BT-12. Effect of Rare Earth Doping on Magnetic Properties of Cobalt Ferrite Nanocrystals.** Y. Cedeño-Mattei¹, O. Perales-Pérez², P. Voyles³ and O. Uwakweh². *1. Chemistry, UPR - Mayaguez, Mayaguez, PR; 2. Engineering Science & Materials, UPR - Mayaguez, Mayaguez, PR; 3. Materials Science & Engineering, University of Wisconsin - Madison, Madison, WI*
- BT-13. The sintering properties and interfacial investigation of barium ferrite and ceramic Co-firing system for the application of LTCC technology.** Y. Li¹, Y. Liu¹, H. Zhang¹ and L. Han¹. *State Key Laboratory of Electronic Thin Film and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*
- BT-14. The exchange biaslike effect in tetragonal spinels Cu_{1-x}Zn_xCr₂O₄ (x=0.1, 0.3).** L. Yan¹, W. Ren², Z. Sun¹, J. Shen¹ and F. Wang¹. *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Hong Kong University of Science and Technology, Hong Kong, China*

TUESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session BU
MAGNETIC MATERIALS FOR THERAPY APPLICATIONS
(POSTER SESSION)
Yasushi Takemura, Chair

- BU-01. Remote Triggered Drug Release System By Magnetic Nanoparticles For Combined Hyperthermia and Chemotherapy.** D. Kim^{1,2}, L.M. Blue², D.E. Nikles³ and C.S. Brazel². *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Department of Chemical and Biological Engineering, University of Alabama, Tuscaloosa, AL; 3. Department of Chemistry, University of Alabama, Tuscaloosa, AL*
- BU-02. Heating Characteristics of Thermosensitive Magnetic Powder in Agar Phantom for Hyperthermia Cancer Therapy.** T. Takura¹, F. Sato^{1,2}, H. Matsuki² and T. Sato³. *1. Dept. of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Dept. of Biomedical Engineering, Graduate School of Biomedical Engineering, Tohoku University, Sendai, Miyagi, Japan; 3. NEC Tokin Corp., Sendai, Miyagi, Japan*
- BU-03. Self-heating properties and their evaluation by ac/dc hysteresis loops of Fe₃O₄ and other nanoparticles for hyperthermia application.** A. Hirukawa¹, T. Yamada¹ and Y. Takemura¹. *Yokohama National University, Yokohama, Japan*
- BU-04. Highly thermosensitive hyperthermia mediators of La_{0.7}Sr_{0.3}Mn_{1-x}Cu_xO₃ utilizing steep magnetization change by first order magnetic phase transition.** T. Nakagawa¹, N. Hirako¹, M. Tada¹, H. Handa² and M. Abe¹. *1. Department of Physical Electronics, Tokyo Institute of Technology, Meguro-ku, Japan; 2. Integrated Research Institute, Tokyo Institute of Technology, Yokohama, Japan*
- BU-05. Modeling of temperature profile during magnetic thermotherapy for cancer treatment.** C.A. Sawyer¹, A.H. Habib¹, K.N. Collier¹, K. Miller¹, C.L. Ondeck¹ and M.E. McHenry¹. *Materials Sc. and Engg., Carnegie Mellon University, Pittsburgh, PA*
- BU-06. Hydrogen Protons Relaxation Time and Heat Generation By Succimer M²⁺Fe₂³⁺O₄ (M=Mn, Fe, Co) Spinel Nanoparticles Towards Multifunctional Nanoplatfrom For Cancer Treatment.** D. Kim^{1,2}, H. Zeng³, T. Ng³, D.E. Nikles⁴ and C.S. Brazel². *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Department of Chemical and Biological Engineering, University of Alabama, Tuscaloosa, AL; 3. Department of Medicine and Comprehensive Cancer Center, University of Alabama at Birmingham, Birmingham, AL; 4. Department of Chemistry, University of Alabama, Tuscaloosa, AL*

- BU-07. Detection of a diabetic sural nerve from the magnetic field after electric stimulation.** *T. Hayami*¹, *K. Iramina*², *A. Hyodo*³, *X. Chen*¹ and *K. Sunagawa*¹. *1. Digital Medicine Initiative, Kyushu University, Fukuoka, Japan; 2. Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan; 3. Graduate School of Systems Life Sciences, Kyushu University, Fukuoka, Japan*
- BU-08. Duplex Communicatable Implanted Antenna for Magnetic Direct Feeding Method FES.** *K. Kato*¹, *Y. Kohata*², *F. Sato*², *H. Matsuki*¹, *Y. Handa*³ and *T. Satoh*⁴. *1. Department of Biomedical Engineering, Graduate School of Biomedical Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 3. Graduate School of Medicine, Tohoku University, Sendai, Miyagi, Japan; 4. NEC TOKIN Corp., Sendai, Miyagi, Japan*
- BU-09. Effects of Radio Frequency Magnetic Fields on the Optical Absorption, Fluorescence and Titration Properties of Horse Spleen Ferritin.** *O. Cespedes*¹ and *S. Ueno*¹. *1. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan*
- BU-10. Development of Wireless Communication System Using Magnetic Field in Real-time Internal Radiation Dose Measurement System.** *K. Shinohe*¹, *T. Takura*¹, *F. Sato*¹, *H. Matsuki*², *S. Yamada*³ and *T. Satoh*⁴. *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Graduate School of Biomedical Engineering, Tohoku University, Sendai, Japan; 3. Graduate School of Medicine, Tohoku University, Sendai, Japan; 4. NEC TOKIN Corp., Sendai, Japan*

TUESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session BV
AMORPHOUS AND NANOSTRUCTURED
MATERIALS
(POSTER SESSION)

Maria Daniil, Co-Chair
Thomas Ambrose, Co-Chair

- BV-01. Missing row and surface relaxation induced ferromagnetic phase stabilization of Fe(x)Pt(1-x) (110) surface alloy; first-principles calculation.** *M. Kim*¹ and *H. Kim*². *1. Energy System Research, Ajou University, Suwon, South Korea; 2. Physics, Sookmyung Women's University, Seoul, South Korea*
- BV-02. Observation of two magnetic transition temperatures in ultra-thin Fe/Al nanostructures.** *R. Brajpuria*¹, *S. Tripathi*¹, *A. Sharma*¹, *S. Chuadhari*¹ and *T. Shripathi*¹. *UDCSR, UDCSR, Indore, M.P., India*
- BV-03. Magnetoimpedance studies in Al and V doped FINEMET alloy.** *D. Sandhya*¹, *K. Kamala Bharathi*¹ and *M. Garimella*¹. *IIT Madras, Chennai, Tamil Nadu, India*

- BV-04. Magnetic properties of Fe-based ribbons with controlled permeability prepared by continuous pulse annealing under tensile stress.** *K. Takagi*¹, *T. Yanai*¹, *K. Takahashi*¹, *M. Nakano*¹, *Y. Yoshizawa*² and *H. Fukunaga*¹. *1. Department of Electrical Engineering and Electronics, Nagasaki University, Nagasaki 852-8521, Japan; 2. Advanced Electronics Research Laboratory, Hitachi Metals Ltd, Kumagaya, Japan*
- BV-05. Outer shell structure in nearly zero magnetostrictive amorphous microwires.** *T.A. Óvári*¹ and *H. Chiriac*¹. *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*
- BV-06. To enhance an efficiency of power supply circuit by the use of Fe-P-B-Nb type ultra low loss glassy metal core.** *H. Matsumoto*¹, *A. Urata*¹ and *Y. Yamada*¹. *1. Research and Development Unit, NEC TOKIN Corporation, Sendai, Japan*
- BV-07. New high Bs nanocrystalline alloys with high amorphous-forming ability.** *A. Urata*¹, *H. Matsumoto*¹, *S. Sato*¹ and *A. Makino*². *1. NEC TOKIN Corporation, Sendai, Miyagi, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*
- BV-08. Magnetic properties and exchange bias in Mn₂O₃/Mn₃O₄ nanoparticles.** *W. Zhenhua*^{1,2}, *G. Dianyu*^{1,2}, *H. Weijin*^{1,2}, *R. Weijun*^{1,2} and *Z. Zhidong*^{1,2}. *1. Institute of Metal Research, Shenyang, China; 2. International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*
- BV-09. Constant permeability of Fe-B-Si-Nb bulk glassy alloy by B₂O₃ flux melting and Cu mold casting.** *T. Bitoh*¹ and *D. Shibata*¹. *1. Department of Machine Intelligence and System Engineering, Akita Prefectural University, Yurihonjo, Japan*
- BV-10. Cluster spin-glass state and Kondo behavior in Sm-based bulk metallic glasses.** *C. Lu*¹, *S. Dong*¹, *K. Wang*¹ and *J. Liu*¹. *1. Physics, Nanjing University, Nanjing, China*
- BV-11. Synthesis and Characterization of Metastable Nanocrystalline Cobalt.** *C.M. Osorio-Cantillo*¹ and *O. Perales-Perez*². *1. Chemistry, UPR-Mayaguez, Mayaguez, PR; 2. Engineering Science and Materials, UPR-Mayaguez, Mayaguez, PR*
- BV-12. Effect of Annealing on the Magnetic and Microwave Electromagnetic Characteristics of Glass-covered Microwires.** *Y. Di*¹, *B. Jia*¹ and *X. Liao*¹. *1. School of Metallurgy and Materials Engineering, Chongqing University of Science and Technology, Chongqing, Chongqing, China*
- BV-13. Crystallization Kinetics of Soft Magnetic Amorphous FeBSi Ribbons.** *O. Moscoso*¹, *A. Rosales Rivera*¹ and *P. Pineda Gómez*¹. *1. Laboratorio de Magnetismo y Materiales Avanzados, Universidad Nacional de Colombia, Sede Manizales, Manizales, Caldas, Colombia*

- BV-14. The change of giant magneto impedance effects due to ion irradiation in the Co-based amorphous ribbon.** *D. Park¹, K. Huh¹, G. Kim¹, C. Kim¹ and Y. Cheong¹*. *NMTD, KAERI, Taejeon, South Korea*
- BV-15. Synthesis and characterization of FeCo nanoparticles used for biotechnology.** *K. Zhang¹, T. Holloway¹, R. Bah¹ and A.K. Pradhan¹*. *Ceneter for Materials Research, Norfolk State University, Norfolk, VA*
- BV-16. Magnetic properties of Fe-B-Si-(Ta,Y) amorphous ribbons with high thermal stability.** *I. Betancourt¹ and S. Baez¹*. *Materials Research Institute, UNAM, Mexico, DF, Mexico*
- BV-17. Study of some shielding properties of the composite textile material with amorphous microwire.** *O. Baltag¹*. *Faculty of Biomedical Engineering, Gr.T.Popa Univ. of Medicine and Pharmacy, Iasi, Romania*
- BV-18. Exchange bias behavior of nano-crystalline FeCuNbSiB ribbons.** *J. He¹, D. Zhao¹, X. Wang¹ and Q. Yao²*. *Division of Functional Material Research, Central Iron & Steel Research Institute, Beijing, China; 2. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Science, Shenyang, China*
- BV-19. Synthesis and magnetization dynamics of Ag-coated Fe₃O₄ core-shell nanoparticles.** *K. Mohan Kant^{1,3}, B. Tiwari^{1,2}, K. Sethupathi¹ and M.S. Ramachandra Rao^{1,2}*. *Department of Physics, Indian Institute of Technology Madras, Chennai, India; 2. Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, Tamilnadu, India; 3. Fuel Cells and Solid State Chemistry Department, Riso Denmark Technical University, Roskilde, Denmark*
- BV-20. High temperature coercive field behavior of Fe-Zr powder.** *D. Mishra¹, P. Alagarsamy¹ and A. Srinivasan¹*. *Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India*
- BV-21. Effect of surface domain structure on wall mobility in amorphous microwires.** *H. Chiriac¹, T.A. Óvári¹ and M. Tibu¹*. *National Institute of Research and Development for Technical Physics, Iasi, Romania*

TUESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session BW
MULTIFERROICS II: BiFeO₃
(POSTER SESSION)

Pavol Krivosik, Chair

- BW-01. Enhancement of magnetic properties in multiferroic BiFeO₃ films with excess iron.** *H. Naganuma¹, T. Okubo¹, S. Sekiguchi¹ and S. Okamura¹*. *Tokyo University of Science, Tokyo, Japan*

- BW-02. Dielectric constant at x-band microwave frequencies for multiferroic BiFeO₃ thin films.** *F.B. Abdul Ahad¹, D. Hung², Y. Yao³, S. Lee¹, F. Yuan¹ and Y. Chen¹*. *Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Information and Telcommunication Engineering, Ming Chuan University, Taipei, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan*
- BW-03. Integration of Novel Multiferroic Thin Films on GaN/Sapphire and GaAs Substrates for High Frequency Device Applications.** *P. Kovur¹, S. Chakrabarti¹ and V.R. Palkar¹*. *Center of Excellence in Nanoelectronics, Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India*
- BW-04. Spray Pyrolysis deposited multiferroic BiFeO₃ films.** *P.K. Siwach¹, H.K. Singh¹, J. Singh² and O.N. Srivastava²*. *QHRs and Superconducting Devices Group, National Physical Laboratory, New Delhi, India; 2. Physics Department, Banaras Hindu University, Varanasi, India*
- BW-05. Anomalous low-temperature magnetic ordering induced spin phonon coupling and magnon light scattering in Epitaxial BiFeO₃ thin films.** *M.K. Singh¹, R. Katiyar¹ and W. Prellier²*. *University of Puerto Rico, San Juan, PR; 2. Laboratoire CRISMAT, CNRS UMR 6508, ENSICAEN, 6 Bd du Maréchal Juin, F-14050, Caen Cedex, France*
- BW-06. Withdrawn**
- BW-07. Effect of diamagnetic Pb doping on the crystal structure and multiferroic properties of the BiFeO₃ perovskite.** *X. Zhang¹, Y. Sui^{1,2}, X. Wang¹, J. Mao¹ and R. Zhu¹*. *Physics, Harbin Institute of Technology, Harbin, Heilongjiang, China; 2. International Center for Materials Physics, Academia Sinica, Taipei 106, Taiwan*
- BW-08. Room temperature multiferroic properties of Eu doped BiFeO₃.** *P. Uniyal¹ and K.L. Yadav¹*. *Physics, IITR, Roorkee, Uttarakhand, India*
- BW-09. Crystal structure and multiferroic property of BiFeO₃ nanopowder.** *S. Han¹, K. Kim², K. Kim¹, H. Kim¹, J. Kim² and C. Cheon²*. *Materials Science and Engineering, KAIST, Daejeon, South Korea; 2. Semiconductor and Display Engineering, Hoseo University, Asan, South Korea*
- BW-10. Detailed Magnetic Studies of Magnetoelectrically coupled BF-LF-PT.** *A. Singh¹ and R. Chatterjee¹*. *Physics, Indian Institute of Technology(Delhi), New Delhi, India*
- BW-11. Bi_{1/2}Sr_{1/2}FeO₃ – a novel room-temperature multiferroic material.** *K. Balamurugan¹, N. Harish Kumar¹ and N. Santhosh P.¹*. *Physics, Indian Institute of Technology Madras, Chennai, Tamilnadu, India*

- BW-12. Comparative investigations of room temperature magnetoelectricity in (Bi_{0.9}La_{0.1})FeO₃-Sr(Fe_{0.5}Nb_{0.5})O₃ and (Bi_{0.9}La_{0.1})FeO₃-Pb(Fe_{0.5}Nb_{0.5})O₃ single-phase solid solution systems.** *H. Paik¹ and K. No¹. Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea*

WEDNESDAY
MORNING
9:00

SALON C

Session CA

**SYMPOSIUM ON NEW DEVELOPMENTS IN
MAGNETIC MICROSCOPY**

John Unguris, Chair

9:00

- CA-01. Magnetic soft X-ray microscopy: A promising path towards imaging spin dynamics at fundamental length and time scales.** *(Invited) P. Fischer¹. CXRO, LBNL, Berkeley, CA*

9:36

- CA-02. Complex spin structures on the verge of instability—Imaging and manipulation by spin-polarized STM.** *(Invited) M. Bode¹. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL*

10:12

- CA-03. Magnetic Vortex/Antivortex Dynamics Probed by Micromagnetic Simulation and X-ray Microscopy.** *(Invited) M. Bolte¹. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

10:48

- CA-04. High Resolution Magnetic Imaging: MFM, SEMPA, and Alternatives.** *(Invited) J. Ahner¹. Seagate Technology, Pittsburgh, PA*

WEDNESDAY
MORNING
9:00

SALON G

Session CB

**SPIN-TRANSFER-TORQUE: FERROMAGNETS
AND ANTIFERROMAGNETS**

Fred Mancoff, Chair

9:00

- CB-01. Spin-wave interference in spin torque oscillators.** *X. Chen¹ and R.H. Victora². 1. Department of Physics, University of Minnesota, Minneapolis, MN; 2. Department of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN*

9:12

- CB-02. Amplitude-Phase Coupling in a Spin-Transfer Nano-Oscillator.** *K. Kudo¹, T. Nagasawa¹, R. Sato¹ and K. Mizushima¹. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Kanagawa, Japan*

9:24

- CB-03. Spin-Torque-Induced Rotational Dynamics of a Magnetic Vortex Dipole.** *G. Finocchio¹, O. Ozatay^{3,4}, L. Torres², R. Buhrman⁴, D. Ralph⁴ and B. Azzerboni¹. 1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain; 3. Hitachi GST, San Jose Res. Ctr., San Jose, CA; 4. Cornell University, Ithaca, NY*

9:36

- CB-04. Antiferromagnetic spintronics.** *(Invited) P.M. Haney¹, R.A. Duine², A.S. Nunez³, M.D. Stiles¹ and A.H. MacDonald⁴. 1. Center for Nanoscale Science and Technology, National Institute for Standards and Technology, Gaithersburg, MD; 2. Institute for Theoretical Physics, Utrecht University, Utrecht, Netherlands; 3. Departamento de Fisica, Universidad de Santiago de Chile, Santiago, Chile; 4. Department of Physics, The University of Texas at Austin, Austin, TX*

10:12

- CB-05. Spin-transfer interactions in exchange-biased spin valves.** *J. Basset^{1,2}, Z. Wei¹, A. Sharma³, J. Bass³ and M. Tsoi¹. 1. University of Texas at Austin, Austin, TX; 2. University Joseph Fourier, Grenoble, France; 3. Michigan State University, East Lansing, MI*

10:24

- CB-06. Time domain studies of transient features of spin-torque driven vortex oscillations.** *V. Pribiag^{1,2}, B.J. Williams³, D.C. Ralph² and R.A. Buhrman¹. 1. Applied & Engineering Physics, Cornell University, Ithaca, NY; 2. Physics, Cornell University, Ithaca, NY; 3. Physics, UT Dallas, Dallas, TX*

10:36

- CB-07. Magnetization excitations in partially-patterned magnetic nanopyllars induced by a d.c. spin polarized current.** *N. Theodoropoulou¹, A. Sharma¹, W.P. Pratt¹ and J. Bass¹. 1. Physics and Astronomy, Michigan State University, East Lansing, MI*

10:48

CB-08. Spin torques in antiferromagnetic spin valve and domain wall. *(Invited)* K. Xia¹, Y. Xu¹ and S. Wang¹. *Institute of Physics, Chinese Academy of Sciences, Beijing, China*

11:24

CB-09. Current-induced magnetization dynamics in single magnetic-layer nanopillars. N. Müsgens^{1,2}, T. Maassen^{1,2}, M. Bückins³, J. Mayer³, B. Beschoten^{1,2} and G. Güntherodt^{1,2}. *1. Physics Institute II A, RWTH Aachen University, Aachen, Germany; 2. Virtual Institute for Spinelectronics (VISel), Jülich-Aachen-Göttingen, Germany; 3. Central Facility for Electron Microscopy, RWTH Aachen University, Aachen, Germany*

11:36

CB-10. Current-induced spin wave Doppler shift. V. Vlaminck¹ and M. Bailleul¹. *Institut de Physique et Chimie des Matériaux de Strasbourg, CNRS-ULP, Strasbourg, France*

11:48

CB-11. The feature of STT microwave oscillation relates on confinement of domain wall. H. Suzuki¹, H. Endo¹, T. Nakamura¹, T. Tanaka¹, M. Doi¹, H.N. Fuke², M. Takagishi², H. Iwasaki² and M. Sahashi¹. *1. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 2. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*

WEDNESDAY
MORNING
9:00

SALON A

Session CC
HIGH ANISOTROPY PERPENDICULAR MEDIA I

Shaoping Li, Chair

9:00

CC-01. Exchange coupled FePt-TiO₂ composite media with small grain size. T. Zhou¹, B. Lim¹, J. Hu¹, P. Lwin¹ and B. Liu¹. *Data Storage Institute, Singapore, Singapore*

9:12

CC-02. Structural and magnetic properties of L1₀ FePt film with Ag heat sink layer. J. Chen¹, J. Hu², B. Lim² and G. Ju³. *1. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore; 3. Seagate, Pittsburgh, PA*

9:24

CC-03. FePt:C ultra-thin films for perpendicular magnetic recording media. E. Liu¹, Y. Ding¹ and J. Chen². *1. School of Mechanical & Aerospace Engineering, Nanyang Technological University, Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

9:36

CC-04. Magnetic Correlations in Nanocomposite FePt:Cu and FePt:C Films. T.A. George¹, R. Skomski¹ and D.J. Sellmyer¹. *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE*

9:48

CC-05. Perpendicular Magnetization of FePt:C thin film on a new underlayer of Pt/MgO(p) thin film. S. Lee¹ and J. Park¹. *1. Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea*

10:00

CC-06. Granular L1₀ FePt:X (X= Ta₂O₅, TiO₂, C) (001) nanocomposite films with small grain size for high density magnetic recording. J. Chen¹, B. Lim², J. Hu², Y. Ding², G. Chow¹ and G. Ju³. *1. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore; 3. Seagate, Pittsburgh, PA*

10:12

CC-07. FePt-C nanogranular films for perpendicular magnetic recording. P. Alagarsamy¹, Y. Takahashi¹ and K. Hono¹. *1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

10:24

CC-08. Granular L10 FePt-X Media with High Anisotropy. Y. Peng¹, G. Ju¹, M. Nassirou¹ and X. Wu¹. *1. Seagate Technology, Pittsburgh, PA*

10:36

CC-09. Underlayer and Interlayer Interdiffusion Control for the Development of FePt type Exchange Coupled Composite Media. H. Wang¹, H. Zhao¹, A. Das², M. Racine², M. Imakawa² and J.P. Wang¹. *1. The Center for Micromagnetics and Information Technologies (MINT) and Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Thin Film Materials Division, Heraeus Inc., Chandler, AZ*

10:48

- CC-10. Antiferromagnetic Iridium-Manganese Intermediate Layers for Perpendicular Recording Media. (Invited) K. Srinivasan¹, S.N. Piramanayagam¹, R. Sbiaa¹, Y. Kay¹, H. Tan¹ and S. Wong¹. Spintronics, Media and Interface Division, Data Storage Institute, Singapore, Singapore**

11:24

- CC-11. Magnetic properties of pressure graded Co/Pd multilayers.** J.E. Davies¹, S.M. Watson², B.J. Kirby², J. Lau¹, G.T. Zimanyi³, K. Liu³, D. Suess⁴, R.D. Shull¹ and J.A. Borchers². *1. Metallurgy/Magnetic Materials, NIST, Gaithersburg, MD; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD; 3. Physics Department, University of California, Davis, CA; 4. Institute of Solid State Physics, Vienna University of Technology, Orsay, France*

11:36

- CC-12. Ultrahigh- H_c granular media with [CoB/Pt]_n+oxygen multilayer film.** H. Nemoto¹, I. Takekuma¹, K. Tanahashi¹ and R. Nakatani². *1. Central Research Laboratory, Hitachi, Ltd., Odawara, Japan; 2. Graduate School of Engineering, Osaka University, Osaka, Japan*

11:48

- CC-13. Fabrication of $L1_1$ type (Co-Ni)-Pt ordered alloy films by sputter deposition for bit-patterned media.** H. Sato^{2,1}, T. Shimatsu¹, H. Kataoka^{1,3}, H. Aoi¹, O. Kitakami² and S. Okamoto². *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. IMRAM, Tohoku University, Sendai, Miyagi, Japan; 3. Fuji Electric Device Technology, Co., Ltd, Matsumoto, Nagano, Japan*

WEDNESDAY
MORNING
9:00

SALON B

Session CD

MAGNETIC TUNNEL JUNCTIONS II

Evgeny Tsymbal, Chair

9:00

- CD-01. Large tunnel magnetoresistance effect in double magnetic tunnel junctions using half-metallic Heusler alloy electrodes.** Y. Ohdaira¹, M. Oogane¹ and Y. Ando¹. *1. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

9:12

- CD-02. Realization of large TMR using pure spin filtering barriers with no ferromagnetic electrodes involved.** G. Miao^{1,2}, M. Muller¹, J. Chang^{1,2} and J.S. Moodera¹. *1. Francis Bitter Magnetic Laboratory, MIT, Cambridge, MA; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, South Korea*

9:24

- CD-03. Spatially resolved measurements of magneto-Coulomb blockade in magnetic tunnel junctions.** K. Dempsey¹, A.T. Hindmarch¹, H. Wei², C.H. Marrows², X. Han² and Q. Qin¹. *1. Leeds University, Leeds, United Kingdom; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

9:36

- CD-04. Interface and magnetic characterization of ultrathin EuO films with XRS and XMCD.** E. Negusse¹, J. Dvorak¹, J. Holroyd¹, M. Liberati^{1,3}, Y.U. Idzerda¹, T.S. Santos², J.S. Moodera² and E. Arenholz³. *1. Physics, Montana State University, Bozeman, MT; 2. Francis Bitter Magnet Lab, Massachusetts Institute of Technology, Cambridge, MA; 3. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA*

9:48

- CD-05. Tunnel magnetoresistance effect in magnetic tunnel junctions with Co-Mn-Si Heusler alloy electrode.** M. Oogane¹, N. Hirose¹, Y. Sakuraba² and Y. Ando¹. *1. Tohoku University, Sendai, Japan; 2. Tohoku University, IMR, Sendai, Japan*

10:00

- CD-06. Double perovskite Sr₂FeMoO₆ thin films: Effect of Substrate and substrate temperature on structural, electrical and magnetic properties.** D. Teotia¹ and D. Kaur¹. *1. Physics, IIT Roorkee, Roorkee, Uttarakhand, India*

10:12

- CD-07. Tunnel barrier enhanced voltage signals generated by magnetization precession of a single ferromagnetic layer. (Invited) T. Moriyama¹, R. Cao¹, X. Fan¹, G. Xuan², B. Nikolić¹, Y. Tserkovnyak³, J. Kolodzey² and J.Q. Xiao¹. *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Electrical and Computer Engineering, University of Delaware, Newark, DE; 3. Physics and Astronomy, UCLA, Los Angeles, CA***

10:48

- CD-08. Role of Interface Properties on Spin Polarized Tunneling in Cu/Al₂O₃/Co Junctions with Interfacial Ultra Thin Co layer.** *D. Choi¹, J. Moodera², A. Michel³ and T. Kim¹. 1. Department of Physics, Ewha Womans University, Seoul, South Korea; 2. Francis Bitter Magnet Lab, MIT, Cambridge, MA; 3. Department of Physics, Université de Poitiers, Futuroscope-Chasseneuil, France*

11:00

- CD-09. Field-Like Spin Torque Term Governs Enhanced Synchronization in Magnetic Tunnel Junction based Spin Torque Oscillator.** *Y. Zhou¹ and J. Åkerman¹. 1. Institute of Microelectronics and Information Technology, Royal Institute of Technology, Stockholm-Kista, Sweden*

11:12

- CD-10. Multiferroic tunnel junctions: prediction of four resistance states from first-principles.** *J. Velev¹, C. Duan², A. Smogunov^{3,4}, E. Tosatti^{3,4}, S.S. Jaswal¹ and E.Y. Tsymbal¹. 1. Department of Physics and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Key Laboratory of Polarized Materials and Devices, East China Normal University, Shanghai, China; 3. International Centre for Theoretical Physics (ICTP), Trieste, Italy; 4. International School for Advanced Studies (SISSA) and CNR/DEMOCRITOS National Simulation Center, Trieste, Italy*

11:24

- CD-11. The band gap of ultra-thin amorphous and well-ordered Al₂O₃ films on CoAl(100) measured by scanning tunneling microscopy.** *V. Rose¹ and R. Franchy². 1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 2. Institut für Oberflächen und Grenzflächen, Research Center Juelich, Juelich, Germany*

11:36

- CD-12. High spin polarization of Co₇₅Fe₂₅ bulk alloys using PCAR complemented by TMR measurements with an alumina barrier.** *S.V. Karthik¹, T.M. Nakatani^{1,2}, A. Rajanikanth¹, Y.K. Takahashi¹ and K. Hono^{1,2}. 1. Magnetic Materials Center, National Institute for Materials Science, Sengen, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan*

11:48

- CD-13. The influence of oxygen on structure and magnetic properties of full Heusler Co₂MnAl films and magnetic tunnel junctions.** *J. Qiu¹, V. Ko¹, P. Luo¹, W. Yeo¹, L. An¹, B. Zong¹ and G. Han¹. 1. SMI Division, Data Storage Institute, Singapore, Singapore*

WEDNESDAY
MORNING
9:00

SALON D

Session CE
HYBRID SEMICONDUCTOR /
FERROMAGNET HETEROSTRUCTURES
Olaf van 't Erve, Chair

9:00

- CE-01. Induced Ferromagnetic Order at Room Temperature in (Ga,Mn)As.** *M. Sperl¹, F. Maccherozzi², M. Soda¹, G. Panaccione², G. Rossi², S. Polesya³, H. Ebert³, U. Wurstbauer¹, G. Woltersdorf⁴, W. Wegscheider¹, G. Bayreuther¹ and C. Back¹. 1. Institut für Experimentelle Physik, Universität Regensburg, Regensburg, Germany; 2. Laboratorio Nazionale TASC, INFN-CNR, Trieste, Italy; 3. Department of Chemistry, Ludwig-Maximilians University Munich, Muenchen, Germany*

9:12

- CE-02. Manipulating the magnetic properties of micromachined GaMnAs.** *H. Choi¹, C. Yang¹ and Y. Park¹. 1. Department of Physics and Astronomy, Seoul National University, Seoul, South Korea*

9:24

- CE-03. Current induced domain wall motion in GaMnAs tracks.** *J. Adam^{2,4}, N. Vernier^{1,2}, L. Thévenard³, A. Lemaître³, J. Ferré² and G. Faini³. 1. IEF, Université Paris-Sud, Orsay, France; 2. LPS, Université Paris-Sud, Orsay, France; 3. LPN, CNRS, Marcoussis, France; 4. GEMAC, Université de Versailles-Saint Quentin, Versailles, France*

9:36

- CE-04. Exchange Coupling and Spin-dependent Transport in Ferromagnetic Semiconductor Exchange Spring Devices. (Invited)** *M. Zhu¹, M.J. Wilson¹, B. Sheu¹, P. Mitra¹, P. Schiffer¹ and N. Samarth¹. 1. Department of Physics and Materials Research Institute, Pennsylvania State University, University Park, PA*

10:12

- CE-05. Ferromagnetic Resonance Study of MnAs/(Ga,Mn)As Bilayers.** *M. Cubukcu¹, H. vonBardeleben¹, K. Khazen¹, J. Cantin¹, M. Zhu², M. Wilson², P. Schiffer² and N. Samarth². 1. Institut des NanoSciences de Paris-Université Paris 6, Paris, France; 2. Dept of Physics, Materials Research Institute, The Pennsylvania State University, Pennsylvania, PA*

10:24

CE-06. Intershell exchange and sequential electrically injected spin populations of InAs quantum dot shell state. *G. Kioseoglou*¹, C.H. Li¹, A.T. Hanbicki¹, B.T. Jonker¹, M. Korkusinski², P. Hawrylak², M. Yasar³ and A. Petrou³. *1. Code 6361, Naval Research Lab, Washington, DC; 2. Institute for Microstructural Sciences, National Research Council, Ottawa, ON, Canada; 3. Physics, SUNY Buffalo, Buffalo, NY*

10:36

CE-07. Investigation of an effective magnetic field involved in photo-induced precession of magnetization in (Ga,Mn)As. *S. Kobayashi*¹, Y. Hashimoto¹ and H. Munekata¹. *1. Imaging Science and Engineering Lab., Tokyo Insutitute of Technology, Yokohama, Japan*

10:48

CE-08. Electrically-Pumped Spin-Polarized Lasers. (Invited) *M. Holub*¹. *1. Naval Research Laboratory, Washington, DC*

11:24

CE-09. Tunneling magnetoresistance in Fe/GaO_x/Ga_{1-x}Mn_xAs magnetic tunnel diodes. *H. Saito*^{1,2}, S. Yuasa¹ and K. Ando¹. *1. Nanoelectronics, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan; 2. PRESTO, Japan Science and Technology Agency, Tokyo, Japan*

11:36

CE-10. Magnetic tunnel junctions with Co:TiO₂ ferromagnetic semiconductor electrodes. *Y.L. Lee*¹, I.J. Vera Marín¹, M.P. de Jong¹ and R. Jansen¹. *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

11:48

CE-11. Corrections to spin lifetimes estimated by Hanle measurements in Fe/GaAs lateral spin transport heterostructures. *C. Awo-Affouda*¹, O.M. van't Erve¹, M. Holub¹, C.H. Li¹, A.T. Hanbicki¹, G. Kioseoglou¹ and B.T. Jonker¹. *1. Naval Research Laboratory, Washington, DC*

WEDNESDAY
MORNING
9:00

SALON E

Session CF
COMPLEX MAGNETIC OXIDES
Maria Varela, Chair

9:00

CF-01. Enhanced ordering temperatures in antiferromagnetic (LaMnO₃)_m/(SrMnO₃)_{2m} superlattices. *S.J. May*¹, J.L. Robertson², P.J. Ryan³, T.S. Santos⁴, S. te Velthuis¹, J.W. Kim³, J.N. Eckstein⁵, S.D. Bader^{1,4} and A. Bhattacharya^{1,4}. *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. High Flux Isotope Reactor, Oak Ridge National Laboratory, Oak, TN; 3. MUCAT, Ames Laboratory, Ames, IA; 4. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 5. Department of Physics, University of Illinois, Urbana-Champaign, IL*

9:12

CF-02. Independent Behavior of the Antiferromagnetic and Ferromagnetic Properties in Perovskite Oxide Superlattices. *Y. Takamura*¹, F. Yang¹, N. Kemik¹, M.D. Biegalski², H.M. Christen^{2,3} and E. Arenholz⁴. *1. Chemical Engineering and Materials Science, UC Davis, Davis, CA; 2. Center for Nanophase Materials Science, Oak Ridge National Laboratory, Oak Ridge, TN; 3. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

9:24

CF-03. Magnetic Characteristics of Complex Oxide F₂/F₂ Trilayers. *C. Visani*¹, Z. Sefrioui¹, N.M. Nemes¹, C. Leon¹, J. Santamaria¹, S. te Velthuis², A. Hoffmann², M. Garcia-Hernandez³, M.R. Fitzsimmons⁴ and B.J. Kirby⁴. *1. Universidad Complutense de Madrid, Madrid, Spain; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL; 3. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 4. Los Alamos National Laboratory, Los Alamos, NM*

9:36

CF-04. Structure, Magnetism, and Transport in SrTiO₃(001) / La_{1-x}Sr_xCoO₃: Evidence for Interfacial Magnetic Phase Separation. (Invited) *M. Torija*¹, M. Sharma¹, J. Gazquez², M. Varela², M. Fitzsimmons³, V. Orlyanchik⁴, M. Weissman⁴, C. He¹, M. Laver⁵, B. Maranville⁵, J. Borchers⁵ and C. Leighton¹. *1. University of Minnesota, Minneapolis, MN; 2. Oak Ridge National Lab, Oak Ridge, TN; 3. Los Alamos National Lab, Los Alamos, NM; 4. University of Illinois, Urbana-Champaign, IL; 5. National Institute for Standards and Technology, Gaithersburg, MD*

10:12

- CF-05. Magnetic Circular Dichroism Spectroscopy of Epitaxial La_{0.7}Sr_{0.3}MnO₃ Thin Films.** *G.A. Gehring¹, T.K. Nath² and J.R. Neal¹. The Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics and Meteorology, Indian Institute of Technology, Kharagpur, India*

10:24

- CF-06. Creating an Antiferromagnetic Metal in La_{1-x}Sr_xMnO₃ by Digital Synthesis.** *T. Santos¹, S.J. May², A. Bhattacharya^{1,2} and J.L. Robertson³. 1. Center for Nanoscale Materials, Argonne National Lab, Argonne, IL; 2. Materials Science Division, Argonne National Lab, Argonne, IL; 3. High Flux Isotope Reactor, Oak Ridge National Lab, Oak Ridge, TN*

10:36

- CF-07. Effects of B-site ordering on the magnetic properties of Sr₂CrReO₆ thin films.** *Y. Sugimoto¹, K. Yoshimoto¹, F. Kato¹, J. Zhong^{1,2}, Y. Takeda¹ and H. Asano¹. Dept. of Cryst. Mat. Sci., Nagoya University, Nagoya, Japan; 2. Venture Business Laboratory, Nagoya University, Nagoya, Japan*

10:48

- CF-08. Anisotropic magnetoresistance in La_{0.65}Ca_{0.35}MnO₃ polycrystalline and epitaxial thin film samples.** *M. Egilmez¹, R. Ma¹, K.H. Chow¹ and J.A. Jung¹. Physics, University of Alberta, Edmonton, AB, Canada*

11:00

- CF-09. Magneto-Transmission Spectra and Colossal Magnetoresistance Effect in La(0.7)Pb(0.3)MnO(3-δ) Epitaxial Thin Film.** *S.T. Malak¹, . Clayton-Cox¹, J.R. Scheuermann¹, J. Stehlik¹ and J. Wang¹. Department of Physics, Applied Physics, and Astronomy, Binghamton University, Binghamton, NY*

11:12

- CF-10. Universal magnetic behavior of the electron-doped SrMnO₃ cubic perovskite by various A-site and B-site substitutions.** *S. Kolesnik¹, B. Dabrowski^{1,2} and O. Chmaissem^{1,2}. 1. Department of Physics, Northern Illinois University, DeKalb, IL; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL*

11:24

- CF-11. New Phase transition in Pr_{1-x}CaxMnO₃: evidence for electrical polarization in charge ordered manganites.** *J.P. Araujo¹, A.L. Lopes^{2,7}, V.S. Amaral³, J.G. Correia^{4,7}, Y. Tomioka⁵ and Y. Tokura⁶. 1. Departamento de Física, IFIMUP, Universidade do Porto, Porto, Portugal; 2. Centro de Física Nuclear, Universidade de Lisboa, Lisboa, Portugal; 3. Departamento Física, CICECO, Universidade de Aveiro, Aveiro, Portugal; 4. Instituto Tecnológico Nuclear, Sacavém, Portugal; 5. CERC, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; 6. Department of Applied Physics, University of Tokyo, Tokyo, Japan; 7. CERN EP, Geneva, Switzerland*

11:36

- CF-12. Oxygen vacancy order, electronic orbital order and magnetism in La_{1-x}Sr_xMnO_{3-d}.** *B. Dabrowski¹. Physics, Northern Illinois University, DeKalb, IL*

11:48

- CF-13. Paramagnetic spin correlations and spin dynamics in doped manganites as the precursors of their magnetic ordering.** *E. Rozenberg¹, M. Auslender¹, A.I. Shames¹, Y.M. Mukovskii² and A. Gedanken³. 1. Physics, BGU of the Negev, Beer-Sheva, Israel; 2. Moscow Steel and Alloys Institute, Moscow 119049, Russian Federation; 3. Chemistry, BIU, Ramat-Gan 52900, Israel*

WEDNESDAY
MORNING
9:00

400/402

Session CG
APPLICATIONS OF MAGNETIC
NANOPARTICLES TO BIOLOGY

Jian Ping Wang, Chair

9:00

- CG-01. Magnetic Micro-Barcodes for High-Throughput Biological Assays.** *B. Hong¹, T. Hayward¹, J. Jeong², J. Palfreyman¹, J. Cooper¹, T. Mitrelias¹, J. Llandro¹, K.P. Kopper¹, S. Steinmüller¹, T. Trypiniotis¹, T. Bland¹ and C. Barnes¹. 1. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Department of Materials Engineering, Chungnam National University, Daejeon, South Korea*

9:12

CG-02. Magnetophoresis of Fe₃O₄ Nanorods. J. Lim¹, D.X. Tan², C.G. Lanni², F. Lanni³, R.D. Tilton^{1,4} and S.A. Majetich^{2,1}. *Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Department of Physics, Carnegie Mellon University, Pittsburgh, PA; 3. Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA; 4. Department of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:24

CG-03. Synchronized swimming of magnetic micro-bead pairs. S. Bhat¹, T. Kurzweg¹, A. Guez¹ and G. Friedman^{1,1}. *ECE Department, Drexel University, Philadelphia, PA*

9:36

CG-04. Ferromagnetic micro-swimmers: Experimental prototype. F.Y. Ogrin¹, P.G. Petrov¹ and C.P. Winlove^{1,1}. *University of Exeter, Exeter, United Kingdom*

9:48

CG-05. Single molecule manipulation monitoring using magnetic tweezers and MR sensors. R.C. Chaves^{1,2}, S. Cardoso^{1,2} and P.P. Freitas^{1,2,1}. *INESC-MN & IN, Lisbon, Portugal; 2. IST, Lisbon, Portugal*

10:00

CG-06. Functionalization-Induced Improvement of Technical Magnetic Properties in Fe₃O₄ Nanoparticles. D.K. Nagesha¹, B.D. Plouffe², M. Phan², L.H. Lewis², S. Sridhar¹ and S.K. Murthy^{2,1}. *Physics, Northeastern University, Boston, MA; 2. Chemical Engineering, Northeastern University, Boston, MA*

10:12

CG-07. The “sonic wave emission by magnetically stimulated particles” and its application to sentinel lymph node mapping. K. Kakegawa¹, T. Ueda², M. Tada¹, T. Nakagawa¹, H. Handa^{3,2} and M. Abe^{1,2,1}. *Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Integrated Research Institute, Tokyo Institute of Technology, Tokyo, Japan; 3. Biological Information, Tokyo Institute of Technology, Tokyo, Japan*

10:24

CG-08. An Fe-Based Novel Drug Delivery System with Heparin-Coated Magnetic Nanoparticles. H. Khurshid¹, S.H. Kim², M.J. Bonder¹, G.C. Hadjipanayis¹, K.L. Kiick² and R.A. Sikes^{3,1}. *Physics and Astronomy, University of DE, Newark, DE; 2. Material Science and Engineering, University of DE, Newark, DE; 3. Biological Sciences, University of DE, Newark, DE*

10:36

CG-09. Synthesis of Magnetic Porous Hollow Silica Nanotubes for Drug Delivery. H. Ma¹, M.A. DeCoster², J. McNamara², D. Caruntu¹, J. Chen³, C.J. O'Connor¹ and W. Zhou^{1,1}. *Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 2. Biomedical Engineering and Institute for Micromanufacturing, Louisiana Tech University, Ruston, LA; 3. Key Lab for Nanomaterials, Ministry of Education, Beijing University of Chemical Technology, Beijing, China*

10:48

CG-10. Investigation of the dynamic response of cells to locally applied forces using magnetic micropost arrays. C.M. Lamb¹, N.J. Sniadecki², C.S. Chen³ and D.H. Reich^{1,1}. *Physics, Johns Hopkins University, Baltimore, MD; 2. Mechanical Engineering, University of Washington, Seattle, WA; 3. BioEngineering, University of Pennsylvania, Philadelphia, PA*

11:00

CG-11. The Influence of Size and Surface Functionality on the Magnetic and Heating Properties of Iron Oxide Nanoparticles. C. Dennis¹, A.J. Jackson^{2,3}, J.A. Borchers², C. Lau^{1,3}, A.R. Foreman⁴, C. Gruettner⁵ and R. Ivkov^{4,6,1}. *NIST, Gaithersburg, MD; 2. NCTR, NIST, Gaithersburg, MD; 3. Department of Materials Science and Engineering, University of Maryland, College Park, MD; 4. Triton BioSystems, Inc., Chelmsford, MA; 5. Micromod Partikeltechnologie GmbH, Rostock-Warnemuende, Germany; 6. Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University, Baltimore, MD*

11:12

CG-12. Experimental and theoretical investigation of cubic FeCo nanoparticles for magnetic hyperthermia. Y. Jing¹, H. Sohn¹, T. Kline¹, R.H. Victora¹ and J.P. Wang^{1,1}. *Electrical Engineering, University of Minnesota, Minneapolis, MN*

11:24

CG-13. A Study Of The Dependence Of Tumor Volume On The Optimum Dosage Of Ferromagnetic Nanoparticles In Cancer Therapy Using MFH. M. Pavel^{1,2} and A. Stancu^{1,1}. *“Alexandru Ioan Cuza” University, Iasi, Romania; 2. University of Medicine and Pharmacy “Gr. T. Popa”, Iasi, Romania*

11:36

CG-14. AC magnetically induced heating of solid state superparamagnetic ferrite nanoparticles and its physical characteristics for hyperthermia. S. Lee¹, S. Bae¹, M. Jeun¹, T. Koshi² and Y. Takemura^{2,1}. *Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan*

11:48

- CG-15. Theory of Magnetic Fluid Heating with an Alternating Magnetic Field with Temperature Dependent Materials Properties for Self-Regulated Heating.** C.L. Ondeck^{1,2}, A.H. Habib¹, C.A. Sawyer¹, P. Ohodnicki¹, K. Miller¹ and M.E. McHenry^{1,3}. *1. Materials Science and Engineering, Carnegie Mellon University, McMurray, PA; 2. Biomedical and Health Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Department of Physics, Carnegie Mellon University, Pittsburgh, PA*

WEDNESDAY
MORNING
9:00

410

Session CH

MAGNETORESISTANCE, MAGNETOIMPEDANCE, AND HALL EFFECT

Ching-Ray Chang, Chair

9:00

- CH-01. Unraveling positive and negative organic magnetoresistance.** W. Wagemans¹, F.L. Bloom¹, M. Kemerink¹ and B. Koopmans¹. *1. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

9:12

- CH-02. Current-perpendicular-to-plane giant magnetoresistance in $\text{Co}_x\text{-C}_{1-x}$ granular film.** X. Zhang^{1,2}, X. Zhang^{1,2}, L. Wu^{1,2} and C. Wan^{1,2}. *1. Laboratory of Advanced Materials, Department of Materials Science and Engineering, Tsinghua University, Beijing 100084, China; 2. Beijing National Center for Electron Microscopy, Beijing 100084, China*

9:24

- CH-03. Mechanism of giant tunnel magnetoresistance in fullerene-cobalt granular thin films.** I. Sugai¹, S. Sakai², S. Mitani¹, M. Mizuguchi¹, K. Takanashi^{1,2}, Y. Matsumoto², H. Naramoto², P.V. Avramov², S. Okayasu² and Y. Maeda^{2,3}. *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan; 3. Department of Energy Science and Technology, Kyoto University, Kyoto, Japan*

9:36

- CH-04. Magneto-transport Properties of Ag and Co Nanoparticles Embedded in a Carbon Matrix.** P. Liu¹, Y. Huang¹, M.J. Bonder¹ and G.C. Hadjipanayis¹. *1. Department of Physics & Astronomy, University of Delaware, Newark, DE*

9:48

- CH-05. Controlled metal-insulator transition in ultra thin $(\text{Ga,Mn})\text{As}$.** R. Gareev¹, M. Schlapps¹, J. Sadowski^{1,2}, M. Sperl¹, A. Petukhov³ and W. Wegscheider¹. *1. University of Regensburg, Regensburg, Germany; 2. Lund University, Lund, Sweden; 3. South Dakota School of Mines and Technology, Rapid City, SD*

10:00

- CH-06. Weak Localization in Ferromagnetic Semiconductors.** I. Garate¹ and A. MacDonald¹. *1. Physics Department, University of Texas at Austin, Austin, TX*

10:12

- CH-07. Magnetoresistance and anomalous Hall effect in the variable range hopping transport of $(\text{In}_{1-x}\text{Co}_x)_2\text{O}_{3-y}$ oxide ferromagnetic semiconductor.** R. Qiao¹, T. Xu¹, Z. Liu², Y. Zhang¹, L. Mei¹, Y. Tian^{1,3}, Y. Qiang³ and S. Yan¹. *1. School of Physics, Shandong University, Jinan, Shandong, China; 2. State Key Lab Metastable Mat Sci & Technol, Yanshan University, Qinhuangdao, Hebei, China; 3. Department of Physics, University of Idaho, Moscow, ID*

10:24

- CH-08. High Sensitivity, Multi-Functional Micro-Hall Sensors Fabricated using InAlSb/InAsSb/InAlSb Heterostructures.** M. Bando¹, T. Ohashi¹, M. Dede², R. Akram², A. Oral³, S. Park^{4,9}, M. Abe^{5,8}, H. Handa^{6,8}, I. Shibusaki⁷ and A. Sandhu^{1,4}. *1. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 2. Department of Physics, Bilkent University, Bilkent, Ankara, Turkey; 3. Faculty of Engineering and Natural Sciences, Sabanci University, Istanbul, Turkey; 4. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 5. Department of Physical Electronics, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 6. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan; 7. Asahikasei Corporation, Fuji, Shizuoka, Japan; 8. Integrated Research Institute, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 9. Tokyo Tech Global COE Program on Evolving Education and Research Center For Spatio-Temporal Biological Network, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan*

10:36

- CH-09. High frequency giant magneto-impedance in NiFe/Cu multilayered nanowires.** H. Chiriac¹, P. Pascariu¹, G. Ababei¹, O. Dragos¹ and N. Lupu¹. *1. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania*

10:48

- CH-10. Spin-orbit scattering and anomalous Hall effect in the epitaxial $L1_0$ -ordered ferromagnets FePd and FePt.** *K.M. Seemann¹, A. Aziz², F. Kronast³, J. Miguel⁴, W. Kuch⁴, M.G. Blamire², A.T. Hindmarch¹, B.J. Hickey¹ and C.H. Marrows¹. 1. E.C. Stoner Laboratory, School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 3. BESSY, Berlin, Germany; 4. Institut für Experimentalphysik, Freie Universität Berlin, Berlin, Germany*

11:00

- CH-11. Electron-magnon scattering and magnetization switching detection in FePt thin films and nanostructures.** *A.P. Mihal^{1,2}, J. Attané^{1,2}, A. Marty¹, L. Vila¹, J. Pillot¹, C. Beigné¹, P. Warin¹ and Y. Samson¹. 1. INAC, SP2M, CEA, Grenoble, France; 2. Université Joseph Fourier, Grenoble, France*

11:12

- CH-12. Spin valves based on $L1_0$ FePt fixed layer with tilted anisotropy.** *C. Zha¹, J. Persson¹, S. Bonetti¹ and J. Åkerman¹. 1. Department of Microelectronics and Applied Physics, Royal Institute of Technology (KTH), Stockholm, Sweden*

11:24

- CH-13. Effects of NiFe and Co insertion on the perpendicular anisotropy, soft layer coercivity and GMR in perpendicularly magnetized [Pd/Co]/Cu/[Co/Pd] pseudo spin-valves.** *N. Thiagarajah¹, S. Bae¹, H. Joo² and D. Hwang². 1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Department of Computer and Electronic Physics, Sangji University, Wonju, South Korea*

11:36

- CH-14. Enhancement of the magnetorefractive effect in tunnelling nanocomposites due to multiple interference and substrate resonance features.** *R.T. Mennicke¹, A.E. Carmichael¹, S.M. Thompson¹, J.A. Matthew¹, K. Takanashi² and K. Yakushiji². 1. Physics, University of York, York, United Kingdom; 2. IMR, Tohoku University, Sendai, Japan*

WEDNESDAY
MORNING
8:00

AUSTIN BALLROOM

**Session CP
DOMAIN WALLS AND VORTICES
(POSTER SESSION)**

Andrew Kunz, Chair

- CP-01. Non-linear motion of magnetic vortices.** *A. Drews¹, B. Krüger², S. Bohlens², G. Meier¹ and M. Bolte¹. 1. Institut für Angewandte Physik und Mikrostrukturzentrum, Universität Hamburg, Hamburg, Germany; 2. I. Institut für Theoretische Physik, Universität Hamburg, Hamburg, Germany*
- CP-02. Real-time detection of the current-induced dynamics of the magnetic vortex core by using TMR effect.** *S. Kasai¹, K. Nakano¹, N. Ohshima², K. Kobayashi¹, Y. Nakatani³ and T. Ono¹. 1. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 2. Device Platforms Research Laboratory, NEC Corporations, Sagami-hara, Kanagawa, Japan; 3. Division of the Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan*
- CP-03. Effect of Non-adiabatic Spin Torque on Spin-Diode Effect of Magnetization Vortex.** *J. Moon¹, M. Jung² and K. Lee¹. 1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, South Korea; 2. Dept. of Physics, Sogang University, Seoul, South Korea*
- CP-04. Stochasticity in nanostructured magnetic materials.** *D.J. Keavney¹, X. Cheng¹ and K. Buchanan^{2,3}. 1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 3. Dept. of Physics, Colorado State University, Ft. Collins, CO*
- CP-05. Edge Roughness effect on the magnetization reversal process of spin valve submicron wires.** *T. Chiang^{1,2}, C. Yu¹, Y. Chen¹, D. Chen¹, K. Cheng¹, S. Huang¹ and S. Lee¹. 1. Physics, Academia Sinica, Taipei, Taiwan; 2. Physics, National Taiwan University, Taipei, Taiwan*
- CP-06. Micromagnetic Study of Magnetic Domain Wall Collision in Ferromagnetic Nanowire.** *D. Djuhana¹, H. Piao¹, S. Oh¹, S. Yu¹ and D. Kim¹. 1. Physics, Chungbuk National University, Cheongju, Chungbuk, South Korea*
- CP-07. Depinning field and activation volume at notches of ferromagnetic nanowire with perpendicular magnetic anisotropy.** *K. Kim¹, J. Lee^{1,2}, C. Lee³, Y. Cho³, S. Seo³, K. Shin² and S. Choe¹. 1. Physics and Astronomy, Seoul National University, Seoul, South Korea; 2. Nano-Device Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 3. Samsung Advanced Institute of Technology, Yongin, South Korea*

- CP-08. Domain wall internal structure and dynamics in soft magnetic nanostripes.** *K. Gusliyenko*¹, *J. Lee*¹ and *S. Kim*¹. *Research Center for Spin Dynamics & Spin-Wave Devices, and Nanospinics Laboratory, Department of Materials Science and Engineering, Seoul National University, Seoul, South Korea*
- CP-09. Optimum conditions for microwave-assisted magnetization reversal of 30-nm-thick Permalloy film with lateral size of $2 \times 0.2 \mu\text{m}^2$ fabricated on 0.2- μm -wide coplanar waveguide.** *Y. Nozaki*¹, *K. Tateishi*¹, *S. Shiraishi*¹ and *K. Matsuyama*¹. *Dept. of Electronics, Kyushu University, Fukuoka, Japan*
- CP-10. Generation of nanoseconds duration magnetic pulse field for switching experiments on a single nanodot.** *N. Kikuchi*¹, *S. Okamoto*¹ and *O. Kitakami*¹. *IMRAM Tohoku University, Sendai, Japan*

WEDNESDAY
MORNING
8:00

AUSTIN BALLROOM

Session CQ
CMR OXIDES III: TRANSPORT
(POSTER SESSION)

Steve May, Chair

- CQ-01. Rectifying behavior and interfacial potential in $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3/\text{Si}$ junctions.** *F. Hu*¹, *J. Wang*¹, *J. Shen*¹, *J. Sun*¹, *B. Shen*¹ and *J. Gao*². *1. State Key Laboratory of Magnetism, Institute of Physics & Center of Condensed Matter Physics, Chinese Academy of Sciences, Beijing, Beijing, China; 2. Department of Physics, The University of Hong Kong, Hong Kong, China*
- CQ-02. Correlation between electroresistance and magnetoresistance in slight oxygen-deficient $\text{Nd}_{0.7}\text{Sr}_{0.3}\text{MnO}_{3-\delta}$ polycrystalline ceramics.** *P.C. Yang*¹, *H. Den*¹, *H. Wang*¹, *C.J. Wen*² and *F.X. Han*². *1. Faculty of Physics & Electronic Technology, Hubei University, Wuhan, China; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China*
- CQ-03. Effect of heat treatment on electroresistance in $\text{Nd}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ ceramics.** *S. Chen*¹, *Q. Dai*¹, *H. Deng*¹ and *C. Yang*¹. *Hubei University, Wuhan, China*
- CQ-04. Frequency response analysis of magnetoresistive manganite films exhibiting electric-pulse-induced resistance switching.** *T. Nakamura*¹, *T. Yokoyama*¹, *K. Homma*¹ and *K. Tachibana*¹. *Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan*
- CQ-05. Resistive switching behavior in manganite oxides.** *T. Hsu*¹, *H. Lee*¹ and *J. Lin*¹. *Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan*

- CQ-06. Magnetotransport properties of Ru-layered perovskites : Sr_3BRuO_7 (B = Mn and Ti).** *S.S. Pillai*¹ and *P.N. Santhosh*¹. *Physics, Indian Institute of Technology, Madras, Chennai, Tamilnadu, India*
- CQ-07. Non-stoichiometry, point defects and magnetoresistance of $\text{Sr}_2\text{FeMoO}_6$ -d.** *J. Toepfer*¹ and *R. Kircheisen*¹. *SciTec, Univ. Appl. Sciences Jena, Jena, Germany*
- CQ-08. Anomalous magnetism and charge transport in dielectric $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ($x \leq x_c \sim 0.22$).** *Y.M. Mukovskiy*¹, *M.A. Anisimov*², *A.D. Bozhko*², *A.L. Chernobrovkin*², *S.V. Demishev*², *V.Y. Ivanov*², *R.V. Privezentzev*¹, *N.A. Samarin*², *A.V. Semenov*², *N.E. Sluchanko*² and *V.V. Glushkov*². *1. Synthesis Lab., Moscow State Steel and Alloys Institute, Moscow, Russian Federation; 2. A.M.Prokhorov General Physics Institute of RAS, Moscow, Russian Federation*
- CQ-09. Colossal Electroresistance Effect in $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$.** *Z.H. Zhou*¹, *X.J. Luo*¹, *G.H. Rao*² and *C.P. Yang*¹. *1. Faculty of Physics & Electronic Technology, Hubei University, Wuhan, Hubei, China; 2. The Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China*
- CQ-10. Effect of doping-induced local lattice distortion on charge transport mechanism of $\text{La}_{0.85}\text{Zr}_{0.15}\text{Mn}_{1-x}\text{GaxO}_3$.** *D. Ling*¹, *J. Cheng*¹, *C. Lee*¹ and *F. Chien*¹. *Department of Physics, Tamkang University, Tamsui, Taiwan*
- CQ-11. Verification of percolating nature of ferromagnetic-paramagnetic transition in bulk manganite $\text{La}_{0.75}\text{Ca}_{0.25}\text{MnO}_3$ with current-pulse conductivity study.** *B. Belevtsev*¹ and *V. Krasovytzkiy*^{1,2}. *1. Institute for Low Temperature Physics and Engineering, Kharkov, Ukraine; 2. Physics, Texas A&M University, College Station, TX*
- CQ-12. Correlated polaron transport and metal-insulator transition in $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$.** *N.B. Srivastava*¹, *L.N. Singh*² and *C.M. Srivastava*³. *1. Department of Physics, R.J. College, Univ. of Mumbai, Mumbai, Maharashtra, India; 2. Department of Physics, Dr. Babasaheb Ambedkar Technological University, Lonere 402103, Maharashtra, India; 3. Department of Physics, Indian Institute of Technology, Bombay, Mumbai 400076, Maharashtra, India*
- CQ-13. Effect of carrier density on the magnetically tunable properties in self-doped $\text{La}_{0.9}\text{MnO}_3/\text{STON}$ heteroepitaxial junctions.** *Z. Wang*^{1,2}, *G. Yu*¹, *D. Gu*¹, *L. Qiu*¹, *L. Wang*² and *J. Gao*². *1. Physics Department, Nanjing University, Nanjing, China; 2. Physics Department, The University of Hong Kong, Hong Kong, China*

WEDNESDAY
MORNING
8:00

AUSTIN BALLROOM

Session CR
MULTIFERROICS III: BULK OXIDES
(POSTER SESSION)

Manh-Huong Phan, Chair

- CR-01. Does ferroelectric polarization in LiCu2O2 uniquely originate from spiral-spin order?** M. Qin¹, Y. Guo¹, S. Dong¹, K. Wang¹ and J. Liu¹. *Physics, Nanjing University, Nanjing, China*
- CR-02. Comparison of the low temperature H-T phase diagrams of hexagonal Ho- and DyMnO₃.** M.D. Vannette¹, S. Nandi¹, A. Kressyig¹, J.Q. Yan¹, A.I. Goldman¹ and R. Prozorov¹. *Physics and Astronomy, Ames Laboratory/Iowa State University, Ames, IA*
- CR-03. Phase transitions in Er_{1-x}Lu_xFe₂O₄.** J. Kim¹, J. Ahn¹, C. Jung¹ and B. Lee¹. *Physics, Hankuk University of Foreign Studies, Yongin, Kyungki, South Korea*
- CR-04. Synthesis structural and magnetic with electronic structure calculation of La₂NiMnO₆ produced by combustion method.** P.L. Cunha¹, D.A. Landínez-Téllez², J.A. Rodríguez³ and J. Aguiar⁴. *1. Physics, UFPE, Recife, Pernambuco, Brazil; 2. Physics, UNAL, Bogota, Colombia; 3. Physics, UNAL, Bogota, Colombia; 4. Physics, UFPE, Recife, Pernambuco, Brazil*
- CR-05. Negative magnetization induced by proton irradiation in the CoCr₂O₄ Multiferroic materials.** K. Choi¹, S. Kim¹ and C. Kim¹. *Physics, Kookmin Univ., Seoul, South Korea*
- CR-06. Magnetic spin-glass state in ferroelectric relaxor type solid solutions: multiferroic relaxor.** Z. Cheng¹, X. Wang¹, S. Zhang² and T.R. Shrouf². *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Keiraville, NSW, Australia; 2. Materials Research Institute, Pennsylvania State University, University Park, PA*
- CR-07. Study of Multiferroic properties of Al doped CuFeO₂ by Mössbauer spectroscopy.** D. Choi¹, I. Shim¹ and C. Kim¹. *Physics, Kookmin University, Seoul, South Korea*
- CR-08. Structural and transport properties of Bi-substituted Co₂MnO₄.** R. Kumar¹, S.K. Arora², I.V. Shvets², N.E. Rajeevan³, P.P. Pradyumnan³ and D.K. Shukla⁴. *1. Materials Science Division, IUAC, New Delhi 110067, India; 2. Centre for Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Ireland; 3. Department of Physics, University of Calicut, Calicut 673635, Kerala, India; 4. Department of Physics, Aligarh Muslim University, Aligarh 202002, U.P., India*

CR-09. Magnetic properties of oxide multiferroics Pb(Fe_{1/2}Nb_{1/2})O₃ and 0.3 Pb(Fe_{1/2}Nb_{1/2})O₃ - 0.7 Pb(Mg_{1/2}W_{1/2})O₃. Z. Trontelj¹, Z. Jagličič¹, J. Luznik¹, A. Levstik², C. Filipič², V. Bobnar², J. Holz², V. Laguta³, P. Cevc² and R. Blinc². *1. IMFM, Ljubljana, Slovenia; 2. IJS, Ljubljana, Slovenia; 3. IPMS, Ukrainian Academy of Sciences, Kijev, Ukraine*

CR-10. Electric polarization enhancement in the multiferroic spinel CoCr₂O₄ with the site mixing effects. I. Kim¹, Y. Oh¹, S. Chun¹, K. Kim¹, J. Lee², K. Ko², J. Park² and J. Chung³. *1. FPRD & Department of Physics and Astronomy, Seoul National University, Seoul, South Korea; 2. eSSC & Department of Physics, Pohang University of Science and Technology (POSTECH), Pohang, South Korea; 3. Department of Physics, Korea University, Seoul, South Korea*

WEDNESDAY
MORNING
8:00

AUSTIN BALLROOM

Session CS
4f-, 5f- AND STRONGLY CORRELATED
SYSTEMS - I
(POSTER SESSION)

Heinrich Nakotte, Chair

- CS-01. Magnetic behaviour and phase diagram of Gd₄(Co_{1-x}Cu_x)₃ compounds.** T.M. Seixas¹, M.A. Salgueiro da Silva¹, H.F. Braun² and G. Eska². *1. Departamento de Física, Faculdade de Ciências da Universidade do Porto, Porto, Portugal; 2. Physikalisches Institut, Universitaet Bayreuth, D-95440 Bayreuth, Germany*
- CS-02. Field-induced and spontaneous magnetostriction in (Lu_{0.8}Ce_{0.2})₂Fe₁₇.** A.V. Andreev¹, K. Koyama², E.A. Tereshina^{1,3} and K. Watanabe². *1. Institute of Physics, Academy of Sciences, Prague, Czech Republic; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic*
- CS-03. Temperature dependence of magnetic hyperfine interactions in anti-ferromagnetic compounds CeT₂Si₂, with T = Pd, Rh.** G.A. Cabrera-Pasca², R.N. Saxena¹, A.W. Carbonari¹ and J. Mestnik-Filho¹. *1. CRPq, IPEN-CNEN/SP, Sao Paulo, Sao Paulo, Brazil; 2. Instituto de Física, Universidade de Sao Paulo, Sao Paulo, Sao Paulo, Brazil*
- CS-04. Magnetic ground state at the ytterbium site in YbNiAl₄.** B. Saensunon¹, K. Nishimura³, D.H. Ryan², W.D. Hutchison¹ and G.A. Stewart¹. *1. School of Physical, Environmental & Mathematical Sciences, University of New South Wales, Canberra, ACT, Australia; 2. Centre for the Physics of Materials and Physics Department, McGill University, Montreal, QC, Canada; 3. Graduate School of Science and Engineering, University of Toyama, Toyama, Japan*

- CS-05. Low-temperature metamagnetic states in single crystal $\text{TbNi}_2\text{B}_2\text{C}$ studied by torque magnetometry.** *D.D. Rathnayaka¹, D.G. Naugle¹, B.I. Belevtsev¹, P.C. Canfield³ and S.L. Bud'ko³.¹ Physics Department, Texas A&M University, College Station, TX; 2. B.I. Verkin Institute for Low Temperature Physics and Engineering, Kharkov, Ukraine; 3. Physics Department, Ames Laboratory and Iowa State University, Ames, IA*
- CS-06. Systematic study of bulk Ce 4f-electronic structure in weakly hybridized regime: Ce 3d-4f resonant photoemission spectroscopy on $\text{CeNiGe}_{2-x}\text{Si}_x$.** *H. Im¹, T. Ito^{2,3}, S. Kimura^{2,3}, K. Lee¹, C. Lee¹ and Y. Kwon¹.¹ Physics, Sungkyunkwan University, Suwon, South Korea; 2. UVSOR Facility, Institute for Molecular Science, Okazaki, Japan; 3. School of Physical Sciences, The Graduate University for Advanced Studies, Okazaki, Japan*
- CS-07. Magnetic properties in heavy-fermion compounds $\text{CePtGe}_{2-x}\text{Si}_x$.** *Y. Kwon¹, C. Lee¹ and S. Kim¹.¹ Department of Physics, Sungkyunkwan University, Suwon, Gyeonggido, South Korea*
- CS-08. Magnetic properties of $\text{PrCr}_2\text{Si}_2\text{C}$ single crystal.** *M. Janatova¹, J. Poltnerova Vejpravova¹ and M. Divis¹.¹ DCMP, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic*
- CS-09. Magnetic properties of heavy fermion system $\text{Ce}_{1-x}\text{Gd}_x\text{CoSi}_3$.** *J. Hong¹, J. Lim¹ and Y. Kwon¹.¹ Department of Physics, Sungkyunkwan university, Suwon, Gyeonggido, South Korea*

**WEDNESDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session CT
MRAM AND MAGNETIC TUNNEL JUNCTIONS
(POSTER SESSION)
Jiexuan He, Chair**

- CT-01. Performance of a shape-varying MTJ for high speed MRAM.** *H. Honjo¹, S. Fukami¹, R. Nebashi¹, T. Suzuki¹, N. Ishiwata¹, S. Miura¹ and T. Sugibayashi¹.¹ NEC, Sagamihara, Japan*
- CT-02. Novel nonvolatile SRAM architecture using MOSFET-based spin-transistors.** *Y. Shuto^{1,3}, S. Yamamoto^{2,3} and S. Sugahara^{1,3}.¹ Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Department of Information Processing, Tokyo Institute of Technology, Yokohama, Japan; 3. CREST, Japan Science and Technology Agency, Kawaguchi, Japan*
- CT-03. Magnetization reversal at low current density using a perpendicular polarizer.** *C. Pappasoi¹, D. Houssameddine¹, B. Delaët², B. Rodmacq¹, F. Ponthenier², U. Ebels¹, R. Sousa¹, M. Cyrille², L. Prejbeanu-Buda^{1,3} and B. Dieny¹.¹ CEA-INAC/CNRS/UJF/INPG, SPINTEC, Grenoble, France; 2. CEA-LETI-MINATEC, Grenoble, France; 3. Institut Polytechnique de Grenoble, Grenoble, France*

- CT-04. Analysis and design of nonvolatile SRAM using magnetic tunnel junctions with current-induced magnetization switching technology.** *S. Yamamoto^{1,3} and S. Sugahara^{2,3}.¹ Department of Information Processing, Tokyo Institute of Technology, Yokohama, Japan; 2. ISEL, Tokyo Institute of Technology, Yokohama, Japan; 3. CREST, JST, Kawaguchi, Japan*
- CT-05. Magnetoresistance modulation in nickel coated vertically aligned carbon nanotubes.** *E. Titus¹, M.K. Singh¹ and J. Gracio¹.¹ Nanotechnology Research Division, Dept. of Mechanical Engineering, University of Aveiro, Aveiro, Portugal*
- CT-06. A Study of Design of Novel PTP MRAM for High Capacity Device.** *H. Won¹, G. Park¹, D. Kim¹ and J. Han¹.¹ Electrical Engineering, A.E.M. Lab. Pusan National University, Busan, South Korea*
- CT-07. Study of dipolar interactions in array of magnetic random access memory cells.** *D. Cimpoesu^{1,3}, L. Spinu^{1,2} and A. Stancu³.¹ Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 2. Department of Physics, University of New Orleans, New Orleans, LA; 3. Department of Physics, "Al. I. Cuza" University, Iasi, Romania*
- CT-08. Magnetic and structural properties of nitrogen-doped CoFe for a ferromagnetic electrode.** *K. Kim¹, J. Koo¹, I. Shin¹, J. Lee¹ and J. Hong¹.¹ Physics, Hanyang University, Seoul, South Korea*
- CT-09. Energy Surface Analysis and Critical Points on Synthetic Antiferromagnet.** *A. Plamada¹ and A. Stancu¹.¹ Department of Physics, Alexandru Ioan Cuza University, Iasi, Romania*
- CT-10. Direct imaging of the structural change generated by dielectric breakdown in MgO based magnetic tunnel junctions.** *A. Thomas¹, V. Drewello¹, M. Schaefer¹, A. Weddemann¹, G. Reiss¹, G. Eilers², M. Muenzenberg², K. Thiel² and M. Seibt².¹ D2, Bielefeld University, Bielefeld, Germany; 2. IV. Phys. Inst., Goettingen University, Goettingen, Germany*
- CT-11. Effect of Interface Roughness on Magnetoresistance and Magnetization Switching in Double-Barrier Magnetic Tunnel Junction.** *J. Rhee¹, S. Lee¹, J. Hwang¹, H. Yim¹, B. Chun² and Y. Kim³.¹ Physics, Sookmyung Women's University, Seoul 140-742, South Korea; 2. CRANN, School of Physics, Trinity College, Dublin 2, Ireland; 3. Department of Materials Science and Engineering, Korea University, Seoul 136-713, South Korea*
- CT-12. Electrical Random Telegraph Noise for Current-Perpendicular-to-Plane Magnetic Tunnel Junctions.** *F. Liu¹, R. Kemshetti¹, Y. Ding¹, P. Rana¹ and S. Mao¹.¹ Western Digital Corporation, Fremont, CA*
- CT-13. Spin structures in 100 nm ring magnetic tunnel junctions induced by spin currents.** *F.Q. Zhu¹, H. Wei², X. Hang², Z. Wen² and C. Chien¹.¹ Physics and Astronomy, Johns Hopkins University, Baltimore, MD; 2. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

- CT-14. Magnetic and Resistive Switchings in MgO-based Tunnel Junctions.** *J.M. Teixeira¹, J. Ventura¹, R. Fermento¹, J.P. Araújo¹, J.B. Sousa¹, P. Wisniowski² and P.P. Freitas²*. *Physics, IN, IFIMUP unit - Oporto University, Oporto, Oporto, Portugal; 2. Physics, IN, INESC-MN unit - IST, Lisbon, Lisbon, Portugal*

**WEDNESDAY
MORNING
8:00**

AUSTIN BALLROOM

Session CU

**MAGNETIC SENSORS I
(NOT FOR MAGNETIC RECORDING)
(POSTER SESSION)**
David Pappas, Chair

- CU-01. Magnetic Markers Detection using PCB Fluxgate Array.** *M. Janosek¹, P. Ripka¹ and A. Platil¹*. *Dpt. of Measurement, Czech Technical University in Prague, FEE, Praha 6, Czech Republic*
- CU-02. Deducing Local ELF Field Values From Large Sense Coil Fluxmeter Measurements.** *A.A. Adly¹, M.M. Abdel-Aziz¹ and N.S. Hosny¹*. *Elect. Power & Machines, Cairo University, Giza, Egypt*
- CU-03. A miniature and ultra low-power search coil optimized for a 20 mHz to 2 kHz frequency range.** *E. Paperno¹ and A. Grosz¹*. *Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
- CU-04. Quantifiable Magnetic Beads Detection Using Cross Type Spin Valve Sensors.** *J. Suh¹, S. Jung¹ and M. Chung¹*. *Neural Interface Research Team, Electronics and Telecommunications Research Institute, Daejeon, South Korea*
- CU-05. Quantitative detection of magnetic particles in a chromatographic membrane by a giant magnetoresistance sensor.** *K. Lee¹, S. Lee¹, B. Cho¹ and J. Kim²*. *School of Photonics, MSE, GIST, Gwangju, South Korea; 2. Advanced Technology Research Group, LG Micron, Ansan-si, South Korea*
- CU-06. Planar Hall single bead detection sensor for bio-applications.** *H. Tran Quang¹, S. Oh¹, L. Phong¹, B. Tu², N. Duc², J. Jeong¹ and C. Kim¹*. *Department of Materials Science and Engineering, Chungnam National University, Daejeon, South Korea; 2. Department of Nano Magnetic Materials and Devices, Faculty of Physics Engineering, College of Technology, Vietnam National University, Hanoi, Viet Nam*
- CU-07. Planar Hall sensor detection of toxA gene DNA Hybridized with coloured magnetic microspheres.** *B. Bajaj¹, J.R. Jeong¹, C. Kim¹ and C. Lee²*. *Department of Material Science and Engineering, Chungnam National University, Yuseong, South Korea; 2. Department of Chemical Engineering, Chungnam National University, Daejeon, South Korea*

- CU-08. Ultrasensitive Ni₇₇Fe₁₄Cu₅Mo₄/Co₅₀Fe₅₀/Al₂O₃/Co₅₀Fe₅₀/Ni₇₇Fe₁₄Cu₅Mo₄ magnetic tunnel junction field sensors.** *W. Pong¹, M. Shmoueli², A. Castillo² and W.F. Egelhoff²*. *Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. Metallurgy Division, National Institute of Standards and Technology, Gaithersburg, MD*

- CU-09. Automated System for the Calibration of Magnetometers.** *V. Petrucha¹, P. Ripka¹, P. Kaspar¹ and J. Merayo²*. *Dept. of Measurement, CTU Prague, FEE, Prague, Czech Republic; 2. National Space Institute, DTU Space, Lyngby, Denmark*

- CU-10. Planar coil type temperature sensor with thermosensitive magnetic ferrite core.** *T. Nonaka¹, K. Maita¹, F. Sato², H. Matsuki² and T. Sato³*. *Hachinohe National College of Technology, Hachinohe, Aomori, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 3. NEC TOKIN Corporation, Sendai, Miyagi, Japan*

- CU-11. Reactance Simulation for Defects in Steam Generator Tube with Outside Ferrite Sludge.** *K. Ryu¹, D. Son², D. Park³, J. Jung⁴ and Y. Kim⁵*. *Div. of Metrology for Quality Life, Korea Research Institute of Standards and Science, Daejeon, South Korea; 2. Department of Physics, Hannam University, Daejeon, South Korea; 3. Nuclear Materials Tech. Develop. Team, Korea Atomic Energy Research Institute, Daejeon, South Korea; 4. Div. of Physical Metrology, KRISS, Daejeon, South Korea; 5. Div. of Metrology for Quality Life, Korea Research Institute of Standards and Science, Daejeon, South Korea*

- CU-12. Haptic Sensor with Temperature And Electric Sensitivity Utilizing Magnetic Compound Fluid (MCF) Rubber.** *Z. Yaoyang¹, K. Shimada¹ and Y. Ido²*. *Faculty of Symbiotic Systems Science, Fukushima University, Fukushima, Japan; 2. Nagoya Institute of Technology, Nagoya, Japan*

**WEDNESDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session CV
MICROWAVE AND MILLIMETER WAVE
DEVICES
(POSTER SESSION)**
Albrecht Jander, Chair

- CV-01. Coherent Dynamics of a Microwave Emitting Nanomagnet Oscillator in a Cavity.** *O. Soykal¹ and M.E. Flatté¹*. *Department of Physics and Astronomy, University of Iowa, Iowa City, IA*
- CV-02. Ferromagnetic Resonance in Coplanar Waveguides with Micron Sized Permalloy Elements.** *Y.V. Khivintsev^{1,2}, R. Adam³, C.M. Schneider³, B.V. McGrath¹, R.E. Camley¹ and Z.J. Celinski¹*. *Center for Magnetism and Magnetic Nanostructures, University of Colorado, Colorado Springs, Colorado Springs, CO; 2. Kotel'nikov SBIRE RAS, Saratov, Russian Federation; 3. Institute of Solid State Research, Research Center Juelich, Juelich, Germany*

- CV-03. Enhancement of the spin wave lifetime in permalloy (Py) films by parametric pumping.** G.A. Melkov¹, Y.V. Kobljanskiy¹, R.A. Slipec¹, A.V. Talalaevskij¹ and A.N. Slavin^{2,1}. *Faculty of Radiophysics, Kiev National Taras Shevchenko University, Kiev, Ukraine; 2. Department of Physics, Oakland University, Rochester, MI*
- CV-04. Spin Wave Propagation in Lossless Cylindrical Magnonic Waveguides.** H. Xi¹, X. Wang¹, Y. Zheng¹ and P.J. Ryan^{1,1}. *Memory Products Group R&D, Seagate Technology, Bloomington, MN*
- CV-05. Nonreciprocal Isolator Using a Coplanar Waveguide and Ferromagnetic Nanowires.** B.K. Kuanr¹, V. Veerakumar¹, R.E. Camley¹ and Z.J. Celinski^{1,1}. *Center for Magnetism and Magnetic Nanostructures, University of Colorado, Colorado Springs, Colorado Springs, CO*
- CV-06. Nonreciprocal Microwave Devices Based on Attenuated Total Reflection.** T. Fal¹ and R.E. Camley^{1,1}. *Center for Magnetism and Magnetic Nanostructures, University of Colorado, Colorado Springs, Colorado Springs, CO*
- CV-07. Electrostatically tunable (011)YIG/(011) PMN-PT microwave multiferroic composites with large tunable frequency range.** J. Lou^{1,2}, M. Liu^{1,2}, D. Reed^{1,2}, C. Pettiford^{1,2} and N.X. Sun^{1,2,1}. *Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA*
- CV-08. 1.5- μ m-band, TM-mode waveguide optical isolator that uses nonreciprocal loss induced by ferromagnetic MnSb.** T. Amemiya¹, Y. Ogawa², H. Shimizu³, H. Munekata² and Y. Nakano^{1,1}. *Research Center for Advanced Science and Technology, Univ. of Tokyo, Tokyo, Japan; 2. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 3. Department of Electrical and Electronic Engineering, Tokyo University of Agriculture and Technology, Tokyo, Japan*
- CV-09. Gigahertz (GHz) Frequency Noise Suppression Using Nickel Nanorod Arrays and Permalloy Films.** B.K. Kuanr¹, R. Marson², M.K. Sanjay², R.E. Camley¹ and Z.J. Celinski^{1,1}. *Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Physics, University of Memphis, Memphis, TN*
- CV-10. Electric field tunable FMR frequency shift in a laminated Co₂MnAl/GaAs/PMN-PT heterostructure.** Y. Chen^{1,2}, J. Lou^{1,2}, M. Liu^{1,2}, M.J. Nedoroscik^{1,2}, D. Heiman³, N.X. Sun^{1,2}, C. Vittoria^{1,2} and V.G. Harris^{1,2,1}. *Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA; 3. Physics, Northeastern University, Boston, MA*

- CV-11. X-band dielectric variation of iron-epoxy composites under a magnetic field.** D. Hung¹, Y. Yao², Y. Yang³, C. Lin⁴, C. Tsay⁴, S. Hsu³ and W. Liang^{3,1}. *Department of Information and Telecommunication Engineering, Ming Chuan University, Taipei, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 3. Department of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 4. Department of Material Science and Engineering, Feng Chia University, Taichung, Taiwan*
- CV-12. Circular Patch Antennas with Multilayer Self-biased Ferrite Films at GHz.** G. Yang¹, X. Xing¹, A. Daigle¹, Y. Obi¹, S. Stoute¹, M. Liu¹, K. Naishadham² and N. Sun^{1,1}. *Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. RF Communications Group, Draper Laboratory, Cambridge, MA*

CV-13. Withdrawn

WEDNESDAY
MORNING
8:00

AUSTIN BALLROOM

Session CW
RECORDING SYSTEMS AND PATTERNED MEDIA I
(POSTER SESSION)

Juan Fernandez-de-Castro, Chair

- CW-01. Benefit of discrete track recording at high track density.** K. Miura¹, H. Muraoka¹ and H. Aoi^{1,1}. *RIEC, Tohoku University, Sendai, Miyagi, Japan*
- CW-02. Dot arrays of L₁ type Co-Pt ordered alloy perpendicular films.** T. Shimatsu¹, H. Sato^{2,1}, K. Mitsuzuka¹, H. Kataoka^{1,3}, H. Aoi¹, N. Kikuchi² and O. Kitakami^{2,1}. *RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. IMRAM, Tohoku University, Sendai, Miyagi, Japan; 3. Fuji Electric Device Technology, Co., Ltd, Matsumoto, Nagano, Japan*
- CW-03. Magnetic properties of thin Co-Pt dot arrays with a large uniaxial magnetic anisotropy.** K. Mitsuzuka¹, T. Shimatsu¹, N. Kikuchi², O. Kitakami², H. Muraoka¹ and H. Aoi^{1,1}. *RIEC, Tohoku University, Sendai, Japan; 2. IMRAM, Tohoku University, Sendai, Japan*
- CW-04. Planarization of Patterned Magnetic Recording Media for Improved Head Flyability.** D. Hong¹, C. Choi^{1,2}, Y. Oh^{1,2}, Y. Yoon^{1,3}, F. Talke^{1,3} and S. Jin^{1,2,1}. *Center for Magnetic Recording Research, University of California at San Diego, La Jolla, CA; 2. Materials Science & Engineering, University of California at San Diego, La Jolla, CA; 3. Mechanical & Aerospace Engineering, University of California at San Diego, La Jolla, CA*

CW-05. Modification of Magnetic Properties by Ion Beam Irradiation of CGC Perpendicular Media with CoCrPt-oxide.

J. Yasumori^{1,2}, *Y. Sonobe*¹, *K. Miura*², *H. Muraoka*² and *M. Aniya*¹. *MD Division, Hoya Corporation, Akishima, Tokyo, Japan*; *2. RIEC, Tohoku univ., Sendai, Miyagi, Japan*

CW-06. Magnetic cluster formation with localized exchange interaction.

*H. Endo*¹, *Y. Uesaka*¹, *Y. Nakatani*², *N. Hayashi*³ and *H. Fukushima*⁴. *1. Nihon University, Koriyama, Fukushima, Japan*; *2. University of Electro-Communications, Chofu, Japan*; *3. Individual Capacity, Tokyo, Japan*; *4. Individual Capacity, Chiba, Japan*

CW-07. Switching field and mechanism of cubic and flat particles.

*Y. Uesaka*¹, *H. Endo*¹, *Y. Nakatani*², *N. Hayashi*³ and *H. Fukushima*⁴. *1. Engineering, Nihon University, Kohriyama, Fukushima, Japan*; *2. University of Electro-communications, Chufu, Tokyo, Japan*; *3. Independent, Kichijyoji, Tokyo, Japan*; *4. Independent, Chiba, Chiba, Japan*

CW-08. Spherical Barium Ferrite (S-BaFe) 20-22 nm Sized Particles for Particulate Recording Media.

J. Jalli^{1,2}, *Y. Hong*^{1,2}, *S. Gee*³, *J.C. Sur*⁴, *K. An*⁵ and *T. Hyeon*⁵. *1. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL*; *2. MINT Center, University of Alabama, Tuscaloosa, AL*; *3. Seagate Technology, Bloomington, MN*; *4. Division of Physics, Wonkwang University, Iksan, Joen-book, South Korea*; *5. School of Chemical Engineering, Seoul National University, Seoul, South Korea*

CW-09. Thermal Insulator Design for Improving Efficiency of Thermomechanical Actuation.

*H. Li*¹, *C. Yin*¹ and *F. Talke*¹. *Center for magnetic recording research, La Jolla, CA*

CW-10. Observation and Study of Off-Track Effect Induced by Thermal Actuated Protrusion of Slider.

*M.J. Lim*¹, *S. Leong*¹, *K. Ng*¹, *Y. Chen*¹, *T. Huang*¹, *C. Ong*¹, *B. Santoso*¹ and *Z. Yuan*¹. *1. Spintronics, Media and Interface, Data Storage Institute, A*STAR, Singapore, Singapore*

CW-11. Thermal Asperity Suppression Based on Least-Squares Fitting in Perpendicular Recording Channels.

*P. Kovintavawat*¹ and *S. Koonkarnkhai*². *1. Data Storage Technology Research Unit, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Mueng District, Nakhon Pathom, Thailand*; *2. Department of Electrical Engineering, King Mongkut's University of Technology North Bangkok, Bang-Sea, Bangkok, Thailand*

WEDNESDAY
MORNING
8:00

AUSTIN BALLROOM

Session CX

**MAGNETO-CALORIC MATERIALS I
(POSTER SESSION)**

Virgil Provenzano, Co-Chair
Lawrence Bennett, Co-Chair

CX-01. A first-principles study on the magnetocaloric compound MnFeP_{2/3}Si_{1/3}. *X. Liu*¹ and *Z. Altounian*¹. *Physics Department, McGill University, Montreal, QC, Canada*

CX-02. Magnetocaloric effect around the magnetic phase transition.

*N.A. Oliveira*¹ and *P.J. von Ranke*¹. *Instituto de Física, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil*

CX-03. Magnetocaloric effect in (R₁, R₂)Co₂ and under applied pressure.

*N.A. Oliveira*¹. *Instituto de Física, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil*

CX-04. Crystal structure and magnetic transition of MnFePGe compound prepared by spark plasma sintering.

*M. Yue*¹, *Z. Li*¹, *X. Wang*¹, *D. Liu*¹, *J. Zhang*¹, *X. Liu*² and *Z. Altounian*². *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China*; *2. Department of Physics, McGill University, Montreal, QC, Canada*

CX-05. The magnetocaloric effect in Fe-Zr-B-M (M=Mn, Cr, Co) amorphous systems.

Y. Fang^{1,2}, *C. Yeh*¹, *C. Hsieh*¹, *C. Chang*¹, *W. Chang*¹ and *W. Li*². *1. Department of Physics, National Chung Cheng University, Ming Hsiung, Chia-Yi, Taiwan*; *2. Division of Functional Materials Research, Central Iron and Steel Research Institute, Beijing, China*

CX-06. Effect of substitution of Co for Fe on the magnetic hysteresis loss and the refrigerant capacity in the La_{0.5}Pr_{0.5}Fe_{11.5}Si_{1.5} compounds.

J. Shen^{1,2}, *Y. Li*¹, *F. Hu*² and *J. Sun*². *1. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China*; *2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

CX-07. Magnetic entropy change and magnetic properties on Ni-Mn-Ga alloy by substitution of V.

*S. Min*¹, *Y. Zhang*¹, *S. Yu*¹, *K. Lee*² and *Y. Kim*³. *1. BK21 Physics Program and Department of Physics, Chungbuk National University, Cheongju, South Korea*; *2. Industrial Consulting Team, Korean Research Institute of Standard and Science, Taejeon, South Korea*; *3. Division of Materials and Engineering, Korea Institute of Science and Technology, Seoul, South Korea*

CX-08. Monte Carlo study of the coupled magnetostructural phase transitions in Heusler Ni-Mn-X (X= In, Sn, Sb) alloys.

*V. Buchelnikov*¹, *S. Taskaev*¹, *V. Sokolovskiy*¹ and *P. Entel*². *1. Condensed Matter Physics Department, Chelyabinsk State University, Chelyabinsk, Russian Federation*; *2. Physics Department, University of Duisburg-Essen, Duisburg, Germany*

CX-09. Magnetic Properties and Magnetocaloric Effect of the Re-entrant ferromagnet PrMn₂Ge_{0.8}Si_{1.2}.

J. Wang^{1,2}, *S.J. Campbell*¹, *R. Zeng*³, *S. Dou*³ and *S.J. Kennedy*². *1. School of PEMS (Physics), UNSW@ADFA, Canberra, ACT, Australia*; *2. Bragg Institute, ANSTO, Sydney, NSW, Australia*; *3. Institute for Superconductivity and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia*

CX-10. Magnetocaloric effects in the La(Fe, Si)₁₃ intermetallics doped by different elements.

*L. Jia*¹, *J. Sun*¹, *J. Shen*¹, *Q. Dong*¹, *J. Zou*¹, *B. Gao*¹, *T. Zhao*¹, *F. Hu*¹ and *B. Shen*¹. *Institute of Physics, Chinese Academy of Sciences, Beijing, China*

CX-11. Influence of the substitution of Cu for Si on magnetic entropy change and hysteresis loss in LaFe_{11.8}(Si_{1-x}Cu_x)₁₂ compounds.

B. Gao¹, F. Hu¹, J. Shen¹, J. Wang¹, J. Sun¹ and B. Shen¹. *State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China*

CX-12. Effect of structure and magnetic properties of LaFe_{13-x}Si₆H_y intermetallic compounds by hydrogen absorption under negative pressure.

F. Bin¹, S. Puji¹, B. Bo¹, L. Yi¹, Y. Rongchang¹ and C. Yongqin¹. *School of Materials Science and Engineering, University of Science and Technology of Beijing, 100083, P R China, Beijing, China*

CX-13. Spin glass behavior and magnetocaloric effect in amorphous alloys Ce₂Fe_{23-x}Mn_xB₃.

F. Wang¹, J. Shen^{1,2}, J. Sun¹ and B. Shen¹. *Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Material Science and Engineering, Hebei University of Technology, TianJin, China*

CX-14. Magnetocaloric effect and spin reorientation transition in single-crystal Er₂(Co_{0.4}Fe_{0.6})₁₇.

M. Ilyn¹, A. Andreev², V. Zhukova¹, A. Zhukov¹, A. Tishin³ and J. Gonzalez¹. *Department of Material Physics, Chemistry Faculty, Universidad del Pais Vasco, San Sebastian, Spain; 2. Institute of Physics, Academy of Science, Prague, Czech Republic; 3. Department of Physics, Moscow State University, Moscow, Russian Federation*

CX-15. Magnetic properties and magnetocaloric effect of (Mn_{1-x}Ni_x)₃Sn₂ (X = 0 to 0.5) compounds.

R. Zeng¹, J. Wang², L. Lu¹, W. Li¹, J. Kim¹, J. Horvat¹, D. Shi¹, S. Campbell², H. Liu¹ and S. Dou¹. *Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. School of Physical, Environmental and Mathematical Sciences, The University of New South Wales, The Australian Defense Force Academy, Canberra ACT 2600, Canberra, ACT, Australia*

CX-16. Magnetic ordering in the rare earth intermetallic compound Tb₂Ti₃Ge₄: Magnetization and Neutron Diffraction Studies.

S.K. Malik¹, J. Lamsal², R.L. de Almeida¹, S. Quezado¹, W.B. Yelon³, V.O. Garlea⁴, A.V. Morozkin⁵ and R. Nirmala⁶. *International Center for Condensed Matter Physics (ICOMP), Brasilia, Brazil; 2. Department of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO; 3. Materials Research Center and Department of Chemistry, Missouri University of Science and Technology, Rolla, MO; 4. Neutron Scattering Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN; 5. Department of Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation; 6. Indian Institute of Technology Madras, Chennai, India*

CX-17. Enhanced micro-hardness and large magnetic entropy change for Gd_{1-x}Ni_x alloys.

W. Huang¹, X. Zhong¹, X. Zhou¹, H. Yu¹, D. Zeng¹ and Z. Liu¹. *School of Materials Science & Engineering, South China University of Technology, Guangzhou, Guangdong, China*

CX-18. Large magnetic entropy change with small thermal hysteresis near room temperature in metamagnetic alloys Ni₅₁Mn_{49-x}In_x.

F. Hu¹, J. Wang¹, J. Shen¹, B. Gao¹, J. Sun¹ and B. Shen¹. *State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China*

CX-19. The magnetocaloric effect in materials with a second order phase transition: Are T_c and T_{peak} necessarily coincident?

V. Franco¹, A. Conde¹, M.D. Kuz'min² and J.M. Romero-Enrique³. *1. Department of Condensed Matter Physics, Sevilla University, Sevilla, Spain; 2. Leibniz-Institut für Festkörper-und Werkstofforschung, Dresden, Germany; 3. Dpto. Física Atómica, Molecular y Nuclear. Área de Física Teórica, Sevilla University, Sevilla, Spain*

WEDNESDAY
AFTERNOON
2:00

SALON C

Session DA

SYMPOSIUM ON DISCRETE TRACK AND BIT PATTERNED MEDIA

Jan-Ulrich Thiele, Chair

2:00

DA-01. Recording studies on discrete track media. (Invited)

A. Moser¹. *Western Digital Media, San Jose, CA*

2:36

DA-02. From nano-imprint lithography to self-assembly - pattern generation for bit patterned media beyond 1 Tbit/in². (Invited)

X. Yang¹, S. Xiao¹, K. Lee², D. Kuo² and D. Weller². *1. Seagate Research, Pittsburgh, PA; 2. Seagate Technology, Fremont, CA*

3:12

DA-03. Write Synchronization in Bit Patterned Media. (Invited)

Y. Tang¹, K. Moon¹, H. Lee¹, M. Moneck², J. Zhu² and N. Takahashi³. *1. Samsung Information Systems America, San Jose, CA; 2. ECE, Carnegie Mellon University, Pittsburgh, PA; 3. Fuji Electric Device Technology Co., Ltd., Nagano, Japan*

3:48

DA-04. Manufacturing Strategies for Discrete Track and Bit-patterned Media. (Invited)

D. Kercher¹. *Hitachi San Jose Research, San Jose, CA*

4:24

DA-05. Patterned Magnetic Media Made by Self-Assembled Block Copolymer Lithography. (Invited)

C. Ross¹. *MIT, Cambridge, MA*

WEDNESDAY
AFTERNOON
2:00

SALON G

Session DB
SPIN-TORQUE INDUCED SWITCHING IN NANOMAGNETS

Guohan Hu, Chair

2:00

- DB-01. Reduction of intrinsic spin-transfer current density in spin valve nanopillars with perpendicular magnetic anisotropy.** *R. Heindl¹, W.H. Rippard¹, A. Deac¹, J.M. Shaw¹ and S.E. Russek¹. Electromagnetics Division - Magnetics Group, National Institute of Standards and Technology (NIST), Boulder, CO*

2:12

- DB-02. Back-hopping after Spin Torque Transfer Induced Magnetization Switching in Magnetic Tunneling Junction Cells.** *T. Min¹, J. Sun², R. Beach¹, D. Tang¹ and P. Wang¹. MagIC Technologies, Milpitas, CA; 2. IBM TJ Watson Research Center, Yorktown Heights, NY*

2:24

- DB-03. Evidence for activated back-hopping in nanosecond time-domain studies of spin-torque switched MgO magnetic tunnel junctions.** *J.Z. Sun¹, M.C. Gaidis¹, G. Hu¹, E.J. O'Sullivan¹, S.L. Brown¹, J.J. Nowak¹, P.L. Trouilloud¹ and D.C. Worledge¹. IBM-MagIC MRAM Alliance, IBM T. J. Watson Research Center, Yorktown Heights, NY*

2:36

- DB-04. Coherent nanomagnet control via ultrashort spin torque pulses.** *(Invited) S. Garzon¹, L. Ye¹, T.M. Crawford¹, R.A. Webb¹, M. Covington² and S. Kaka². 1. Department of Physics & Astronomy and USC Nanocenter, University of South Carolina, Columbia, SC; 2. Seagate Research, Pittsburgh, PA*

3:12

- DB-05. Effective damping measurements with ultrafast spin torque pulses.** *L. Ye¹, S. Garzon¹, R.A. Webb¹, T.M. Crawford¹, M. Covington² and S. Kaka². 1. Department of Physics and Astronomy and USC Nanocenter, University of South Carolina, Columbia, SC; 2. Seagate Research, Pittsburgh, PA*

3:24

- DB-06. Parameter dependence of the spin transfer torque in magnetic tunnel junctions measured by time resolved magneto transport.** *S. Serrano-Guisan¹, K. Rott², G. Reiss², J. Langer³, B. Ocker³ and H.W. Schumacher¹. 1. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 2. Department of Physics, Bielefeld University, Bielefeld, Germany; 3. Singulus Nano Deposition Technologies GmbH, Kahl am Main, Germany*

3:36

- DB-07. Spin-current-induced Dynamics in Ferromagnetic Nanopillars of Lateral Spin-Valve Structures.** *J. Laloë¹, T. Yang¹, Y. Fukuma¹, T. Kimura^{1,2}, M. Morota² and Y. Otani^{1,2}. 1. Advanced Science Institute, RIKEN, Wako, Saitama, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Chiba, Japan*

3:48

- DB-08. Influence of spin transfer torques on the Stoner-Wohlfarth astroid.** *(Invited) E.E. Fullerton¹, Y. Henry², S. Mangin³, J. Cuchiaro³, I. Tudosa¹, D. Ravelosona⁴ and J. Katine⁵. 1. UC San Diego, La Jolla, CA; 2. IPCMS, CNRS, Strasbourg, France; 3. LPM, Nancy- Université CNRS, Nancy, France; 4. Institut d'Electronique Fondamentale, Université Paris Sud, Orsay, France; 5. Hitachi Global Storage Technologies, San Jose, CA*

4:24

- DB-09. Combined Angular Effects of Spin Polarization and Magnetic Field on Magnetic Element Switching.** *X. Wang¹, W. Zhu¹, H. Xi¹, Z. Gao¹ and D. Dimitrov¹. 1. Seagate Technology, Bloomington, MN*

4:36

- DB-10. Spin-transfer torque magnetization switching under magnetic field applied along easy and hard axis in MgO-based magnetic tunnel junctions.** *K. Miura^{1,2}, J. Hayakawa¹, S. Ikeda², R. Sugano¹, R. Sasaki², M. Yamanouchi¹, H. Hasegawa^{2,1}, K. Ito¹, T. Hamada¹, H. Takahashi¹ and H. Ohno². 1. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan; 2. Laboratory for Nanoelectronics and Spintronics Research Institute of Electrical Communication, Tohoku University, Miyagi, Japan*

4:48

- DB-11. Spin-transfer induced switching in nanomagnetic spin-valve devices composed of Co/Pt multilayers with perpendicular magnetic anisotropy.** *J. Park¹, M.T. Moneck², C. Park³ and J. Zhu¹. 1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Western Digital Coporation, Fremont, CA*

WEDNESDAY
AFTERNOON
2:00

SALON A

**Session DC
MRAM**

Janusz Nowak, Chair

2:00

DC-01. Real-time reversal of a ferromagnetic-antiferromagnetic bilayer pinning direction. *J. Héraul¹, R.C. Sousa¹, Y. Conraux², C. Ducruet¹, I.L. Prejbeanu², B. Delaët³, M.C. Cyrille³, O. Redon³, J.P. Nozières² and B. Dieny¹. SPINTEC, CEA, CNRS, UJF, INPG ; CEA/INAC, Grenoble, France; 2. Crocus Technology, Grenoble, France; 3. CEA-LETI, MINATEC, Grenoble, France*

2:12

DC-02. A Scalable Field Switching MRAM Design. *T. Min¹, D. Heim¹, Q. Chen¹ and P. Wang¹. MagIC Technologies, Milpitas, CA*

2:24

DC-03. Thermal Stability of SPRAM (Spin transfer torque RAM) with CoFeB-based synthetic ferrimagnetic free layers. *K. Ito¹, J. Hayakawa¹, K. Miura^{1,3}, M. Yamanouchi¹, R. Sugano¹, M. Ichimura¹, R. Takemura², T. Kawahara², S. Ikeda³, H. Hasegawa³, T. Meguro³, R. Sasaki³, H. Takahashi¹, H. Matsuoka¹ and H. Ohno³. 1. Advanced Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan; 2. Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan*

2:36

DC-04. Magnetic Reliability of Toggle MRAM. (Invited) *D. Worledge¹, D.W. Abraham¹, S. Brown¹, J.K. DeBrosse¹, R. Forguites¹, M.C. Gaidis¹, E. Galligan¹, G. Hu¹, J. Hummel¹, Y. Lu¹, J. Nowak¹, E.J. O'Sullivan¹, R.P. Robertazzi¹, P.L. Trouilloud¹, G.P. Wright¹ and W.J. Gallagher¹. T.J. Watson Research Center, IBM Research Division, Yorktown Heights, NY*

3:12

DC-05. Defects in 16Mb toggle MRAM. *J.J. Nowak¹, R. Robertazzi¹, M. Gaidis¹, E. O'Sullivan¹, D.W. Abraham¹, S.L. Brown¹, E. Galligan¹, G. Hu¹, J. Hummel¹, E. Joseph¹, Y. Lu¹, T. Maffitt³, P. Rice², T. Topuria², P. Trouilloud¹, G. Wright¹, J. DeBrosse³, D. Worledge¹ and W. Gallagher¹. 1. T.J. Watson Research Center, IBM, Yorktown Heights, NY; 2. Almaden Research Center, IBM, San Jose, CA; 3. System and Technology Group, IBM, Essex Junction, VT*

3:24

DC-06. Origin of Thermal Degradation in MRAM Toggle Freelayers. *D. Abraham¹ and G. Hu¹. IBM T.J. Watson Research Center, Yorktown Heights, NY*

3:36

DC-07. Advantage of Perpendicular MRAM using Spin Transfer Torque Switching for a high density non-volatile memory. *T. Kai¹, J. Ozeki¹, M. Nakayama¹, H. Aikawa¹, S. Ikegawa¹ and H. Yoda¹. Corporate R&D Center, Toshiba Corporation, Kawasaki, Japan*

3:48

DC-08. Probing the write-disturb boundaries of toggle MRAM. *P.L. Trouilloud¹, D.C. Worledge¹ and W.J. Gallagher¹. IBM Research Division, T.J. Watson Research Center, Yorktown Heights, NY*

4:00

DC-09. Noise Issues and Solutions for Ultralow Field Sensors based on MTJs. *W. Pong¹, M. Shmoueli², W.F. Egelhoff², R. McMichael³, A. Edelstein⁴, J. Burnette⁴, G. Fischer⁴ and E. Nowak⁵. 1. Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. Magnetic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD; 3. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD; 4. U.S. Army Research Laboratory, Adelphi, MD; 5. Department of Physics and Astronomy, University of Delaware, Newark, DE*

4:12

DC-10. Effect of patterning on the saturation magnetization in MgO based nanopillars. *S. Cornelissen^{1,4}, L. Bianchini², A. Helmer², T. Devolder², J. Kim², M. Op de Beeck¹, G. Hrkac³, T. Schrefl³, L. Lagae^{1,5} and C. Chappert². 1. NEXTNS, IMEC, Heverlee (Leuven), Belgium; 2. Institut d'électronique fondamentale, UMR CNRS 8622, UPS, Orsay cedex, France; 3. Department of engineering materials, University of Sheffield, Sheffield, United Kingdom; 4. ESAT, KULeuven, Leuven, Vlaams Brabant, Belgium; 5. Natuurkunde en sterrekunde, KULeuven, Leuven, Vlaams Brabant, Belgium*

4:24

DC-11. Novel type of reconfigurable magnetic logic created by ion bombardment induced magnetic patterning of magnetic tunnel junctions. *V. Hoekink¹, D. Meyners¹, J. Schmalhorst¹, G. Reiss¹, D. Engel², T. Weis² and A. Ehresmann². 1. Bielefeld University, Bielefeld, Germany; 2. Kassel University, Kassel, Germany*

4:36

DC-12. Oxidation of magnesium deposited by ion beam sputtering for STT-MRAM MTJs. *K. Buchanan*¹, *P. Lima*¹, *Y. Zhou*¹, *R. Trowell*¹, *J. Macneil*¹ and *G. Proudfoot*². *1. Aviza Technology, Newport, United Kingdom; 2. TFD Consulting Ltd, Wantage, United Kingdom*

4:48

DC-13. Verilog-A Behavioral Model for Circuit Simulation of Toggle MRAM. *L. Engelbrecht*¹, *A. Jander*¹ and *P. Dhagat*¹. *1. Oregon State University, Corvallis, OR*

WEDNESDAY
AFTERNOON
2:00

SALON B

Session DD
HALFMETALLIC HEUSLER COMPOUNDS

Burkard Hillebrands, Chair

2:00

DD-01. Optimization of Band Matching Conditions in All Heusler Alloy Spin Valve GMR Structures. *T. Ambrose*¹, *O. Mryasov*¹ and *K. Nikolaev*². *1. Seagate Research, Pittsburgh, PA; 2. Seagate Technology, Minneapolis, MN*

2:12

DD-02. Spin-dependent tunneling characteristics of Co₂MnGe/MgO/CoFe tunnel junctions. *T. Taira*¹, *T. Ishikawa*¹, *K. Matsuda*¹, *T. Uemura*¹ and *M. Yamamoto*¹. *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

2:24

DD-03. Analysis of L₂₁-ordering in full-Heusler Co₂FeSi alloy thin films formed by rapid thermal annealing. *Y. Takamura*¹, *R. Nakane*² and *S. Sugahara*^{1,3}. *1. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan; 3. CREST, Japan Science and Technology Agency, Kawaguchi, Japan*

2:36

DD-04. Magnetic and Atomic Ordering in Polycrystalline Co₂MnSi Films. *S. Ladak*², *N.P. Aley*² and *A. Hirohata*¹. *1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom*

2:48

DD-05. Current-perpendicular-to-plane giant magnetoresistance in spin valves with Co₂FeAl_{0.5}Si_{0.5} Heusler alloy. *T. Furubayashi*¹, *K. Kodama*², *H. Sukegawa*¹, *Y.K. Takahashi*¹, *K. Inomata*¹ and *K. Hono*^{1,2}. *1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan*

3:00

DD-06. Brillouin Light Scattering Investigations on Co₂MnAlSi_{1-x} Heusler Thin Films. *T. Kubota*¹, *J. Hamrle*², *Y. Sakuraba*³, *O. Gaier*², *M. Oogane*¹, *A. Sakuma*¹, *B. Hillebrands*², *K. Takanashi*³ and *Y. Ando*¹. *1. Department of Applied Physics, Tohoku university, Sendai, Miyagi, Japan; 2. Fachbereich Physik and Forschungsschwerpunkt MINAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 3. Institute for Material Research, Tohoku University, Sendai, Miyagi, Japan*

3:12

DD-07. Half-metallic electronic structure of Co₂MnSi electrodes proved by tunneling spectroscopy. (Invited) *T. Ishikawa*¹, *N. Itabashi*¹, *T. Taira*¹, *K. Matsuda*¹, *T. Uemura*¹ and *M. Yamamoto*¹. *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

3:48

DD-08. Magnetic properties of epitaxially-grown Fe₃Si/Ge(111) layers with atomically flat interfaces. *Y. Ando*¹, *K. Kasahara*¹, *K. Ueda*¹, *K. Hamaya*¹, *Y. Nozaki*¹, *T. Sadoh*¹, *Y. Maeda*², *K. Matsuyama*¹ and *M. Miyao*¹. *1. Department of Electronic, Kyushu University, Fukuoka, Japan; 2. Department of Energy Science and Technology, Kyoto University, Kyoto, Japan*

4:00

DD-09. Origin of the gap formation in half metallic half Heuslers. *N. Charles*^{2,1}, *C. Liu*¹, *C.K. Mewes*¹ and *W.H. Butler*¹. *1. Center for Materials for Information Technology, Tuscaloosa, AL; 2. Department of Physics, Grambling State University, Grambling, LA*

4:12

DD-10. Rational Design of Half-Metallic Heterostructures. *W.H. Butler*¹, *C.K. Mewes*¹ and *C. Liu*¹. *1. MINT Center, University of Alabama, Tuscaloosa, AL*

4:24

DD-11. Heusler compounds: Correlated materials? *C. Felser*¹, G.H. Fecher¹, S. Chadov¹, K. Doll², M. Jansen² and H. Ebert³. *1. Institute of Inorganic Chemistry, Johannes Gutenberg University, Mainz, Germany; 2. Solid State Chemistry, Max Planck Institute for Solid State Research, Stuttgart, Germany; 3. Department Chemie und Biochemie, Ludwig-Maximilians-Universität München, Munich, Germany*

4:36

DD-12. Ferromagnetism and critical thickness of zinc-blende CrSb on NaCl and KCl substrates. *S. Li*¹, J. Fang², S. Cao³, Q. Chen³, B. Hu³, Z. Huang¹, F. Zhang⁴ and Y. Du⁴. *1. Physics, Fujian Normal University, Fuzhou, Fujian, China; 2. Center for Materials Analysis, Nanjing University, Nanjing, Jiangsu, China; 3. Fujian Key Laboratory of Polymer Materials, Fujian Normal University, Fuzhou, Fujian, China; 4. National Laboratory of Solid State Microstructure, Nanjing University, Nanjing, Jiangsu, China*

WEDNESDAY
AFTERNOON
2:00

SALON D

Session DE
MAGNETIC SEMICONDUCTORS

Connie Li, Chair

2:00

DE-01. Room temperature ferromagnetism without “element specific ferromagnetism”? A detailed XMCD study on doped ZnO. *E.J. Goering*¹, T. Tietze¹, G. Schuetz¹, G. Jakob², S. Brück² and H. Adrian². *1. Schuetz, Max-Planck-Institute for Metals Research, Stuttgart, Germany; 2. Institute of Physics, Johannes Gutenberg-University, Mainz, Germany*

2:12

DE-02. Magneto-optically observed hysteresis in ZnO Based Dilute Magnetic Semiconductors. *G.A. Gehring*¹, J.R. Neal¹, D.S. Score¹, A.J. Behan¹, A. Mokhtari¹, H.J. Blythe¹ and A.M. Fox¹. *1. The Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom*

2:24

DE-03. Electronic structure and magnetic interactions in highly Co doped ZnO. *R. Knut*¹, M. Wikberg², V. Coleman^{1,3}, D. Iusan¹, B. Sanyal¹, G. Westin³, K. Lashgari¹, P. Svedlindh², O. Eriksson¹ and O. Karis¹. *1. Department of Physics and Materials Science, Uppsala University, Uppsala, Sweden; 2. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden; 3. Department of Materials Chemistry, Uppsala University, Uppsala, Sweden*

2:36

DE-04. Theory of ferromagnetism in 3d-doped wide-gap oxides (Invited). *H. Raebiger*¹, S. Lany¹ and A. Zunger¹. *1. National Renewable Energy Laboratory, Golden, CO*

3:12

DE-05. Anomalous Ferromagnetism in Fe-implanted ZnO. *L.C. Pereira*^{1,2}, U. Wahl^{2,3}, J.P. Araújo¹ and J.G. Correia^{3,4}. *1. IFIMUP, Universidade do Porto, Oporto, Portugal; 2. Instituto Tecnológico e Nuclear, Sacavém, Portugal; 3. Centro de Física Nuclear, Universidade de Lisboa, Lisbon, Portugal; 4. CERN-PH, Geneva, Switzerland*

3:24

DE-06. Role of dopant, defect and host oxide in the observed room temperature ferromagnetism: Co-ZnO versus Co-CeO₂. *L.R. Shah*¹, H. Zhu¹, W. Wang¹, T. Zhu², Y.Q. Song³, Q.y. Wen³, H.W. Zhang³, B. Ali¹, I. Shah^{1,4} and J.Q. Xiao¹. *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 3. School of Microelectronic and Solid-state Electronic, University of Electronic Science and Technology of China, Chengdu, China; 4. Department of Materials Sciences, University of Delaware, Newark, DE*

3:36

DE-07. Transition from n-type to p-type destroys ferromagnetism in semiconducting Sn_{1-x}Co_xO₂ and Sn_{1-x}Cr_xO₂ nanoparticles. *C.B. Van Komen*¹, M.S. Seehra² and A. Punnoose¹. *1. Physics, Boise State University, Boise, ID; 2. Physics, West Virginia University, Morgantown, WV*

3:48

DE-08. Magnetism of TiO and TiO₂ Nanoclusters. *X. Wei*^{1,2}, R. Skomski^{1,2}, B. Balamurugan^{1,2}, S. Ducharme^{1,2} and D.J. Sellmyer^{1,2}. *1. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE*

4:00

DE-09. Disorder and many-body effects in transport and optical conductivities of diluted magnetic semiconductors. *F. Kyrychenko*¹ and C.A. Ullrich¹. *1. Department of Physics and Astronomy, University of Missouri - Columbia, Columbia, MO*

4:12

DE-10. Hydrogenation enhanced magnetic and electrical properties in Mn-doped amorphous Si thin films. *J. Yao¹, S. Li¹ and T. Chin^{2,3}* 1. *Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan;* 2. *Department of Materials Science and Engineering, Feng Chia University, Taichun, Taiwan;* 3. *National Nano-Devices Lab., National Applied Research Laboratories, Hsinchu, Taiwan*

4:24

DE-11. Origins of ferromagnetism in high-Tc Mn-ions implanted Si. *V. Ko^{1,2}, K. Teo³, M. MacKenzie⁵, I. MacLaren⁵, T. Liu⁴, J. Chapman⁵, T. Liew¹ and T. Chong¹* 1. *Data Storage Institute, Singapore, Singapore;* 2. *NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore, Singapore, Singapore;* 3. *Information Storage Materials Laboratory, Electrical & Computer Engineering Department, National University of Singapore, Singapore, Singapore;* 4. *Singapore Synchrotron Light Source, National University of Singapore, Singapore, Singapore;* 5. *Department of Physics and Astronomy, University of Glasgow, Glasgow, Scotland, United Kingdom*

4:36

DE-12. Magnetic moments of Mn in amorphous Si and Ge: theory and experiment. *L. Zeng¹, E. Helgren¹, J. Cao⁴, R. Wu⁴, C. Piamonteze³, E. Arenholz³, D.J. Smith² and F. Hellman¹* 1. *Physics, UC Berkeley, Berkeley, CA;* 2. *Physics, Arizona State University, Tempe, AZ;* 3. *Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA;* 4. *Physics, UC Irvine, Irvine, CA*

4:48

DE-13. Inhomogeneous Cr distribution and superparamagnetic properties of (Zn,Cr)Te. *S. Kuroda¹, K. Ishikawa¹, M. Mitome² and Y. Bando²* 1. *Institute of Materials Science, University of Tsukuba, Tsukuba, Ibaraki, Japan;* 2. *Advanced Materials and Nanomaterials Laboratories, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

WEDNESDAY
AFTERNOON
2:00

SALON E

Session DF
VORTEX DYNAMICS
Konstantin Guslienko, Chair

2:00

DF-01. Vortex random access memory (VRAM) as new MRAM scheme. *S. Kim¹, K. Lee¹, Y. Yu¹, Y. Choi¹, H. Jung¹ and D. Jeong¹* 1. *Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea*

2:12

DF-02. SIMULTANEOUS CURRENT- AND FIELD-INDUCED MAGNETIC ANTIVORTEX CORE SWITCHING AS WRITE PROCESS IN RANDOM ACCESS MEMORIES. *A. Drews¹, B. Krüger², S. Bohlens², T. Kamionka¹, B. Güde¹, G. Meier¹ and M. Bolte¹* 1. *Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Hamburg, Germany;* 2. *I. Institut für Theoretische Physik, Universität Hamburg, Hamburg, Germany*

2:24

DF-03. A Current Controlled Random-Access Memory Based On Magnetic Vortex Handedness. *S. Bohlens¹, B. Krüger¹, A. Drews², M.A. Bolte², G. Meier², U. Merkt² and D. Pfannkuche¹* 1. *Institut für Theoretische Physik, Universität Hamburg, Hamburg, Germany;* 2. *Institut für Angewandte Physik, Universität Hamburg, Hamburg, Germany*

2:36

DF-04. Universal criterion for vortex-core reversal in soft magnetic nanodots: Critical velocity of vortex gyrotropic motion. *K. Lee¹, S. Kim¹, Y. Yu¹, K. Guslienko¹ and P. Fischer²* 1. *Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea;* 2. *Center for X-Ray Optics, Lawrence Berkeley National Lab, 1 Cyclotron Road, Mail Stop 2R0400, Berkeley, CA*

2:48

DF-05. Reversal of the vortex core polarization by rotating magnetic fields. *M. Curcic¹, B. Van Waeyenberge^{1,2}, M. Weigand¹, A. Vansteenkiste², V. Sackmann¹, H. Stoll¹, M. Faehle¹, T. Tylliszczak³, G. Woltersdorf⁴, C. Back⁴ and G. Schuetz¹* 1. *Max Planck Institute for Metals Research, Stuttgart, Germany;* 2. *Department of Subatomic and Radiation Physics, Ghent University, Ghent, Belgium;* 3. *Advanced Light Source, LBNL, Berkeley, CA;* 4. *Department of Physics, Regensburg University, Regensburg, Germany*

3:00

DF-06. Polarity reversal of magnetic vortex core by in-plane pulsed magnetic field. *X. Cheng¹, D.J. Keavney¹ and K.S. Buchanan^{2,3}* 1. *Advanced Photon Source, Argonne National Lab, Argonne, IL;* 2. *Center for Nanoscale Materials, Argonne National Lab, Argonne, IL;* 3. *Department of Physics, Colorado State University, Fort Collins, CO*

3:12

DF-07. Switching of the vortex core polarization by monopolar magnetic field pulses. *M. Weigand*¹, *M. Curcic*¹, *B. Van Waeyenberge*³, *A. Vansteenkiste*³, *V. Sackmann*¹, *H. Stoll*¹, *T. Tylliszczak*², *D. Bertwistle*⁴, *K. Kaznatcheev*⁴, *G. Woltersdorf*⁵, *C.H. Back*⁵ and *G. Schütz*¹. *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Advanced Light Source, LBNL, Berkeley, CA; 3. Department of Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 4. Canadian Light Source, Saskatoon, SK, Canada; 5. Department of Physics, Regensburg University, Regensburg, Germany*

3:24

DF-08. Reduction of the vortex core switching current with an elliptic nanodot. *Y. Nakatani*¹, *A. Thiaville*², *K. Yamada*³, *S. Kasai*³, *K. Kobayashi*³ and *T. Ono*³. *1. Department of Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan; 2. LPS, CNRS & Universite Paris Sud, Orsay, France; 3. Kyoto University, Uji, Kyoto, Japan*

3:36

DF-09. Direct experimental evidence for the dynamic vortex-antivortex (VA) creation and annihilation model for vortex core switching. *H. Stoll*¹, *A. Vansteenkiste*², *M. Weigand*¹, *B. Van Waeyenberge*^{1,2}, *M. Curcic*¹, *V. Sackmann*¹, *K. Chou*³, *T. Tylliszczak*³, *G. Woltersdorf*⁴, *C.H. Back*⁴ and *G. Schuetz*¹. *1. MPI for Metals Research, Stuttgart, Germany; 2. Department Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 3. Advanced Light Source, LBNL, Berkeley, CA; 4. Department of Physics, Regensburg University, Regensburg, Germany*

3:48

DF-10. Probing vortex core dynamics using current induced resonant excitation of a trapped domain wall. (Invited) *R. Moriya*¹, *L. Thomas*¹, *M. Hayashi*¹, *Y.B. Bazaliy*^{2,3}, *C. Rettner*¹ and *S. Parkin*¹. *1. IBM Research, San Jose, CA; 2. University of South Carolina, Columbia, SC; 3. Institute of Magnetism, National Academy of Science of Ukraine, Kyiv, Ukraine*

4:24

DF-11. Spin-Transfer Induced Vortex Oscillations in Circular Nanopillar Spin Valves: Comparison between Micromagnetic and Analytical Calculations. *A.V. Khvalkovskiy*^{1,2}, *J. Grollier*¹, *K. Zvezdin*², *V. Cros*¹ and *A. Fert*¹. *1. UMP CNRS-Thales, Palaiseau, France; 2. A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russian Federation*

4:36

DF-12. Spin-torque FMR studies on vortex dynamics in a nanopillar. *R. Lehdorff*¹, *D.E. Buegler*¹, *A. Kakay*¹, *S. Gliga*¹, *R. Hertel*¹, *Z.J. Celinski*² and *C.M. Schneider*¹. *1. Institut fuer Festkoerperforschung and JARA-FIT, Forschungszentrum Juelich, Juelich, Germany; 2. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO*

4:48

DF-13. Dynamic origin of the azimuthal spin-wave modes splitting in vortex state of ferromagnetic dots. *K. Gusliyenko*¹, *A.N. Slavin*², *V. Tiberkevich*² and *S. Kim*¹. *1. Research Center for Spin Dynamics & Spin-Wave Devices, and Nanospinics Laboratory, Dept. Materials Science and Engineering, Seoul National University, Seoul, South Korea; 2. Department of Physics, Oakland University, Rochester, MI*

WEDNESDAY
AFTERNOON
2:00

400/402

Session DG MULTIFERROICS

Arun Gupta, Chair

2:00

DG-01. Nature of the Exchange Coupling in a Ferromagnet / Multiferroic Antiferromagnet Multilayer. *B.J. Kirby*¹, *D. Kan*², *A. Luykx*², *M. Murakami*² and *I. Takeuchi*². *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Materials Science & Engineering, University of Maryland, College Park, MD*

2:12

DG-02. High frequency characterization of NiFe₂O₄/BiFeO₃ composite multiferroics. *N. Benatman*^{2,1}, *S.P. Crane*³, *R. Ramesh*³ and *T.W. Clinton*¹. *1. Seagate Research, Seagate Technology, Pittsburgh, PA; 2. Physics Department, Georgetown university, Washington, DC; 3. Department of Materials Science and Engineering, UC Berkeley, Berkeley, CA*

2:24

DG-03. Magnetic field-induced electric polarization in an organic quantum magnet. *V. Zapf*¹, *F. Wolff-Fabris*¹, *M. Kenzelmann*², *F. Balakirev*¹ and *Y. Chen*³. *1. Los Alamos National Lab, Los Alamos, NM; 2. Paul Scherrer Institute, Villigen, Switzerland; 3. NIST Center for Neutron Research, Gaithersburg, MD*

2:36

DG-04. Predicted and Measured Permeability Variations of Bi-Layered Magnetostrictive/PVDF Composite Materials for Tunable Microwave Applications. R. Smaali¹, S. De Blasi¹, P. Gelin¹, P. Quéffelec¹ and B. Viala². *1. LabSTICC UMR-CNRS 3192, 29238 Brest Cedex 3, France; 2. CEA-LETI-MINATEC, 38054 GRENOBLE Cedex 9, France*

2:48

DG-05. Structural, magnetic and ferroelectric properties of MPB phase of BiCoO₃-BiFeO₃ solid solution film. H. Naganuma¹, S. Yasui², K. Nishida³, T. Iijima⁴, H. Funakubo², S. Okamura⁵ and Y. Ando¹. *1. Tohoku University, Sendai, Japan; 2. Tokyo Institute of Technology, Yokohama, Japan; 3. National Defense Academy of Japan, Yokosuka, Japan; 4. AIST, Tsukuba, Japan; 5. Tokyo University of Science, Tokyo, Japan*

3:00

DG-06. Magnetoelectric effect at the Fe₃O₄/BaTiO₃ (001) interface: A first-principles study. M.K. Niranjan¹, J.P. Velev¹, C.G. Duan², S.S. Jaswal¹ and E.Y. Tsymlantsev¹. *1. Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE; 2. Key Laboratory of Polarized Materials and Devices, East China Normal University, Shanghai 200062, China, Shanghai, China*

3:12

DG-07. Fabrication and Properties of Multiferroic Nanowire Heterostructures. G. Kim^{1,2}, A. Gupta¹, A. Tatarenko³ and G. Srinivasan³. *1. MINT Center, U of Alabama, Tuscaloosa, AL; 2. Department of Electrical and Computer Engineering, U of Alabama, Tuscaloosa, AL; 3. Department of Physics, Oakland University, Rochester, MI*

3:24

DG-08. Reentrant spiral magnetic order and ferroelectricity in Multiferroic Mn_{1-x}Fe_xWO₄ (x=0.035). R.P. Chaudhury¹, B. Lorenz¹, Y. Wang¹, Y. Sun¹, C. Chu^{1,2}, F. Ye³, J. Fernandez-Baca³, H. Mook³ and J. Lynn⁴. *1. Physics, University Of Houston, Houston, TX; 2. Hong Kong University of Science and Technology, Hong Kong University, Hong Kong, China; 3. Oak Ridge National Laboratory, Oak Ridge National Laboratory, Oak Ridge, TN; 4. NIST, Center for Neutron Research, Gaithersburg, MD*

3:36

DG-09. Magnetoelectric effects in Fe₃O₄ – BaTiO₃ heterostructures. G.E. Sterbinsky^{1,2}, D.J. Keavney³ and B.W. Wessels^{1,2}. *1. Dept. of Materials Science and Engineering, Northwestern University, Evanston, IL; 2. Materials Research Center, Northwestern University, Evanston, IL; 3. Advanced Photon Source, Argonne National Laboratory, Evanston/Argonne, IL*

3:48

DG-10. Multiferroic nature of the BLZT-CFO composite thin films. E. Delgado^{1,2}, C. Ostos³, M.L. Martinez-Sarrion³, L. Mestres³, D. Lederman², P. Prieto⁴, G. Abril⁵, J.M. Hernandez⁵ and J. Tejada⁵. *1. Departamento de Fisica, Universidad del Valle, Cali, Colombia; 2. Department of Physics, West Virginia University, Morgantown, WV; 3. Departamento de Química Inorganica, Universidad de Barcelona, Barcelona, Spain; 4. Centro de Excelencia de Nuevos Materiales, Universidad del Valle, Cali, Colombia; 5. Departamento de Física Fundamental, Universidad de Barcelona, Barcelona, Spain*

4:00

DG-11. (Sr,Mn)TiO₃ - a magnetoelectric multiglass. V.V. Shvartsman¹, S. Bedanta¹, P. Borisov¹, W. Kleemann¹, A. Tkach² and P.M. Vilarinho². *1. Angewandte Physik, Universität Duisburg-Essen, Duisburg, Germany; 2. Department of Ceramics and Glass Engineering, University of Aveiro, Aveiro, Portugal*

4:12

DG-12. Ferroelectric and ferromagnetic properties of Gd and Nd doped nickel ferrite. K. Kamala Bharathi¹, J. Arout Chelvane² and M. Garimella¹. *1. IIT Madras, Chennai, Tamil Nadu, India; 2. Advanced Magnetism Laboratory, DMRL, HYDERABAD, India*

4:24

DG-13. Resonant Magnetoelectric Effect in Composite of Piezoelectric Ceramic and Ferromagnetic Constant-elasticity Alloy. L. Bian^{1,2}, Y. Wen^{1,2} and P. Li^{1,2}. *1. The Key Laboratory for Optoelectronic Technology & Systems, Ministry of Education, Chongqing, China; 2. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

4:36

DG-14. C-V Characteristics of Multiferroic Bi_{0.7}Dy_{0.3}FeO₃ thin films directly integrated on <100>Silicon. P. Kovur¹, S.P. Duttgupta¹, S. Chakrabarti¹ and V.R. Palkar¹. *1. Center of Excellence in Nanoelectronics, Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India*

4:48

DG-15. Giant microwave tunability in FeGaB/PMN-PT multiferroic composites. J. Lou^{1,2}, D. Reed^{1,2}, C. Pettiford^{1,2}, M. Liu^{1,2} and N.X. Sun^{1,2}. *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA*

WEDNESDAY
AFTERNOON
2:00

410

**Session DH
EXCHANGE BIAS I**

Kai Liu, Chair

2:00

DH-01. The magnetic depth profile of an exchange biased magnetic multilayer. *S. Langridge*¹, T.R. Charlton¹, M. Ali², C.H. Marrows² and B.J. Hickey² *1. Rutherford Appleton Laboratory, ISIS, Didcot, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

2:12

DH-02. Origin of uncompensated moments in antiferromagnets and their role in exchange bias. *I.V. Roshchin*^{1,2}, Z. Li^{2,5}, C.W. Miller^{2,3}, M. Varela⁴, S.J. Pennycook⁴, M. Zhernenkov⁶, M.R. Fitzsimmons⁶ and I.K. Schuller² *1. Physics Department, Texas A&M University, College Station, TX; 2. Physics Department, University of California, San Diego, La Jolla, CA; 3. Physics Department, University of South Florida, Tampa, FL; 4. Oak Ridge National Laboratory, Oak Ridge, TN; 5. Brion Technologies, Santa Clara, CA; 6. Los Alamos Neutron Science Center, Los Alamos National Laboratory, Los Alamos, NM*

2:24

DH-03. Correlation between exchange anisotropy and interfacial uncompensated antiferromagnetic spins in Mn-Ir/Co_{100-x}Fe_x bilayers. *M. Tsunoda*¹, H. Takahashi¹, T. Nakamura², C. Mitsumata³ and M. Takahashi¹ *1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. JASRI/SPring-8, Sayo-cho, Japan; 3. Advanced Electronics Research Labo., Hitachi Metals, Kumagaya, Japan*

2:36

DH-04. Magnetic Anisotropy of Exchange-Biased Co/FeF₂, Ni/FeF₂ and Fe/FeF₂ Bilayers. *D. Lederman*¹, P. Dutta¹, H. Shi^{1,2} and M.S. Seehra¹ *1. Department of Physics, West Virginia University, Morgantown, WV; 2. Department of Physics and Astronomy, Sonoma State University, Rohnert Park, CA*

2:48

DH-05. Chemical Order-Induced Magnetic Exchange Bias in FePt3 Films. *D. Lott*¹, F. Klose², H. Ambaye³, G.J. Mankey⁴, P. LeClair⁴, M. Walock⁴, Z. Lu⁴, M. Wolff⁵, H.M. Christen³, B.C. Sales³, A. Schreyer¹ and V. Lauter³ *1. GKSS Research Center, Geesthacht, Germany; 2. Bragg Institute, ANSTO, Menai, NSW, Australia; 3. Oak Ridge National Laboratory, Oak Ridge, TN; 4. MINT Center, University of Alabama, Tuscaloosa, AL; 5. Department of Physics, Ruhr-University Bochum, Bochum, Germany*

3:00

DH-06. Temperature dependence of the training effect in exchange coupled all ferromagnetic bilayers. *S. Polisetty*¹, S. Sahoo¹, A. Berger² and C. Binek¹ *1. Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. CIC nanoGUNE Consolider, Donostia, Spain*

3:12

DH-07. Coercivity Enhancement for FeMn/SmCo/FeMn Trilayers. *S. Demirtas*¹, M.R. Hossu², A.R. Koymen² and M.B. Salamon¹ *1. Department of Physics, University Texas at Dallas, Richardson, TX; 2. Department of Physics, University of Texas at Arlington, Arlington, TX*

3:24

DH-08. Mechanisms for “exchange bias” in exchange spring superlattices. *K. Dumesnil*¹, M.R. Fitzsimmons² and C. Dufour¹ *1. LPM, Vandoeuvre les Nancy, France; 2. LANSCE, Los Alamos National Laboratory, Los Alamos, NM*

3:36

DH-09. Origin of the Coercivity in CoFe/IrMn Exchange Bias Systems. *G. Vallejo-Fernandez*¹, L.E. Fernandez-Outon¹, N.P. Aley¹ and K. O’Grady¹ *1. Physics, The University of York, York, North Yorkshire, United Kingdom*

3:48

DH-10. Correlation between the exchange bias and ferromagnetic domain size in Mn-Ir/Co-Fe bilayers. *H. Takahashi*¹, M. Tsunoda¹, K. Fukumoto², T. Nakamura², K. Arai³, T. Kinoshita^{2,4} and M. Takahashi^{5,1} *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. JASRI/SPring-8, Sayo-cho, Japan; 3. Institute for Solid State Physics, University of Tokyo, Tokyo, Japan; 4. CREST, Japan Science and Technology Agency, Saitama, Japan; 5. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

4:00

DH-11. Defect mediated tuning of exchange bias in IrMn/CoFe nanostructure. *N.N. Shams*¹, M. Rahman¹ and C. Lai¹ *1. Department of Materials Science and Engineering, National Tsing-hua University, Hsinchu, Taiwan*

4:12

- DH-12. Enhanced Exchange Bias of Co/CoO Films on Periodically Modulated Substrates.** *Y. Hao*¹, F.Q. Zhu², S. Chang¹, J. He¹, C. Chien² and P.C. Searson³. *1. Materials Science and Engineering, University of Texas at Arlington, Arlington, TX; 2. Physics, Johns Hopkins University, Baltimore, MD; 3. Materials Science and Engineering, Johns Hopkins University, Baltimore, MD*

4:24

- DH-13. Unexpectedly Long-Range Influence on Thin-Film Magnetization Reversal by a rectangular Array of FeMn Pinning Films.** *Y.P. Kabanov*², V.I. Nikitenko^{1,2}, O.A. Tichomirov², W.F. Egelhoff¹, A.J. Shapiro¹ and R.D. Shull¹. *1. NIST, Gaithersburg, MD; 2. Institute of Solid State Physics, RAS, Chernogolovka, Russian Federation*

4:36

- DH-14. Reversal Mechanisms of Exchange Biased Co/IrMn Elliptical Dots.** *R.K. Dumas*¹, F.J. Castaño², B. Ng², C.A. Ross² and K. Liu¹. *1. Physics Department, University of California, Davis, CA; 2. Materials Science and Engineering Department, Massachusetts Institute of Technology, Boston, MA*

4:48

- DH-15. Magnetization Dynamics in Exchange-Biased Co/IrMn Square Elements.** *E. Girgis*¹, J. Rudge¹, J. Kolthammer¹, C.A. Ross² and B.C. Choi¹. *1. Department of Physics and Astronomy, University of Victoria, Victoria, BC, Canada; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DP
**FUNDAMENTAL PROPERTIES
(POSTER SESSION)**

Bruce Harmon, Co-Chair
Oleg Mryasov, Co-Chair

- DP-01. Critical Behavior of the Magnetization in the Spin-gapped System NiCl₂-4SC(NH₂)₂.** *A. Paduan-Filho*¹, K.A. Al-Hassanieh², P. Sengupta², V.S. Zapf², M. Jaime², A.H. Lacerda² and M. Kenzelmann³. *1. Instituto de Fisica, Sao Paulo, Brazil; 2. National High Magnetic Field Laboratory, Los Alamos, NM; 3. Laboratory for Solid State Physics, Zurich, Switzerland*

- DP-02. Effect of particle size on magnetic and magneto-optical properties of CoFe₂O₄ nanoparticles.** *M.K. Surendra*^{1,2}, K. Mohankant^{1,2} and M.S. Ramachandra Rao^{1,2}. *1. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India; 2. Materials Science and Research Centre, Indian Institute of Technology Madras, Chennai, Tamilnadu, India*

- DP-03. Thermal properties and critical behaviour of KMnF₃.** *A. Salazar*¹, M. Massot¹, A. Oleaga¹, A. Pawlak² and W. Schranz³. *1. Fisica Aplicada I, Escuela Tecnica Superior de Ingenieria/Universidad del Pais Vasco UPV/EHU, Bilbao, Spain; 2. Institute of Physics, A. Mickiewicz University, Poznan, Poland; 3. Faculty of Physics, University of Vienna, Wien, Austria*

- DP-04. ¹¹⁹Sn Mössbauer Spectroscopy investigation of Nd₃Cu₄Sn₄, Nd₃Ag₄Sn₄ and Ho₃Cu₄Sn₄.** *C.J. Voyer*¹ and D.H. Ryan¹. *Center for the Physics of Materials, McGill University, Montreal, QC, Canada*

- DP-05. Studying of the influence of γ radiation on magnetic properties of Sr_{0.8}La_{0.2}O₆Fe_{1.7}Co_{0.3}O₃ ferrite magnetic materials.** *G.M. Nguyen*¹, K.T. Doan¹, T.T. Co^{1,2} and P.H. Le¹. *1. Materials, HCMC Institute Of Physics, Hochiminh, Viet Nam; 2. Can Tho University, Cantho, Viet Nam*

- DP-06. Breaking of a certain replica symmetry of metamagnetic character.** *M. Zarei*¹, A. Yazdani¹, S. Zarini¹, M. Hesani¹ and M. Ghazanfari¹. *1. Physics, Tarbiat Modares University, Tehran, Iran*

- DP-07. Universal Scaling Behavior of Barkhausen Avalanches in Fe and Ni-Fe Alloy Thin Films.** *H. Lee*¹, K. Ryu¹, I. Kang² and S. Shin¹. *1. Center for Nanospinics of Spintronic Materials, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Korea Science Academy, Busan, South Korea*

- DP-08. Magnetic ordering in the spinel compound LiMn_{2-x}Li_xO₄ (x = 0, 0.04).** *J. Gaddy*¹, J. Lamsal¹, M. Petrovic¹, W. Montfrooij¹ and T. Vojta². *1. Physics & Astronomy, University of Missouri, Columbia, MO; 2. Physics, Missouri University of Science and Technology, Rolla, MO*

- DP-09. Dynamics of three electrons in a quantum wire.** *J. Lee*¹ and L.E. Reichl². *1. KIST, Seoul, South Korea; 2. University of Texas, Austin, Austin, TX*

- DP-10. Long range magnetic ordering with giant magnetic moments in Pt doped NiMn thin films.** *Y. Öner*¹, M. Ozdemir², C. Basaran³, B. Aktas³ and T. Sato⁴. *1. Department of Physics, Istanbul Technical University, Istanbul, Turkey; 2. Department of Physics, Marmara University, Istanbul, Turkey; 3. Department of Physics, Gebze Advanced Technology, Koaeli, Turkey; 4. Department of Instrumentation Engineering, Keio University, Kanagawa, Japan*

- DP-11. Studies on magnetic dynamical behaviors of Fe_{1-x}Cd_xCr₂S₄ (0.1 ≤ x ≤ 0.9) system.** *L. Yan*¹, W. Ren², J. Shen¹ and F. Wang¹. *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Physics, Hong Kong University of Science and Technology, Hong Kong, China*

- DP-12. Electron paramagnetic resonance insights in to the suppression of charge order in nanoscale manganites.** *S.V. Bhar¹, S.S. Rao¹, K.N. Anuradha¹ and A. Sharma¹. Physics, Indian Institute of Science, Bangalore, Karnataka, India*
- DP-13. Mossbauer study of First Order Phase Transition in LaVO₃** *S. Yoon¹. Department of Physics, Gunsan National University, Gunsan, South Korea*
- DP-14. Surface spin wave quantization in a stripe domain continuous film by Brillouin light scattering.** *S. Ha¹, J. Yoon¹, S. Lee¹, C. You¹, M. Jung² and Y. Kim³. Physics, Inha University, Incheon, South Korea; 2. Physics, Sogang University, Seoul, South Korea; 3. Materials Science and Engineering, Korea University, Seoul, South Korea*
- DP-15. Model simulation of ferromagnetism in nitrogen embedded ZnO:N thin films.** *S. Sun¹, C. Yu² and H. Chou³. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Applied Physics, National Chiayi University, Chiayi, Taiwan; 3. Physics, National Sun Yat-Sen University, Kaohsiung, Taiwan*
- DP-16. Mössbauer study of magnetic structure of cation-deficient iron sulfide Fe_{0.92}S.** *W. Kim¹, I. Park¹ and C. Kim¹. Department of Physics, Kookmin University, Seoul, South Korea*
- DP-17. Theoretical and Experimental Results of Electronic Transport of Spin Quantum Cross Structure Devices.** *K. Kondo¹, H. Kaiju¹ and A. Ishibashi¹. Laboratory of Quantum Electronics, Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan*
- DP-18. Self-similar band structure and spin-polarized transport in Quasiperiodic cascade junctions of ferromagnet and semiconductor.** *J. Li¹, R. Zhang¹, R. Peng¹, X. Wu¹, D. Li¹, Q. Hu¹ and M. Wang¹. National Laboratory of Solid State Microstructures, Nanjing, China*
- DP-19. Unusual negative magnetization in Ba₂CoO₂Cu₂Te₂.** *D. Parker¹ and S.J. Clarke¹. Inorganic Chemistry, University of Oxford, Oxford, United Kingdom*
- DP-20. Superconducting and magnetic properties of Ni/Pb multilayer nanowires.** *L. Lin^{1,3}, Y. Chi², T. Chen², S. Shyu² and S. Lee¹. Physics, Academia Sinica, Taipei, Taiwan; 2. Chemistry, Academia Sinica, Taipei, Taiwan; 3. Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan*
- DP-21. Magnetic Properties and Spin Dynamics of Oxo-Centered {Mn₃O} - Type Spin Triangles.** *Z. Jang¹, S. Yoon², K. Han² and B. Suh². Physics, Kookmin University, Seoul, South Korea; 2. Physics, The Catholic University of Korea, Bucheon, South Korea*
- DP-22. Study of Spin Dynamics in a Hexanuclear Manganese Ring and its 3D Network.** *S. Yoon¹, B. Suh¹ and Z. Jang². Physics, The Catholic University of Korea, Bucheon, South Korea; 2. Physics, Kookmin University, Seoul, South Korea*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DQ
MAGNETIC NANOPARTICLES FOR
BIOLOGICAL APPLICATIONS
(POSTER SESSION)

Sara Majetich, Chair

- DQ-01. Translocation of Magnetic Beads Using Patterned Magnetic Pathway for Biosensor Applications.** *A. Sarella¹, K. Kim¹, J.R. Jeong¹ and C. Kim¹. Chungnam National University, Daejeon, South Korea*
- DQ-02. Ferromagnetic microdisks as magnetic carriers for biomedical applications.** *E. Rozhkova², V. Novosad¹, D. Kim¹, R. Divan¹, T. Rajh¹ and S.D. Bader^{2,1}. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL*
- DQ-03. Digital Magnetic Tagging for Multiplexed Suspension-based Biochemical Assays.** *T. Mitrelias¹, T. Trypiniotis¹, K. Vyas¹, B. Hong¹, J. Palfreyman¹, T.J. Hayward¹, C.W. Barnes¹, P.A. Robertson², J.C. Bland¹ and M. Bradley³. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Engineering Department, University of Cambridge, Cambridge, United Kingdom; 3. School of Chemistry, University of Edinburgh, Edinburgh, United Kingdom*
- DQ-04. Controlled synthetic conditions of FePt nanoparticles with high magnetization for biomedical applications.** *D.H. Wei¹, Y. Yao², D. Hung³, P. Chen⁴ and C. Ho⁴. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 3. Ming Chuan University, Taipei, Taiwan; 4. Tunghai University, Taichung, Taiwan*
- DQ-05. PEGlyated mesoporous silica-coated superparamagnetic FePt nanoparticles for fluorescence/MRI dual imaging.** *T. Tsai¹, P. Lai¹, J. Tsai² and M. Liao¹. Department of Chemistry, National Chung Hsing University, Taichung, Taiwan; 2. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*
- DQ-06. Chemical Synthesis of FePt/Fe-oxide Composite Nanoparticles with High Alternate Current Magnetic Susceptibility for Biomedical Applications.** *Y. Kitamoto¹ and J. He¹. Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Japan*
- DQ-07. Synthesis of SERS Active Magnetic Nanoparticles for Cell Labeling and Sorting.** *S. Charan¹, C. Kuo¹, P. Drake², Y. Lin², L. Tay³ and P. Chen¹. Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan; 2. ITRI, HsinChu, Taiwan; 3. IMS, National Research Council, Ottawa, ON, Canada*

DQ-08. Poly(styrene-co-vinylbenzylchloride-co-divinylbenzene) Coated Iron Oxide: Synthesis and Effects on Size and Morphology. J.R. Marin^{1,2}, M.D. Shultz³, S.H. Naik³, J. Wilkins³, J.M. Laza², J.L. Vilas², L.M. Leon² and E.E. Carpenter³. *Formulación y Transformación de Polímeros, GAIKER Centro Tecnológico, Zamudio, Bizkaia, Spain; 2. Basque Country University, Leioa, Bizkaia, Spain; 3. Chemistry, Virginia Commonwealth University, Richmond, VA*

DQ-09. Detection of magnetic nanoparticle labeled HeLa cells using MgO based magnetic tunnel junction sensors. W. Shen¹, B.D. Schrag³, M.J. Carter³, C. Xu² and G. Xiao¹. *Physics Department, Brown University, Providence, RI; 2. Chemistry Department, Brown University, Providence, RI; 3. Micro Magnetics, Inc., Fall River, MA*

DQ-10. Magnetic properties of ferritin nanoparticles in PVA fiber. Y. Hyun¹, M. Seo¹, N. Dai¹, Y. Lee¹, K. Kim², M. Shin³ and S. Kim³. *1. Department of Physics, Hanyang University, Seoul, South Korea; 2. Department of Physics, Sunmoon University, Asan, South Korea; 3. Biomedical Engineering, Hanyang University, Seoul, South Korea*

DQ-11. Pharmacokinetics of intravenously injected Tc-99m labeled ferrite nanobeads. C. Fu¹, Y. Wang^{2,3}, M. Chuang³, Y. Guo¹ and T. Cham³. *1. Physics Department, National Taiwan University, Taipei, Taiwan; 2. Department of Nuclear Medicine, Buddhist Dalin TzuChi General Hospital, Chia-Yi, Taiwan; 3. Faculty of Pharmacy, Kaohsiung Medical University, Kaohsiung, Taiwan*

DQ-12. Application of Radical Chain Reactions to Drug Release Controlling of Liposomal Carriers Under High Magnetic Fields. H. Nakagawa¹, S. Ueno², T. Shiina³, M. Kotani⁴ and S. Kubota¹. *1. Department of Life Sciences, The University of Tokyo, Tokyo, Japan; 2. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan; 3. Department of Computer Science, University of Tsukuba, Tsukuba, Japan; 4. Department of Electronic Engineering, Tokyo Denki University, Tokyo, Japan*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DR
**MAGNETIC FLUIDS AND SEPARATION
(POSTER SESSION)**
Valentyn Norosad, Chair

DR-01. RF transmission properties of magnetic fluid with transverse magnetic field. Y. Kim², H. Kim² and K. Shin¹. *1. Department of Multimedia Engineering, Kyungsoong University, Pusan, South Korea; 2. Department of Electrical Engineering, Pukyong University, Pusan, South Korea*

DR-02. Magnetic-field modulated light transmittance in suspension of ferromagnetic microdisks. V. Novosad¹, S. Chui², V.G. Yefremenko¹, J. Pearson¹ and S.D. Bader¹. *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Bartol Research Institute, University of Delaware, Newark, DE*

DR-03. Variations of optical transmittance with magnetic fields in nano-size FePt ferrofluid. K. Wu¹, Y. Yao² and C. Chang¹. *1. Department of Physics, Fu Jen University, Hsinchuang, Taipei Hsien, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan*

DR-04. Suspensions of Magnetic Nanoparticles in Polymer Liquid Crystals: A new type of Ferromagnetic. D.I. Santiago-Quinones¹ and C. Rinaldi¹. *1. Chemical Engineering, University of Puerto Rico, Mayaguez, Mayaguez, PR*

DR-05. Origin of Magnetic Anomalies in the Liquid, Mixed and Frozen States of Ferrofluids. M.B. Morales¹, N.A. Frey¹, M.H. Phan¹ and H. Srikanth¹. *1. Department of Physics, University of South Florida, Tampa, FL*

DR-06. AC SUSCEPTIBILITY STUDY OF A MAGNETITE MAGNETIC FLUID. O.E. Ayala-Valenzuela¹, J.T. Elizalde Galindo², C.E. Botez³ and J.A. Matutes-Aquino¹. *1. Física de Materiales, Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Chihuahua, Mexico; 2. Departamento de Ciencias Básicas, Universidad Autónoma de Ciudad Juárez, Ciudad Juárez, Chihuahua, Mexico; 3. Department of Physics, University of Texas at El Paso, El Paso, TX*

DR-07. Finite-Element Analysis for Cooling Effect of Magnetic Fluid with Alternating Magnetic Field. S. Lee¹, J. Joo¹ and N. Kim¹. *1. School of Electrical Eng. and Computer Science, Kyungpook National University, Daegu, South Korea*

DR-08. Numerical modeling of magnetic liquids in EWOD devices by multiphase lattice Boltzmann equation. L. Clime¹, D. Brassard¹ and T. Veres¹. *1. Industrial Materials Institute, NRC, Boucherville, QC, Canada*

DR-09. Real observation and computer simulation of microstructure formation of magnetic and nonmagnetic particles in magnetic functional fluids. Y. Ido¹, T. Inagaki², H. Kikura³ and M. Aritomi³. *1. Nagoya Institute of Technology, Nagoya, Japan; 2. Toyota Motor Corporation, Toyota, Japan; 3. Tokyo Institute of Technology, Tokyo, Japan*

DR-10. Magnetic fluid micromixer with rotating magnetic field. C. Lee¹, C. San² and M. Lai¹. *1. Institute of NanoEngineering and MicroSystems, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DS
FERRITES, GARNETS II
(POSTER SESSION)
Mingzhong Wu, Chair

DS-01. Growth and Characterization of 144 μm Thick Barium Ferrite Single Crystalline Film for Microwave Device Application.

J. Jalli^{1,2}, *Y. Hong*^{1,2}, *S. Bae*^{1,2}, *J. Lee*^{1,2}, *M. Kothakonda*^{1,2}, *G.S. Abo*^{1,2}, *A. Lyle*^{1,2}, *S. Gee*³, *H. Lee*^{2,4}, *T. Mewes*^{2,4}, *J.C. Sur*⁵ and *S. Lee*⁶. *1. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 2. MINT Center, University of Alabama, Tuscaloosa, AL; 3. Seagate Technology, Bloomington, MN; 4. Physics and Astronomy, University of Alabama, Tuscaloosa, AL; 5. Division of Physics, Wonkwang University, Iksan, Joen-book, South Korea; 6. Department of Physics, Sogang University, Seoul, South Korea*

DS-02. Novel Ni-Mn-Co ferrite for GHz chip devices.

*J. Lee*¹, *Y. Hong*¹, *S. Bae*¹, *J. Jalli*¹, *W. Seong*², *S. Park*² and *C. Choi*³. *1. MINT Center and Department of Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 2. E.M.W. Antenna Co. Ltd., Seoul, South Korea; 3. Korea Institute of Materials Science, Changwon, South Korea*

DS-03. Study on Microwave properties of Low Temperature Fired NiZnCu Gyromagnetic Ferrite.

*Y. Liu*¹, *Y. Li*¹, *H. Zhang*¹ and *Q. Yang*¹. *1. State Key Laboratory of Electronic Thin Film and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

DS-04. The Magnetic and Electrical Properties of $\text{Fe}_{3-x}\text{Cr}_x\text{O}_4$ Films Grown on MgO(001) by Molecular Beam Epitaxy.

*d. Lee*¹, *C. Hwang*² and *G. Chern*². *1. Electrical Engineering, DAYEH University, Changhua, Taiwan; 2. Physics, National Chung Cheng University, Chia-Yi, Taiwan*

DS-05. Gigahertz Range Complex Permittivity and Permeability of Iron-based Composite Absorbers by Cavity Perturbation Method.

*R. Yang*¹, *W. Liang*¹, *C. Tsay*², *D. Hung*³ and *Y. Yao*³. *1. Dept. of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Dept. of Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 3. Institute of Physics, Academia, Taipei, Taiwan*

DS-06. One Parameter Control of the Size of Iron Oxide Nanoparticles Synthesized in Reverse Micelles.

M.D. Shultz^{1,2}, *W. Braxton*³, *C. Taylor*³ and *E.E. Carpenter*². *1. Anvil: the materials forge, Inc., Ashland, VA; 2. Chemistry, Virginia Commonwealth University, Richmond, VA; 3. Chemistry and Physics, Virginia State University, Petersburg, VA*

DS-07. Mossbauer Study of $\text{MnFe}_{2-2x}\text{Al}_2\text{O}_4$ ($0 \leq x \leq 0.5$).

*K.M. Batoor*¹, *S. Kumar*², *C.G. Lee*² and *.. Alimuddin*¹. *1. Department of Applied Physics, Aligarh Muslim University, Aligarh, UP, India; 2. School of Nano & Advanced Materials Engineering, Changwon National University, Changwon, Gyeongsangnam, South Korea*

DS-08. Magnetic Properties of Monodisperse Magnetite and Cobalt-Substituted Ferrite Nanoparticles.

*V. Calero-DdelC*¹ and *C. Rinaldi*¹. *1. Chemical Engineering, University of Puerto Rico, Mayaguez, Mayaguez, PR*

DS-09. Magnetization studies on 200 MeV Ag ion irradiated nanocrystalline $\text{Co}_0.6\text{Zn}_0.4\text{Fe}_2\text{O}_4$.

*S.N. Dolia*¹, *M.S. Dhawan*¹, *A.S. Prasad*¹, *R. Kumar*², *M.P. Sharma*¹, *S. Chander*³, *R.K. Singhal*¹ and *V.R. Reddy*⁴. *1. Department of Physics, University of Rajasthan, Jaipur, Rajasthan, India; 2. Material Science Division, Inter-University Accelerator Centre, New Delhi 110 067, India; 3. Sobhasaria Engineering College, Sikar, Rajasthan, India; 4. UGC-DAE Consortium for Scientific Research, Khandwa Road, Indore 452 017, MP, India*

DS-10. Tuning magnetic properties of yttrium iron garnet (YIG) film with oxygen partial pressure in sputtering and annealing process.

*Q. Yang*¹, *H. Zhang*¹, *Y. Liu*¹ and *Q. Wen*¹. *1. University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

DS-11. The Effect of CeO₂ buffer layer to the magnetic and microstructure of yttrium iron garnet (YIG) film on Si substrate.

*Q. Yang*¹, *H. Zhang*¹, *Y. Liu*¹ and *Q. Wen*¹. *1. University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

DS-12. Domain-acoustic echo phenomenon in europium garnet and iron borate.

*G.I. Mamniashvili*¹, *Y.G. Sharimanov*¹, *A.M. Pohorily*² and *O.M. Kuzmak*². *1. Department of Condensed Matter Physics, Andronikashvili Institute of Physics, Tbilisi, Georgia; 2. Department of Thin Films, Institute of Magnetism, Kyiv, Ukraine*

DS-13. High-frequency loss characteristics through numerical analysis for semiconducting soft magnetic films in the near-field electromagnetic wave.

*S. Kim*¹, *J. Lee*² and *K. Lee*³. *1. Center for Energy-Materials Research Center, Korea Institute of Science & Technology, Seoul, South Korea; 2. Center for Energy-Materials Research Center, Korea Institute of Science & Technology, Seoul, South Korea; 3. R&D Center, Chang Sung Corporation, Seoul, South Korea*

DS-14. The origin of the double-triangle hysteresis loops in ErFeO_3 near the low temperature erbium ordering transition.

*L.T. Tsymbal*¹, *Y. Bazaliy*^{2,3} and *G.N. Kakazei*^{3,4}. *1. O. Galkin Donetsk Physics and Technology Institute, Donetsk, Ukraine; 2. University of South Carolina, Columbia, SC; 3. Institute of Magnetism, Kyiv, Ukraine; 4. Universidade do Porto, Porto, Portugal*

- DS-15. Tunable Magnetic and Magnetotransport Properties in Epitaxial $\text{Fe}_{3-x}\text{Zn}_x\text{O}_4$ Thin Films.** D. Venkateshvaran^{1,2}, A. Boger¹, S.B. Goennenwein¹, M. Rao^{2,3}, M. Opel¹ and R. Gross^{1,4}. *1. Walther-Meißner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, India; 3. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 4. Physik-Department, Technische Universität München, Garching, Germany*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DT
RECORDING HEADS II
(POSTER SESSION)
Samuel Yuan, Chair

- DT-01. Spin-polarized electronic structures and transport properties of Fe-Co alloys: ab initio study.** Y. Kota¹, T. Takahashi¹, H. Tsuchiura¹ and A. Sakuma¹. *Applied Physics, Tohoku University, Sendai, Japan*
- DT-02. Direct resistive measurement on nano-conductive channel in Nano-Oxide-Layer.** S. Kawasaki¹, Y. Watanabe¹, T. Hino¹, M. Doi¹ and M. Sahashi¹. *Graduate School of Engineering, Tohoku University, Sendai, Japan*
- DT-03. Significant enhancement of electromigration-induced failure lifetime due to an ultra-thin Co insertion at the NiFe/Cu interface in GMR spin-valve read sensors.** J. Jiang¹, S. Bae¹ and H. Ryu². *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. IT Convergence & Components Laboratory, ETRI, Daejeon, South Korea*
- DT-04. Writer Pole Structure and Materials for High Density and High Data Rate Perpendicular Recording Heads With Robust Reliability.** D. Han¹, C. Rea¹, J. Xue¹, P. Czoschke¹, L. Jia¹, J. Fernandez-de-Castro¹, V. Inturi¹, M. Kief¹, H. Yin¹, J. Price¹, T. Clinton² and N. Benatman². *1. Recording Heads, Seagate Technology, Minneapolis, MN; 2. Seagate Research, Seagate Technology, Pittsburgh, PA*
- DT-05. Damping constants for FeCo single crystal thin films investigated by Q-band ferromagnetic resonance analysis.** Y. Sudo¹, K. Kobayashi¹, N. Fujita¹, M. Ohtake², N. Inaba¹, M. Futamoto² and F. Kirino³. *1. Yamagata University, Yamagata, Yonezawa, Japan; 2. Chuo University, Tokyo, Bunkyo-ku, Japan; 3. National University of Fine Arts and Music, Tokyo, Taito-ku, Japan*
- DT-06. Measurement of high data rate performance in perpendicular magnetic recording.** W. Lin¹, J. Zhu¹ and T. Pan². *1. ECE, CMU, Pittsburgh, PA; 2. Western Digital Corporation, Fremont, CA*
- DT-07. Preparation of Soft Magnetic FeCo-based Films for Writers.** X. Wang¹, F. Zheng¹, Z. Liu¹, X. Liu², D. Wei³ and F. Wei¹. *1. Research Institute of Magnetic Materials, Lanzhou University, Lanzhou, Gansu, China; 2. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 3. Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China*

- DT-08. Pole design optimization of shielded planar writer for 2 Tbit/in² recording.** K. Yamakawa¹, Y. Ohsawa^{1,2}, S. Greaves¹ and H. Muraoka¹. *1. RIEC, Tohoku University, Sendai, Japan; 2. Corporate R&D Center, Toshiba Corp., Kawasaki, Japan*
- DT-09. Micromagnetic simulation of various pole-tip design PMR heads.** K. Takano¹, L. Guan¹, Y. Zhou¹, Y. Liu¹, J. Smyth¹ and M. Dovek¹. *1. Bldg-3, Headway Technologies, Milpitas, CA*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DU
ELECTRONIC STRUCTURE AND ITINERANT
MAGNETISM
(POSTER SESSION)
Ralph Skomski, Co-Chair
Alexander Shick, Co-Chair

- DU-01. Magnetic, Structural, and Electronic Properties of Nanosized LaFeO₃ Powders.** D.A. Landinez Tellez¹, J.V. Barros², J. Albino Aguiar², J. Arbey Rodriguez¹ and J. Roa-Rojas¹. *1. Fisica, Universidad Nacional de Colombia, Bogota, DC, Colombia; 2. Fisica, Universidade Federal de Pernambuco, Recife, PE, Brazil*
- DU-02. Electronic structures and magnetic properties of La₂MnNiO₆: a ferromagnetic insulator.** B. Kim¹, J. Lee¹, H. Choi¹, B. Kim¹ and B. Min¹. *1. Physics, POSTECH, Pohang, South Korea*
- DU-03. The magnetic hyperfine interaction in FeCr_{2-x}Al_xS₄ (x=0.3, 0.5).** C. Kim¹, S. Kim¹ and C. Kim¹. *1. Physics, Kookmin University, Seoul, South Korea*
- DU-04. Mössbauer studies for spinel-type ACr₂S₄ (A=Cd and Fe).** B. Son¹, B. Lee² and C. Kim¹. *1. Department of Physics, Kookmin University, Seoul, South Korea; 2. Physics, Hankuk University of Foreign Studies, Yongin, Kyungki, South Korea*
- DU-05. Soft X-ray Synchrotron Radiation Spectroscopy Study of Cubic Perovskite SrMn_{1-x}Fe_xO₃.** H. Lee¹, D.H. Kim¹, G. Kim¹, J.S. Kang¹, B. Dabrowski², S. Kolesnik², H. Lee³, J.Y. Kim³, J.E. Lee⁴ and B.I. Min⁴. *1. Physics, The Catholic Univ. of Korea, Bucheon, South Korea; 2. Department of Physics, Northern Illinois University, DeKalb, IL; 3. Pohang Accelerator Laboratory, Pohang, South Korea; 4. Department of Physics, POSTECH, Pohang, South Korea*
- DU-06. Electronic structures and magnetic properties of the compounds Ce_{n+1}Co_{3n+5}B_{2n} (n=0, 1, 2, 3 and ∞).** T. Ito¹ and H. Ido¹. *1. Electronic Engineering, Tohoku Gakuin University, Tagajo, Miyagi, Japan*
- DU-07. Incommensurate spiral structure and competing exchange interactions in Mn₃Si.** M. Hortamani¹. *1. Theory, Max Planck Institute of Microstructure Physics, Halle, Germany*
- DU-08. Stability of ferromagnetic state of epitaxially grown ordered FeRh thin films.** I. Suzuki¹, T. Koike¹, M. Itoh¹ and T. Taniyama^{1,2}. *1. Tokyo Institute of Technology, Yokohama, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan*

- DU-09. First-principles calculations for the electrical conductivities of transition metal alloys.** *A. Sakuma*¹, *T. Takahashi*¹, *Y. Kota*¹ and *H. Tsuchiura*¹. *Applied Physics, Tohoku University, Sendai, Japan*
- DU-10. Metal-insulator transition in NdNiO₃ thin films under anisotropic strain.** *Y. Chang*¹, *B. Lee*² and *C. Jung*². *1. Physics and Astronomy, Seoul National University, Seoul, South Korea; 2. Department of Physics, Hankuk University of Foreign Studies, Yongin, Gyeonggi-Do, South Korea*
- DU-11. Electronic Structures and Hall effect in a Low-doped La_{0.9}Hf_{0.1}MnO₃ Epitaxial Film.** *L. Wang*¹ and *J. Gao*¹. *Physics, The University of Hong Kong, Hong Kong, China*
- DU-12. Predicted half-metallicity with no net magnetization in Ca_{0.75}Cr_{0.25}As from a first-principle study.** *J. Lee*¹, *B. Bialek*¹ and *M. Kim*². *Physics, Inha University, Incheon, South Korea; 2. Division of Energy Systems Research, Ajou University, Suwon, South Korea*
- DU-13. Magnetic and electronic properties of α -NaMnO₂.** *G. Zhang*¹, *Z. Zeng*¹, *L. Zou*¹ and *H. Lin*². *1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Hong Kong, China*
- DU-14. Large anisotropic magnetoresistance in ruthenium based Heusler alloys.** *S. Mizusaki*¹, *A. Douzono*¹, *T. Ohnishi*¹, *Y. Nagata*¹, *T.C. Ozawa*² and *Y. Noro*³. *1. EEE, Aoyama Gakuin University, Sagami-hara, Japan; 2. Nanoscale Materials Center, National Institute for Materials Science, Tsukuba, Japan; 3. Kawazoe Frontier Technologies, Co. Ltd., Yokohama, Japan*
- DU-15. Calculation of electronic structures and magnetic moments of Nd₂Fe₁₄B and Dy₂Fe₁₄B by using linear-combination-of-pseudo-atomic-orbital method.** *I. Kitagawa*¹. *Advanced Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DV
INSTRUMENTATION AND MEASUREMENT
TECHNIQUES
(POSTER SESSION)
Joachim Ahner, Chair

- DV-01. A new method for high-frequency characterization of patterned ferromagnetic thin-films.** *H. Zhang*¹, *C. Song*¹ and *P. Wang*¹. *Department of Electrical and Computer Engineering, Clemson University, Clemson, SC*
- DV-02. A broad-band ferromagnetic resonance system based on a vector network analyzer.** *A.J. Hutchison*¹, *T. O'Keevan*¹ and *Z. Celinski*¹. *Center for Magnetism and Magnetic Nanostructures, UCCS, Colorado Springs, CO*

- DV-03. Rough measurement of thin film permeability by contacting probes.** *S. Yabukami*¹. *Tohoku-Gakuin University, Tagajo, Japan*
- DV-04. Giant Asymmetry in Reflectivity from Magnetic Thin Films near Critical Incidence Angle between Opposite Circular Polarizations.** *D. Jeong*¹, *S. Kim*¹, *K. Lee*¹, *Y. Yu*¹, *S. Mun*² and *J.B. Kortright*³. *1. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea; 2. Department of Applied Physics, Hanyang University, Ansan, Kyeonggi 426-791, South Korea; 3. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA*
- DV-05. Observation of In Plane Magnetization Reversal Using Polarization Dependent Magneto-optical Kerr Effect.** *H. Ohldag*¹ and *F.U. Hillebrecht*². *1. SSRL, SLAC, Menlo Park, CA; 2. Inst. f. Solid State Res., Research Center Julich, Julich, Germany*
- DV-06. Advances in Kerr Magnetometry: Deep sub-millimeter resolution combined with high magnetic fields.** *C. Mathieu*¹ and *F. Vajda*². *1. Seagate, Bloomington, MN; 2. ADE, KLA-Tencor, Westwood, MA*
- DV-07. 1D/2D loss measurements up to high inductions.** *C. Appino*¹, *F. Fiorillo*¹ and *C. Ragusa*². *1. INRiM, Torino, Italy; 2. Electrical Engineering Department, Politecnico di Torino, Torino, Italy*
- DV-08. Fatigue damage assessment by the continuous examination of the magnetomechanical and mechanical behavior.** *L. Vandenbossche*¹ and *L. Dupre*¹. *Electrical Energy, Systems and Automation, Ghent University, GENT, Belgium*
- DV-09. Assessment of Shot Peening Uniformity by Magnetic Drag Force Measurements.** *L.J. Garshelis*^{1,2}, *S.P. Tollens*², *J. Cuseo*² and *R.J. Kari*². *1. Magnova, Inc., Pittsfield, MA; 2. MagCanica Inc., San Diego, CA*
- DV-10. Characterization of Magnetic Property Depth Profiles of Surface-modified Materials using a Model-based Swept Frequency Modulation Field Technique.** *C.C. Lo*¹. *Center for NDE, Iowa State University, Ames, IA*

WEDNESDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session DW
NUMERICAL METHODS AND HYSTERESIS
MODELING
(POSTER SESSION)
Markus Bolte, Chair

- DW-01. An homogenisation framework based on inclusion problems.** *L. Daniel*¹ and *R. Corcolle*¹. *Laboratoire de Génie Electrique de Paris (LGEP), CNRS (UMR 8507); SUPELEC; Univ. Paris-Sud; UPMC, Gif sur Yvette Cedex, France*

- DW-02. Meso hysteresis model for ferromagnetic materials by minimization of the micromagnetic free energy.** *A. van den Berg¹, L. Dupré¹, B. Van de Wiele¹ and G. Crevecoeur¹. Electrical Energy, Systems & Automisation, Ghent University, Ghent, Belgium*
- DW-03. Hysteresis modeling of exchange-bias nanoscale spin valves.** *B. Azzerboni¹, E. Cardelli² and G. Finocchio¹. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Ingegneria Industriale, University of Perugia, Perugia, Italy*
- DW-04. Micromagnetic calculation of hysteresis loops in exchange-coupled nanolayers.** *G. Zhao¹, C. Huang^{1,2} and L. Chen². College of Physics and Electronic Engineering, Sichuan Normal University, Chengdu, Sichuan, China; 2. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore*
- DW-05. Non-iterative parameter identification technique for the Energetic Model of hysteresis.** *A. Petru¹ and A. Adedoyin¹. Electrical and Computer Engineering, Florida State University, Tallahassee, FL*
- DW-06. Time and temperature effects on the magnetic memory of vector Preisach-type models of hysteresis.** *A. Adedoyin¹ and A. Petru¹. Florida State University, Tallahassee, FL*
- DW-07. Identification of local magnetic material degradation from global electromagnetic measurements.** *G. Crevecoeur¹, L. Dupré¹ and R. Van de Walle². Departement of Electrical Energy, Systems and Automation, Ghent University, Ghent, Belgium; 2. Department of Electronics and Information Systems, Ghent University, Ghent, Belgium*
- DW-08. Effects of Crystalline and Elastic Anisotropies on Coercivity of Longitudinally Oriented CoCrPt Thin Films Grown on CrW Underlayer.** *X. Liu¹, Z. Li¹, W. Shi¹, F. Wei¹, D. Wei² and X. Liu³. Research Institute of Magnetic Materials, Lanzhou University, Lanzhou, China; 2. Lab of Advanced Materials, Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China; 3. Key Lab. of Education Ministry on Magnetism and Magnetic Materials, Lanzhou University, Lanzhou, China*
- DW-09. Dynamic hysteresis of non-integer dimensional magnetic aggregates.** *M. Sun¹, S. Dong¹ and J. Liu¹. Physics, Nanjing University, Nanjing, China*
- DW-10. Harmonic Iron Loss Analysis for Electrical Steel Under Alternating Magnetic Field.** *S. Hong¹, Y. Eum², C. Koh² and T.M. Jahns³. System and Control, Hoseo University, Asan, Chungnam, South Korea; 2. Electrical Engineering, Chungbuk National University, Cheongju, Chungbuk, South Korea; 3. WEMPEC, UW Madison, Madison, WI*
- DW-11. Single-domain ferromagnetic particle hysteresis investigated with a Random Anisotropy Ising model.** *C. Enachescu¹ and A. Stancu¹. Department of Physics, Alexandru Ioan Cuza University, Iasi, Romania*

- DW-12. FORC analysis of magnetostrictive materials.** *P. Postolache¹, I. Dumitru¹, O.F. Caltun¹ and A. Stancu¹. Department of Solid State and Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Iasi, Romania*
- DW-13. Shape Formation of Ferrofluid Under External Magnetic Fields using Level Set Method.** *Y. Kim¹, H. Choi² and I. Park¹. School of Information and Communication Engineering Sungkyunkwan University, Suwon, Kyeonggi-do, South Korea; 2. School of Electronic and Electrical Engineering Kyungpook National University, Sangju, Kyungpook-do, South Korea*
- DW-14. Utilizing Particle Swarm Optimization In The Field Computation Of Nonlinear Media Subject To Mechanical Stress.** *A.A. Adly¹ and S.K. Abd-El-Hafiz². Elect. Power & Machines, Cairo University, Giza, Egypt; 2. Engineering Mathematics, Cairo University, Giza, Egypt*

WEDNESDAY

SALON G

EVENING

7:00

**Session XB
OPEN FORUM ON MICROMAGNETIC
MODELING**

Paul Crowell, Co-Chair
Ned Tabat, Co-Chair

THURSDAY

SALON C

MORNING

9:00

**Session EA
SYMPOSIUM ON RECONSTRUCTION AND
EMERGENCE AT INTERFACES OF
COMPLEX OXIDES**

Anand Bhattacharya, Chair

9:00

- EA-01. Exchange Bias with Multiferroic BiFeO₃ Epitaxial Thin Films. (Invited)** *A. Barthélémy¹, H. Béa^{1,4}, M. Bibes¹, G. Catalan², S. Fusil¹, S. Petit³, F. Ott³, K. Bouzehouane¹, P. Paruch⁴, B. Warot⁵, E. Jacquet¹ and J. Scott². Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Center for Ferromagnets, University of Cambridge, Cambridge, United Kingdom; 3. LLB CEA/CNRS, Saclay, France; 4. DPMC, University of Geneva, Geneva, Switzerland; 5. CEMES, Toulouse, France*

9:36

- EA-02. Electrical Field control of ferromagnetism using Multiferroics. (Invited)** *R. Ramesh¹. Materials Science and Engineering and Physics, University of California, Berkeley, Berkeley, CA*

10:12

EA-03. Interfaces and Tunable Conductivity in LaTiO₃ Thin Films. *(Invited)* Y. Suzuki¹, F. Wong¹, R. Chopdekar¹, V. Mehta¹, S. Baek² and C. Eom². *1. Materials Science & Engineering, UC Berkeley, Berkeley, CA; 2. Materials Science & Engineering, University of Wisconsin, Madison, WI*

10:48

EA-04. Structural Studies of The Interfaces Between Insulating Metal Oxides. *(Invited)* S.A. Pauli¹, C.M. Schlepütz¹, D. Martocchia¹, M. Björck¹ and P.R. Willmott¹. *1. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland*

11:24

EA-05. Emergence of a Fermi resonance with ferromagnetism at the LaMnO₃-SrMnO₃ interface. *(Invited)* P. Abbamonte¹. *1. Physics, University of Illinois, Urbana, IL*

THURSDAY
MORNING
9:00

SALON G

Session EB
SPIN TRANSFER TORQUE: THEORY AND EXPERIMENT

Daniel Worledge, Chair

9:00

EB-01. Nonequilibrium Properties of Spin Transfer Torque and Tunnel Magnetoresistance in Magnetic Tunnel Junctions. M. Chshiev^{1,2}, A. Kalitsov³, I. Theodonis⁴, N. Kiuoussis⁵ and W.H. Butler². *1. SPINTEC, URA 2512 CEA/CNRS/INAC, Grenoble, France; 2. MINT Center, University of Alabama, Tuscaloosa, AL; 3. Institut Neel, Grenoble, France; 4. Department of Physics, National Technical University, Athens, Greece; 5. Department of Physics, California State University, Northridge, CA*

9:12

EB-02. Influence of bulk magnons on spin transfer torque in magnetic tunnel junctions. A. Manchon¹ and S. Zhang¹. *1. Department of Physics, University of Arizona, Tucson, AZ*

9:24

EB-03. Invariant Form of the Spin-Transfer Switching Condition. I.A. Sodemann¹ and Y.B. Bazaliy^{1,2}. *1. Physics and Astronomy, University of South Carolina, Columbia, SC; 2. Institute of Magnetism, National Academy of Science, Kyiv, Ukraine*

9:36

EB-04. Slonczewski windmill with dissipation and asymmetry. Y. Bazaliy¹. *1. Physics and Astronomy, University of South Carolina, Columbia, SC*

9:48

EB-05. Spin torques in ferromagnets with Rashba interactions. S. Zhang¹ and A. Manchon¹. *1. Department of Physics, University of Arizona, Tucson, AZ*

10:00

EB-06. Perpendicular Spin Torques in Magnetic Tunnel Junctions. Z. Li¹, Z. Diao¹, S.M. Watts¹, X. Tang¹, D. Apalkov¹, S. Wang¹, A. Driskill-Smith¹, E. Chen¹, Y. Huai¹ and S. Zhang². *1. Grandis, Inc., Milpitas, CA; 2. Physics, University of Missouri-Columbia, Columbia, MO*

10:12

EB-07. Critical Properties of MgO Tunnel Junctions for Spin-Transfer MRAM. *(Invited)* F. Mancoff¹, N. Rizzo¹, R. Dave¹, P. Mather¹, B. Butcher¹, K. Smith¹, J. Slaughter¹ and S. Tehrani¹. *1. EverSpin Technologies, Inc., Chandler, AZ*

10:48

EB-08. Dependence of critical current of spin transfer torque-driven magnetization dynamics on free layer thickness. T. Taniguchi^{1,2} and H. Imamura¹. *1. Nanotechnology Research Institute, National Institute of Advanced Science and Technology, Tsukuba, Ibaraki, Japan; 2. Institute of Applied Physics, University of Tsukuba, Ibaraki, Japan*

11:00

EB-09. The characterization of thermal stability for spin transfer torque RAM (STT-RAM). S.M. Watts¹, Z. Li¹, D. Apalkov¹, S. Wang¹, X. Tang¹, Z. Diao¹, E. Chen¹ and Y. Huai¹. *1. Grandis, Inc., Milpitas, CA*

11:12

EB-10. Understanding of Correlations between Switching Field and Switching Current in Spin Transfer Torque Magnetic Tunnel Junction. X. Zhu¹ and S. Kang¹. *1. Qualcomm Incorporation, San Diego, CA*

11:24

EB-11. Magnetoresistance and spin torque study of dual spin valve devices. *A. Aziz¹, M.C. Wu¹, M.G. Blamire¹, M.C. Hickey², M. Ali² and B.J. Hickey²*. *1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

11:36

EB-12. Stable Spin transfer switching in magnetic tunnel junctions with perpendicular magnetic anisotropy. *M. Nakayama¹, T. Kai¹, H. Yoda¹, S. Ikegawa¹, T. Nagase¹, H. Aikawa¹ and N. Shimomura¹*. *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*

11:48

EB-13. Reduction of critical current for spin transfer switching in spin valves with perpendicular anisotropy using an in-plane spin polarizer. *R. Law¹, E. Tan¹, R. Sbiaa¹, T. Liew¹ and T. Chong¹*. *1. Data Storage Institute, A*STAR (Agency for Science, Technology and Research), Singapore, Singapore*

THURSDAY
MORNING
9:00

SALON A

Session EC
ALTERNATIVE MAGNETIC RECORDING

Mourad Benakli, Chair

9:00

EC-01. Magneto-Optic Writing using the Ridge Waveguide. *B.C. Stipe¹, J. Katine¹, H. Yang¹, J. Thiele¹, C. Poon¹, T. Strand¹ and B. Terris¹*. *1. Hitachi Global Storage Technologies, San Jose, CA*

9:12

EC-02. Effect of gradient alignment in heat assisted magnetic recording. *N.J. Gokemeijer¹, H. Zhou¹, D. Karns¹, S. Batra¹, M. Mallary¹, T. McDaniel¹, M. Seigler¹, G. Ju¹, Y. Peng¹, M. Xiao¹ and E. Gage¹*. *1. RTD, Seagate Technology, LLC, Pittsburgh, PA*

9:24

EC-03. Thermally assisted magnetic recording characteristics in granular perpendicular media. *H. Shiino¹, M. Kawana¹, E. Miyashita¹, S. Watanabe² and N. Hayashi¹*. *1. NHK Science & Technical Research Laboratories, Setagaya-ku, Tokyo, Japan; 2. Fuji Electric Advanced Technology Co., Ltd., Matsumoto, Nagano, Japan*

9:36

EC-04. Heat-Assisted Domain Transfer in Magnetic Nanowires with Perpendicular Anisotropy. *O. Ozatay¹, A. Moser¹, J. Katine¹, T. Haeu¹, L. Folks¹, R. Payne¹ and B. Terris¹*. *1. Hitachi Global Storage Technologies, San Jose, CA*

9:48

EC-05. Temperature Distribution and Response to Heat Pulse for Thermally Assisted Recording for Particle Recording Media with Surface Plasmon Antenna. *K. Nakagawa¹, Y. Ashizawa¹ and A. Itoh¹*. *1. College of Science and Technology, Nihon University, Funabashi, Japan*

10:00

EC-06. Atomistic Simulation of Elliptical Reversal Modes at Elevated Temperatures. *J. Barker¹, R.F. Evans¹, N. Kazantseva¹, D. Hinzke¹, U. Nowak² and R.W. Chantrell¹*. *1. Physics, University Of York, York, England, United Kingdom; 2. Fachbereich Physik, Universität Konstanz, Konstanz, Germany*

10:12

EC-07. Excitation and Dephasing of Circularly Polarized Plasmon Modes in Spherical Nanoshells for Application in All-Optical Magnetic Recording. *I. Mayergoyz¹, P. McAvoy¹, G. Lang¹, D. Bowen¹ and C. Krafft²*. *1. Electrical and Computer Engineering and UMIACS, University of Maryland College Park, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD*

10:24

EC-08. Simulations of RF field-assisted recording in 3 Tb/in² patterned media. *S. Greaves¹, H. Muraoka¹ and Y. Kanai²*. *1. RIEC, Tohoku University, Sendai, Japan; 2. IEE, Niigata Institute of Technology, Kashiwazaki, Japan*

10:36

EC-09. Microwave-assisted 3D multilayer magnetic recording. *M.A. Bashir¹, T. Schrefl¹, D. Suess², J. Dean¹, G. Hrkac¹, A. Goncharov¹, D. Allwood¹, S. Bance¹ and J. Fidler²*. *1. Department of Engineering Materials, University Of Sheffield, Sheffield, United Kingdom; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

10:48

EC-10. Microwave assisted magnetization reversal and multilevel recording in composite media. S. Li^{1,2}, B. Livshitz^{1,2}, E.E. Fullerton^{1,2}, H. Bertram^{2,3}, M. Schabes³ and V. Lomakin^{1,2,1}. *Department of Electrical and Computer Engineering, University of California San Diego, La Jolla, CA; 2. Center of Magnetic Recording Research, University of California San Diego, La Jolla, CA; 3. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA*

11:00

EC-11. Switching Mechanism of Microwave Assisted Magnetic Recording. M. Igarashi¹, Y. Suzuki¹, H. Miyamoto¹, Y. Maruyama² and Y. Shiroishi^{2,1}. *Hitachi, Ltd., Kokubunji, Tokyo, Japan; 2. Hitachi Global Storage Technologies, Odawara, Japan*

11:12

EC-12. Microwave assisted magnetic recording at lower transverse oscillating field. C. Goh¹, Z. Yuan¹, T. Zhou¹, L. Wang¹ and B. Liu¹. *Data Storage Institute, Singapore, Singapore*

11:24

EC-13. Medium damping constant and performance characteristics in microwave assisted magnetic recording with circular AC field. Y. Wang¹, Y. Tang² and J. Zhu¹. *Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Hitachi Global Storage Technologies, San Jose, CA*

11:36

EC-14. Numerical study on microwave-assisted magnetization reversal of several-tens-nm-wide magnetic particle with perpendicular anisotropy. Y. Nozaki¹, M. Ohta¹, N. Narita¹ and K. Matsuyama¹. *Dept. of Electronics, Kyushu University, Fukuoka, Japan*

11:48

EC-15. Influences of Eddy Current in Microwave Oscillation Layer of MAMR. E. Uda¹, N. Udagawa¹, K. Yoshida¹ and Y. Kanai². *Electrical Engineering and Electronics, Kogakuin Univ., Tokyo, Japan; 2. Information and Electronics Engineering, Niigata Institute of Technology, Kashiwazaki, Japan*

THURSDAY
MORNING
9:00

SALON B

Session ED
MAGNETIC TUNNEL JUNCTIONS III
Markus Muenzenberg, Chair

9:00

ED-01. Tunnel magnetoresistance properties of double MgO barrier magnetic tunnel junctions with CoFeB electrodes. S. Ikeda¹, W. Shiga¹, J. Hayakawa², K. Miura^{2,1}, H. Hasegawa^{1,2}, J. Park¹, H. Gan¹, H. Yamamoto², F. Matsukura¹ and H. Ohno¹. *RIEC, Tohoku Univ., Sendai, Japan; 2. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan*

9:12

ED-02. Current induced resistance change of magnetic tunnel junctions with ultra-thin MgO tunnel barriers. P. Krzysteczko¹, X. Kou^{1,2}, K. Rott¹, A. Thomas¹ and G. Reiss¹. *Thin Films & Physics of Nanostructures, Bielefeld University, Bielefeld, Germany; 2. School of Physical Science and Technology, Lanzhou University, Lanzhou, China*

9:24

ED-03. A first principles study of the impact of oxide layer boron on tunneling magnetoresistance in FeCoB/MgO(B)/FeCoB junctions. D. Stewart¹. *Cornell Nanoscale Facility, Cornell University, Ithaca, NY*

9:36

ED-04. The role of boron in obtaining high magnetoresistance in ultra-thin Mg(B)O tunnel junctions. (Invited) J.C. Read¹, J.J. Cha¹, W.F. Egelhoff, Jr.², P.Y. Huang³, H. Tseng¹, Y. Li¹, A.M. Castillo², P.J. Chen², D.A. Muller¹ and R.A. Buhrman¹. *School of Applied & Engineering Physics, Cornell University, Ithaca, NY; 2. Magnetic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD; 3. Department of Physics, Carleton College, Northfield, MN*

10:12

ED-05. Structural characterizations of Co₂MnSi/MgO/Co₂MnSi magnetic tunnel junctions. T. Nakatani¹, Y. Takahashi², K. Hono^{2,1}, T. Ishikawa³ and M. Yamamoto^{3,1}. *University of Tsukuba, Tsukuba, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Hokkaido University, Sapporo, Japan*

10:24

ED-06. Tunnel magnetoresistance effect and tunneling conductance in magnetic tunnel junctions with full-Heusler $\text{Co}_2\text{FeAl}_{0.5}\text{Si}_{0.5}$ Electrodes. *H. Sukegawa¹, W. Wang¹, R. Shan¹ and K. Inomata¹. Magnetic Material Center, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan*

10:36

ED-07. Tunneling spectroscopy of $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}/\text{MgO}/\text{CoFe}$ magnetic tunnel junctions. *K. Yonemura¹, T. Ishikawa¹, N. Itabashi¹, K. Matsuda¹, T. Uemura¹ and M. Yamamoto¹. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

10:48

ED-08. Tunnel magnetoresistance in $\text{Co}_2\text{FeAl}_{0.5}\text{Si}_{0.5}/\text{MgO}/\text{Co}_2\text{FeAl}_{0.5}\text{Si}_{0.5}$ magnetic tunneling junctions prepared on Si/SiO_2 substrates. *W. Wang¹, H. Sukegawa¹, R. Shan¹ and K. Inomata¹. Magnetic Material Center, National Institute for Materials Science (NIMS), Tsukuba, Japan*

11:00

ED-09. High energy high resolution photoemission spectroscopy of Heusler compounds. *A. Gloskovskii¹, G.H. Fecher¹, S. Chadov¹, S. Ouardi¹, B. Balke¹, C.A. Jenkins¹, C. Felser¹, T. Ishikawa², M. Yamamoto², K. Inomata³, Y. Yamashita⁴, H. Yoshikawa⁴, S. Ueda⁴ and K. Kobayashi⁴. Institut für Anorganische Chemie und Analytische Chemie, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 2. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan; 3. National Institute for Materials Science, Tsukuba, Japan; 4. National Institute for Materials Science, SPring-8, Hyogo, Japan*

11:12

ED-10. Investigations on the MTJ interface $\text{Co}_2\text{MnSi}-\text{MgO}$ using electron spectroscopy with x-ray standing waves and hard x-rays. *B. Balke¹, C. Papp¹, C.A. Jenkins², A. Gloskovskii², G.H. Fecher² and C.S. Fadley¹. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 2. University of Mainz, Mainz, Germany*

11:24

ED-11. Oscillatory tunnel magnetoresistance in MgO magnetic tunnel junctions with a synthetic free layer. *B. Min¹, I. Shin¹, J. Lee¹, K. Shin¹, J. Langer², J. Wrona², B. Ocker², K. Lee³ and H. Lee⁴. Korea Institute of Science and Technology (KIST), Seoul, South Korea; 2. Singulus Nano Deposition Technologies GmbH, Kahl am Main, Germany; 3. Korea University, Seoul, South Korea; 4. Pohang University of Science and Technology (POSTECH), Pohang, South Korea*

11:36

ED-12. Relation between Barrier and Transport Properties of Heusler based Tunneling Junctions. *C. Herbolt¹, E. Arbelo Jorge¹ and M. Jourdan¹. Institute of Physics, Johannes Gutenberg University, 55099 Mainz, Germany*

11:48

ED-13. Experimental study of time-dependent switching current in MgO based magnetic tunnel junction. *W. Zhu¹, X. Wang¹ and D. Dimitrov¹. Seagate, Bloomington, MN*

THURSDAY
MORNING
9:00

SALON D

Session EE
SPIN INJECTION IN METALS

Yoshichika Otani, Chair

9:00

EE-01. Non-Local Spin Transport and Spin Motive Force in Magnetic Nanostructures. (Invited) *S. Maekawa¹. Institute for Materials Research, Tohoku University, Sendai, Japan*

9:36

EE-02. Magnetic thermopower effect in single Cobalt nanowires. *R.A. Silva¹, L.C. Sampaio¹, A.P. Guimaraes¹ and J. Wegrowe². CBPF, Rio de Janeiro, RJ, Brazil; 2. Laboratoire des Solides Irradiés, Ecole Polytechnique, Palaiseau, France*

9:48

EE-03. Nonlinear effective spin-mixing conductance in NiFe/Pt thin films. *R. Cao¹, X. Fan¹, T. Moriyama¹ and J.Q. Xiao¹. Department of Physics and Astronomy, University of Delaware, Newark, DE*

10:00

EE-04. Effect of DC bias on the spin signal in metallic lateral spin valves with transparent junctions. *F. Casanova¹, A. Sharoni¹ and I.K. Schuller¹. Physics, University of California, San Diego, La Jolla, CA*

10:12

EE-05. Correlation between magnetic anisotropy and structural properties in strained MnAs thin films. *M. Wikberg*¹, M. Ottoson², J. Sadowski³, R. Knut⁴, O. Karis⁴ and P. Svedlindh¹. *Engineering Sciences, Solid State Physics, Uppsala University, Uppsala, Sweden; 2. Materials Chemistry, Uppsala University, Uppsala, Sweden; 3. MAX-Lab, Lund University, Lund, Sweden; 4. Physics and Materials Science, Uppsala University, Uppsala, Sweden*

10:24

EE-06. Observation of the spin Hall effect via negative non-local resistance in mesoscopic gold Hall bars. *G. Mihajlovic*¹, J.E. Pearson¹, A. Hoffmann¹ and S.D. Bader¹. *Materials Science Division, Argonne National Laboratory, Argonne, IL*

10:36

EE-07. Spin Hall and Nernst-Ettingshausen effects in FePt/Au lateral structures. T. Seki¹, Y. Hasegawa¹, S. Mitani¹, I. Sugai¹, K. Takanashi¹, S. Takahashi¹ and S. Maekawa¹. *Institute for Materials Research, Tohoku University, Sendai, Japan*

10:48

EE-08. Influence of a DC bias current on the Co/Cu/Co non-local spin valves. *X.J. Wang*¹, H. Zou¹, L.E. Ocola², R. Divan² and Y. Ji¹. *Department of Physics and Astronomy, University of Delaware, Newark, DE; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL*

11:00

EE-09. Effect of chemical ordering on interlayer exchange coupling in Co-Mn-Si based epitaxial trilayer structures. *S. Bosu*¹, Y. Sakuraba¹, K. Saito¹, H. Wang¹, S. Mitani¹ and K. Takanashi¹. *Institute for Materials Research, Tohoku University, Sendai, Japan*

11:12

EE-10. High spin polarization of Co₂MnGa_{0.5}Sn_{0.5} Heusler alloy. *B. Varaprasad*^{1,2}, A. Rajanikanth², Y.K. Takahashi² and K. Hono^{2,1}. *Graduate School of Pure and Applied sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan; 2. NIMS, Tsukuba, Ibaraki, Japan*

11:24

EE-11. Spin Hall Effects in Nb, Mo, Pd, and Pt nanowires. *M. Morota*^{1,3}, K. Ohnishi¹, T. Kimura^{1,2} and Y. Otani^{1,2}. *Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. Advanced Science Institute, RIKEN, Wako, Japan; 3. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan*

11:36

EE-12. Ab Initio Calculation of Intrinsic Spin Hall Conductivity of Pd and Au. *G. Guo*¹. *Department of Physics, National Taiwan University, Taipei, Taiwan*

11:48

EE-13. Spin polarization of Mn atoms in the paramagnetic CuMn alloys induced by a Co layer. *M. Abes*¹, D. Atkinson¹, B. Tanner¹, T. Charlton², S. Langridge², T. Hase³, M. Ali⁴, C. Marrows⁴, A. Neudert⁵ and R. Hicken⁵. *Department of Physics, Durham University, Durham, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Chilton, Oxfordshire, OX11 0QX, United Kingdom; 3. Department of Physics, University of Warwick, Coventry, CV4 7AL, United Kingdom; 4. Department of Physics and Astronomy, University of Leeds, Leeds, LS2 9JT, United Kingdom; 5. School of Physics, University of Exeter, Exeter, EX4 4QL, United Kingdom*

THURSDAY
MORNING
9:00

SALON E

Session EF
NOVEL MAGNETIC NANOPARTICLES

Stephen Russek, Chair

9:00

EF-01. Carrier Spin polarization in Fe₃O₄-CdS Hybrid Nanoparticles. *S. Delikanli*¹, W. Falls¹, M. Yasar¹, A. Petrou¹ and H. Zeng¹. *Physics, University at Buffalo, SUNY, Buffalo, NY*

9:12

EF-02. Anomalous Magnetism and Exchange Bias in Coupled Au-Fe₃O₄ Nanoparticles. *N.A. Frey*¹, M. Phan¹, S. Srinath², C. Wang³, S. Sun³ and H. Srikanth¹. *Department of Physics, University of South Florida, Tampa, FL; 2. School of Physics, University of Hyderabad, Hyderabad, India; 3. Department of Chemistry, Brown University, Providence, RI*

9:24

EF-03. Synthetic Antiferromagnetic Nanoparticles with Tunable Susceptibility. *W. Hu*¹, R.J. Wilson¹, C.M. Earhart¹ and S.X. Wang^{1,2}. *Materials Science & Engineering, Stanford University, Stanford, CA; 2. Electrical Engineering, Stanford University, Stanford, CA*

9:36

EF-04. Fabrication of Heusler Fe₃Si Nanoparticles. Y. Jing¹, Y. Xu¹ and J.P. Wang¹. *Electrical Engineering, University of Minnesota, Minneapolis, MN*

9:48

EF-05. Magnetic and structural properties of Co and CoPt nanoparticles grown in the presence of nitrogen. A. Brenac¹, D. Le Roy¹, L. Notin¹, R. Morel¹, O. Plantevin² and O. Bikondoa³. *1. INAC, CEA-Grenoble, Grenoble, France; 2. CSNSM, CNRS/IN2P3 – Université Paris XI, Orsay, France; 3. Surface and Interface Science Group, ESRF, Grenoble, France*

10:00

EF-06. Site Determination of Zn Doping in Protein Encapsulated Zn_xFe_{3-x}O₄ Nanoparticles. V. Pool^{1,4}, M. Klem^{2,4}, J. Holroyd¹, H. Li^{1,4}, T. Harris^{2,4}, E. Arenholz⁵, T. Douglas^{2,4}, M. Young^{3,4} and Y.U. Idzerda^{1,4}. *1. Dept. of Physics, Montana State University, Bozeman, MT; 2. Dept. of Chem. and Biochem., Montana State University, Bozeman, MT; 3. Dept. of Plant Sciences and Pathology, Montana State University, Bozeman, MT; 4. Center for Bio-inspired Nanomaterials, Montana State University, Bozeman, MT; 5. Advanced Light Source, Lawrence Berkeley Nat. Lab., Berkeley, CA*

10:12

EF-07. The effect of the sputtering gas (Ar, Xe) on FePt clusters formation, structural and magnetic properties. V. Cantelli¹, J. Grenzer¹, J. von Borany¹ and J. Fassbender¹. *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf, Dresden, Germany*

10:24

EF-08. Coercive field and energy barriers in partially disordered FePt nanoparticles. G.R. Aranda¹, R. Yanes², O. Chubykalo-Fesenko², J. González³, J.J. del Val^{3,1}, Y.K. Takahashi⁴ and K. Hono⁴. *1. Unidad de Física de Materiales, Centro Mixto CSIC-UPV/EHU, San Sebastián, Gipuzkoa, Spain; 2. Instituto de Ciencia de Materiales de Madrid (ICMM), CSIC, Madrid, Madrid, Spain; 3. Dpto. Física de Materiales, Fac. Química, UPV/EHU, San Sebastián, Gipuzkoa, Spain; 4. National Institute for Material Science, Tsukuba, Japan*

10:36

EF-09. Magnetic and Structural Properties on Nano-composites of FePt/FeRh. Y. Hnin¹, T. Ajay¹ and T. Suzuki¹. *1. Toyota Technological Institute, Nagoya, Japan*

10:48

EF-10. Size dependence of magnetic parameters and surface disorder in magnetite nanoparticles. M.S. Seehra¹, S. Pal¹, P. Dutta¹, N. Shah² and G.P. Huffman². *1. Physics Department, West Virginia University, Morgantown, WV; 2. Chemical Engineering, University of Kentucky, Lexington, KY*

11:00

EF-11. Millimeter wave absorption of ε-Ga_xFe_{2-x}O₃ nanoparticles. A. Nami¹, S. Sakurai¹ and S. Ohkoshi¹. *1. Department of Chemistry, The University of Tokyo, Tokyo, Japan*

11:12

EF-12. Spin dynamics in CoFe₂O₄ nanoparticles. R.D. Desautels¹ and J. van Lierop¹. *1. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

11:24

EF-13. Size control and huge magnetic coercive field of ε-Fe₂O₃ nanoparticle. S. Sakurai^{1,2}, K. Hashimoto² and S. Ohkoshi¹. *1. School of Science, The University of Tokyo, Tokyo, Japan; 2. School of Engineering, The University of Tokyo, Tokyo, Japan*

11:36

EF-14. Magnetic Properties of Fe deposited on a MnAs/GaAs(001) template. S. Tacchi¹, J. Milano², M. Madami¹, G. Gubbiotti¹, G. Carlotti¹, M. Marangolo³, V.H. Etgens³, M. Pini⁴ and R. Stamps⁵. *1. Dipartimento di Fisica, CNISM, Università di Perugia, Perugia, Italy; 2. CNEA-Centro Atomico Bariloche and Instituto Balseiro-UNCuyo, Bariloche, Argentina; 3. Institut des NanoSciences de Paris, Université Paris 6, Paris, France; 4. Istituto dei Sistemi Complessi, CNR, Firenze, Italy; 5. School of Physics, University of Western Australia, Crawley, WA, Australia*

11:48

EF-15. Fast Superparamagnetic Response of Mono-Dispersed Fe Nanoparticle Assembly. T. Ogawa^{1,2}, H. Yang³, D. Hasegawa² and M. Takahashi³. *1. Center for Research Strategy&Support (CRESS), Tohoku University, Sendai, Japan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 3. New Industry Creation Hatchery Center (NICHe), Tohoku University, Sendai, Japan*

THURSDAY
MORNING
9:00

400/402

Session EG
PATTERNED FILMS I
Hans Nembach, Chair

9:00

EG-01. Neutron Reflectivity Study of Magnetic Correlations within Spintronic Nanopillars. *K.L. Krycka¹, B.B. Maranville¹, J.A. Borchers¹, F.J. Castaño², B.G. Ng² and C.A. Ross²*. *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

9:12

EG-02. Delocalized versus localized magnetization reversal in template-grown Ni and Ni₈₀Fe₂₀ nanowires. *D.C. Leitão^{1,2}, C.T. Sousa¹, J. Ventura¹, J.B. Sousa¹, K.R. Pirota², M. Vazquez² and J.E. Araujo¹*. *1. IN-IFIMUP, Porto, Portugal; 2. ICMM-CSIC, Madrid, Spain*

9:24

EG-03. Thermal stability of single nanoplatelets: beyond the coherent reversal model. *J. Adam^{1,2}, S. Rohart¹, J. Jamet¹, A. Mougin¹, J. Ferré¹, H. Bernas³ and G. Faini⁴*. *1. Laboratoire de Physique des Solides, Orsay, France; 2. GEMAC, Versailles, France; 3. CSNSM, Orsay, France; 4. LPN, Marcoussis, France*

9:36

EG-04. Properties of Ferromagnetic Film with Embedded Magnetic Nanowires. *S. Goolaup¹, A. Adeyeye¹ and N. Singh²*. *1. National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore*

9:48

EG-05. Nonuniform magnetization in the thickness dependence of the FMR of permalloy nanoellipse arrays. *M. Pardavi-Horvath¹, F.J. Castaño², B.G. Ng² and C.A. Ross²*. *1. SEAS ECE, The George Washington University, Washington, DC; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

10:00

EG-06. Angular Dependence of Vortex Annihilation Fields in Asymmetric Co Nanodots*. *R.K. Dumas¹, T. Gredig^{2,3}, C. Li², I.K. Schuller² and K. Liu¹*. *1. UC Davis Physics, Davis, CA; 2. Physics Department, UC San Diego, La Jolla, CA; 3. Physics Department, CSU-Long Beach, Long Beach, CA*

10:12

EG-07. Nano-optics with spin waves at microwave frequencies. *V.E. Demidov¹, S.O. Demokritov¹, K. Rott², P. Krzytaczko² and G. Reiss²*. *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Department of Physics, Bielefeld University, Bielefeld, Germany*

10:24

EG-08. Ferromagnetic resonance study in electrodeposited cobalt antidot arrays. *L.G. Abracado¹, J.P. Sinnecker², A.P. Guimaraes¹, E.R. Spada³, A.S. da Rocha³, E.F. Jasinski³ and M.L. Sartorelli³*. *1. CBPF, Rio de Janeiro, RJ, Brazil; 2. Instituto de Fisica, UFRJ, Rio de Janeiro, RJ, Brazil; 3. Depto. de Fisica, UFSC, Florianopolis, SC, Brazil*

10:36

EG-09. Detecting dynamic magnetic information beyond the optical spatial resolution in a Ni nanomagnet array. *Z. Liu¹, R. Brandt¹, H. Schmidt¹, B. Hansen², A. Hawkins², B. Harteneck³, S. Cabrini³ and J. Bokor³*. *1. Electrical Engineering, University of California Santa Cruz, Santa Cruz, CA; 2. Electrical and Computer Engineering, Brigham Young University, Provo, UT; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA*

10:48

EG-10. Field Dependence of Collective Spin Modes in Transversely Magnetized Stripes with Homogeneous and Alternating Width. *G. Gubbiotti¹, S. Tacchi¹, M. Madami¹, G. Carlotti¹, S. Goolaup², A.O. Adeyeye², H.T. Nguyen³ and M.G. Cottam³*. *1. Università di Perugia, Perugia, Italy; 2. National University of Singapore, Singapore, Singapore; 3. University of Western Ontario, London, ON, Canada*

11:00

EG-11. Engineering coercivity in epitaxial Laves phase rare earth - transition metal multilayers. *A.R. Buckingham¹, K. Wang¹, D. Wang¹, G.J. Bowden¹, R.C. Ward² and P.A. de Groot¹*. *1. Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 2. Clarendon Laboratory, University of Oxford, Oxford, United Kingdom*

11:12

EG-12. The Use of Patterned Magnetic Films to Retain and Orient Micro-Components during Fluidic Self-Assembly.

D.I. Cheng¹, J.J. Rumpler¹, J.M. Perkins¹, C.G. Fonstad¹, E.S. Cramer², R. Zuneska² and F.J. Cadieu². *1. Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA; 2. Physics, Queens College of CUNY, Flushing, NY*

11:24

EG-13. Permalloy Arrays via Stenciling and Magnetron Sputtering to Investigate Nanoscale Magnetic Switching.

C.V. Cojocaru¹, J.R. Bates¹, Y. Miyahara¹ and P. Grutter¹. *1. Physics Department, McGill University, Montreal, QC, Canada*

11:36

EG-14. Possible Approach to Patterned Media using Self-Assembled Nanoparticles.

S. Kang¹, W. Xu¹, R. Horton¹, S. Shi¹, R.M. Metzger¹, D.E. Nikles¹ and J.W. Harrell¹. *1. MINT Center, The University of Alabama, Tuscaloosa, AL*

11:48

EG-15. RIE-based Pattern Transfer of Self-assembled Nanoparticle Arrays for Bit-patterned Media.

C.R. Hogg¹, S.A. Majetich¹ and J.A. Bain². *1. Physics, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

**THURSDAY
MORNING
9:00**

410

**Session EH
NUMERICAL METHODS AND MAGNETIC
SIMULATIONS**

Olle Heinonen, Chair

9:00

EH-01. Calculation of the Temperature Dependence of Surface Anisotropy with a Constrained Monte Carlo Method.

R.F. Evans¹, P. Asselin², R. Yanes³, D. Hinzke¹, O. Chubykalo-Fesenko³, U. Nowak⁴ and R.W. Chantrell¹. *1. Physics, University Of York, York, England, United Kingdom; 2. Seagate Research, Pittsburgh, PA; 3. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 4. Fachbereich Physik, Universität Konstanz, Konstanz, Germany*

9:12

EH-02. Unconditionally Stable Numerical Method with Improved Convergence for Landau-Lifshitz Equation.

M. Cho¹, W. Nam¹ and Y. Lee¹. *1. Quantum Photonic Science Research Center, Hanyang University, Seoul, South Korea*

9:24

EH-03. A new approach to (quasi) periodic boundary conditions: the macro geometry.

G. Bordignon¹, T. Fischbacher², M. Franchin¹, A. Knittel², P. de Groot¹ and H. Fangohr². *1. School of Physics & Astronomy, University of Southampton, Southampton, United Kingdom; 2. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom*

9:36

EH-04. Scriptability and interactivity in parallel micromagnetic simulations.

T. Fischbacher¹, M. Franchin¹, G. Bordignon¹, A. Knittel¹ and H. Fangohr¹. *1. University of Southampton, Southampton, United Kingdom*

9:48

EH-05. Compression of Boundary Element Matrix in Micromagnetic Simulations.

A. Knittel¹, M. Franchin^{2,1}, G. Bordignon^{2,1}, T. Fischbacher¹, S. Bending³ and H. Fangohr¹. *1. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 3. Department of Physics, University of Bath, Bath, United Kingdom*

10:00

EH-06. Image Treatment of an Axial Magnetic Dipole in the Presence of Two Fused Superconducting Spheres.

D. Palaniappan¹. *1. Mathematics, Texas A&M University, College Station, TX*

10:12

EH-07. Spectral Micromagnetic Analysis of Switching Processes.

M. d'Aquino¹, C. Serpico², G. Bertotti³, T. Schrefl⁴ and I.D. Mayergoyz². *1. Dipartimento per le Tecnologie, Università di Napoli "Parthenope", Napoli, Italy; 2. Dipartimento di Ingegneria Elettrica, Università di Napoli "Federico II", Napoli, Italy; 3. Istituto Nazionale di Ricerca Metrologica (INRiM), Torino, Italy; 4. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 5. ECE Department and UMLACS, University of Maryland, College Park, MD*

10:24

EH-08. Investigation of slanted and V-shaped domain walls in MnAs films. R.H. Engel-Herbert¹ and T. Hesjedal². *1. Materials Department, UCSB, Santa Barbara, CA; 2. ECE Department, University of Waterloo, Waterloo, ON, Canada*

10:36

EH-09. Dzyaloshinski-Moriya Micromagnetics of Magnetic Surface Alloys. R. Skomski¹, J. Honolka², S. Bornemann³, H. Ebert³ and A. Enders¹. *1. Nebraska Center for Materials and Nanoscience and Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany; 3. Ludwig-Maximilians Universität München, München, Germany*

10:48

EH-10. Analytical and Experimental Analysis of Noise Passage through Hysteretic Systems. M. Dimian¹, E. Coca¹ and V. Popa¹. *1. Electrical and Computer Engineering, Stefan cel Mare University, Suceava, Romania*

11:00

EH-11. Micromagnetic simulation of Henkel plots and recoil loops of the Nd₂Fe₁₄B/ α -Fe exchange-coupled nanocomposite magnets. C. Rong¹ and J. Liu¹. *1. Department of Physics, University of Texas at Arlington, Arlington, TX*

11:12

EH-12. Magnetization-dependent vector model and single domain nanostructures. A. Faba¹, E. Cardelli¹, E. Della Torre², M. Carpentieri³ and G. Drisaldi¹. *1. Industrial Engineering, University of Perugia, Perugia, Italy; 2. Institute for Magnetic Research, The George Washington University, Washington, WA; 3. University of Calabria, Arcavacata di Rende (CS), Calabria, Italy*

11:24

EH-13. Experimental properties of an efficient stress-dependent magnetostriction model. D. Davino¹, A. Giustiniani² and C. Visone¹. *1. Engineering Department, University of Sannio, Benevento, Italy; 2. DIIIIE, University of Salerno, Salerno, Italy*

11:36

EH-14. Inhomogeneous Magnetization Processes in Electrodeposited Iron Thin Films on GaAs. S. Majumder¹, A.S. Arrott¹ and K.L. Kavanagh¹. *1. Physics, Simon Fraser University, Burnaby, BC, Canada*

11:48

EH-15. A behavioral model of axisymmetrically configured magnetorheological fluid with Lekner summation. K. Jang¹, J. Seok², B. Min¹ and S. Lee¹. *1. Mechanical Engineering, Yonsei University, Seoul, South Korea; 2. Mechanical Engineering, Chung-Ang University, Seoul, South Korea*

THURSDAY

AUSTIN BALLROOM

MORNING

8:00

**Session EP
4f, 5f- AND STRONGLY CORRELATED
SYSTEMS II
(POSTER SESSION)**

Julie Borchers, Chair

EP-01. Hybridization effects and magnetism in UPdSn and UCuSn. K. Kothapalli^{1,2}, F. Nasreen¹, S. El-Khatib², S. Vogel³, A. Llobet³, H. Reiche³, I. Swainsson⁵, E. Bruck⁴, J. Peterson¹ and H. Nakotte¹. *1. Physics, New Mexico State University, Los Alamos, NM; 2. Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN; 3. LANSCE-LC, Los Alamos National Laboratory, Los Alamos, NM; 4. Van der Waals-Zeeman Institute, University of Amsterdam, Amsterdam, Netherlands; 5. Chalk River Laboratories, AECL, Chalk River, ON, Canada*

EP-02. Complex Conductivity of UTX Compounds in High Magnetic Fields. A.M. Alsmadi¹, S. Adak², F. Nasreen², H. Nakotte², C.H. Mielke³, R. McDonald³, V. Zapf³ and A. Lacerda³. *1. Dept. Of Physics, The Hashemite University, Zarqa, Jordan; 2. Dept. Of Physics, New Mexico State University, Las Cruces, NM; 3. National High Magnetic Field Laboratory, Pulse Field Facility, Los Alamos National Laboratory, Los Alamos, NM*

EP-03. Effect of hydrogen doping in UTX compounds. S. Maskova¹, L. Havela¹, E. Santava² and K. Miliyanchuk³. *1. Department of Condensed Matter Physics, Charles University, Prague, Czech Republic; 2. Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czech Republic; 3. Department of Inorganic Chemistry, Ivan Franko National University of Lviv, Lviv, Ukraine*

EP-04. Magnetic phase transitions in CePtSn under ambient and hydrostatic pressures. J. Prokleska¹, M. Misek¹, B. Detlefs², P. Javorsky¹ and V. Sechovsky¹. *1. Dept. of Condensed Matter Physics, Charles University, Prague, Czech Republic; 2. ESRF, Grenoble, France*

EP-05. Electronic structures and magnetic properties of RB₄ (R= Gd, Tb, Dy, Yb, Pr). H. Choi¹, A. Laref¹, J. Shim², S. Kwon¹ and B. Min¹. *1. Pohang University of Science and Technology, Pohang, Kyungbuk, South Korea; 2. Rutgers University, Piscataway, NJ*

- EP-06. Anisotropic magnetic phase transition and magnetoresistance of HoB₄ single crystal.** *J. Kim¹, N. Sung¹ and B. Cho¹. School of Photonics, Dept. of Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea*
- EP-07. Magnetic order of the rare earth sub-lattice in h-YbMnO₃**
H.A. Salama¹, D.H. Ryan² and G.A. Stewart¹. *School of Physical, Environmental & Mathematical Sciences, University of New South Wales, Canberra, ACT, Australia; 2. Centre for the Physics of Materials and Physics Department, McGill University, Montreal, QC, Canada*

THURSDAY
MORNING
8:00

AUSTIN BALLROOM

Session EQ
**MAGNETIC SEMICONDUCTORS GROUP IV
AND III-V
(POSTER SESSION)**
Aubrey Hanbicki, Chair

- EQ-01. Spectra broadening in Point-Contact Andreev Reflection Measurement on (Ga,Mn)As.** *Y. Chiu¹, T. Chiang^{1,2}, S. Huang^{1,3}, H. Jaffrès^{4,5}, A. Lemaitre⁶, J. George^{4,5} and S. Lee¹. Institute of Physics, Academia Sinica, Nankang, Taipei, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan; 3. Department of Physics, National Chiao Tung University, Hsinchu, Taiwan; 4. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 5. Université Paris-Sud 11, Orsay, France; 6. Laboratoire de Photonique et de Nanostructure, CNRS, Marcoussis, France*
- EQ-02. Magneto-transport properties of (Ga,Mn)As based trilayer structures with different thicknesses of (In,Ga)As spacer layer.** *H. Lee¹, S. Chung¹, S. Lee¹, X. Liu² and J.K. Furdyna². Physics, Korea University, Seoul, South Korea; 2. Physics, University of Notre Dame, Notre Dame, IN*
- EQ-03. Transport properties of (Ga,Mn)As under local magnetic field induced by Co nanodot.** *J. Suh¹, J. Chang¹, S. Han¹, E. Kim², M.V. Sapozhnikov³ and A.A. Fraerman³. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, South Korea; 2. Quantum-Function Spinics Lab. and Dept. of Physics, Hanyang University, Seoul, South Korea; 3. Institute for physics of microstructures, Russian academy of sciences, Nizhny Novgorod, Russian Federation*
- EQ-04. Quantitative analysis of angle dependence of planar Hall effect observed in ferromagnetic GaMnAs film.** *J. Kim¹, T. Yoo¹, S. Chung¹, S. Lee¹, X. Liu² and J.K. Furdyna². Physics, Korea University, Seoul, South Korea; 2. Physics, University of Notre Dame, Notre Dame, IN*

- EQ-05. Ac susceptibility of (Ga,Mn)As probed by the anomalous Hall effect.** *Y. Nishitani¹, D. Chiba^{2,1}, F. Matsukura^{1,2} and H. Ohno^{1,2}. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan; 2. Semiconductor Spintronics Project, Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Tokyo, Chiyoda-ku, Japan*
- EQ-06. Mapping a magnetization switching field in Ga_{0.98}Mn_{0.02}As wires with a scanning laser magneto-optical microscope.** *J. Aoyama¹, Y. Hashimoto¹, S. Kobayashi¹ and H. Munekata¹. Imaging Science and Engineering Lab., Tokyo Institute of Technology, Yokohama, Japan*
- EQ-07. High-temperature ferromagnetism in highly Mn doped [(In_{1-x}Ga_x)_{1-x}Mn_x]As (x=0.20-0.40) with inhomogeneous Mn distribution.** *M. Yokoyama¹, S. Ohya¹ and M. Tanaka¹. Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan*
- EQ-08. FMR investigations on Ga_{0.955}Mn_{0.045}As.** *M. Chipara¹, S. Balascuta², X. Liu³, R. Skomski⁴, J.M. Furdyna³ and D.J. Sellmyer⁴. Physics and Geology, The University of Texas Pan American, Edinburg, TX; 2. Physics, Arizona State University, Tempe, AZ; 3. Physics, University of Notre Dame, Notre Dame, IN; 4. Physics and Astronomy, University of Nebraska, Lincoln, NE*
- EQ-09. Ferromagnetism in Un-doped GaN Nanowires.** *H. Xing¹, S. Delikanli¹ and H. Zeng¹. Department of Physics, University at Buffalo, SUNY, Buffalo, NY*
- EQ-10. Synthesis of Co-doped AlN nanorods by arc discharge.** *Y. Songlin¹, G. Runsheng¹ and Y. Ronghai¹. Department of Materials Science and Engineering, Tsinghua University, Beijing, China*
- EQ-11. Weak Ferromagnetism in Mn-doped GaN thin films grown by RF magneto-sputtering.** *W.A. Iwamoto¹, P.G. Pagliuso¹, C. Rettori¹, H. da Silva², A. Pereira² and S. Oseroff³. DEQ, IFGW - Unicamp, Campinas, São Paulo, Brazil; 2. Departamento de Física, Unesp, Bauru, São Paulo, Brazil; 3. San Diego State University, San Diego, CA*
- EQ-12. Electronic and magnetic properties of GeMn nanocolumns probed by x-ray spectroscopy and magnetic circular dichroism.** *S. Cherifi¹, S. Tardif^{1,2}, J. Cibert¹, M. Jamet², T. Devillers², A. Barski², V. Favre-Nicolin², P. Bayle-Guillemaud², N. Darowski³ and D. Schmitz³. Nanoscience, Institut Neel, CNRS-UJF, Grenoble, France; 2. DSM / INAC / SP2M, CEA, Grenoble, France; 3. BESSY, Hahn-Meitner-Institut, Berlin, Germany*
- EQ-13. First-principles investigation of pressure effects on Ge_{1-x}Mn_x**
X. Wang¹, M. Ni¹, Z. Zeng¹ and H. Lin². Key Laboratory of Material Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Shatin, Shatin, Hong Kong, China

EQ-14. Investigation of hydrogen impurities on Mn doped Si semiconductors. X. Wang¹, M. Ni¹, Z. Zeng¹ and H. Lin². *1. Key Laboratory of Material Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Shatin, Hong Kong, China*

EQ-15. Magnetic Properties of M-doped (M = Mn, Cr, or V) ZnSiN₂. J. Rufinus¹. *1. Science Division, Widener University, Chester, PA*

EQ-16. The singlet model calculations for the layered III-VI Diluted Magnetic Semiconductor In_{1-x}MnxSe (x = 0.01 and 0.10)*. T. Pekarek¹, D. Meda¹, J. Brewer¹, J. Blackburn¹, J. Garner¹, I. Miotkowski² and A. Ramdas². *1. Chemistry & Physics, Univ. of N. FL, Jacksonville, FL; 2. Physics, Purdue, W. Lafayette, IN*

THURSDAY
MORNING
8:00

AUSTIN BALLROOM

Session ER
SUPERCONDUCTIVITY II
(POSTER SESSION)

Tingyong Chen, Chair

ER-01. Magnetic field dependent critical current density of Bi-Sr-Ca-Cu-O superconductor in bulk and tape form with addition of Fe₃O₄ magnetic nanoparticles. R. Abd-Shukor¹ and W. Kong¹. *1. School of Applied Physics, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia*

ER-02. Electrically driven spin-polarization in Pr_{0.7}Ca_{0.3}MnO₃/YBa₂Cu₃O₇ heterostructure. J. Lin¹, D. Hsu¹, C. Chiang² and W. Chan². *1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Department of Physics, Tamkang University, Taipei, Taiwan*

ER-03. Superconductivity of various borides: The Role of stretched c-parameter. M. Mudge^{1,2}, V. Awana¹, G.L. Bhalla² and H. Kishan¹. *1. Superconductivity and Cryogenics, National Physical Laboratory, New Delhi, India; 2. Department of Physics and Astrophysics, Delhi University, Delhi, India*

ER-04. Perpendicular applied magnetic field dependence of Josephson current and measurement of trapped magnetic flux in Nb superconducting thin film by vibrating sample magnetometer. N. Watanabe¹, A. Nakayama¹, S. Abe¹, M. Suda¹, Y. Nishi¹, K. Masuda¹ and C. Sugaya¹. *1. Kanagawa University, Yokohama, Japan*

ER-05. Analysis of the proximity effect and the interface transparency with perpendicular current in Nb/Ni system. S. Huang^{1,2}, Y. Chiu¹, J. Liang³, L. Lin¹, T. Tsai¹, S. Hsu² and S. Lee¹. *1. Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Electrophysics, National Chiao-Tung University, Hsinchu, Taiwan; 3. Department of Physics, Fu Jen Catholic University, Taipei, Taiwan*

ER-06. Unconventional Kondo-like effect induced by coexistence of superconductivity and magnetism. Y. Gao¹. *1. ShangCheng Technology Co. Ltd., ShangHai, China*

ER-07. Coexistence of ferromagnetic and cluster glass state in superconducting ferromagnet: RuSr₂Eu_{1.5}Ce_{0.5}Cu₂O₁₀ R. Nigam¹, A.V. Pan¹ and S.X. Dou¹. *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Northfields Avenue, Wollongong, NSW, Australia*

ER-08. High-Tc superconductivity related to deep inner orbital coupling in Fe-As based compounds. N. Chen¹, Y. Liu¹ and Y. Li². *1. School of Material Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. University of Puerto Rico at Mayaguez, Mayaguez, PR*

ER-09. Vortex lattice pinning effects in amorphous Mo₃Si superconducting films with ordered arrays of magnetic dots. D. Pérez de Lara¹, A. Alija², A. Pérez-Junquera², J.M. Colino³, J.I. Martín², E. Navarro¹, M. Vélez², J.V. Anguita⁴ and J.L. Vicent¹. *1. Física de Materiales, Universidad Complutense, Madrid, Spain; 2. Física, Universidad de Oviedo, Oviedo, Asturias, Spain; 3. Física, Universidad de Castilla - La Mancha, Ciudad Real, Spain; 4. Instituto de Microelectrónica de Madrid - CSIC, Tres Cantos, Madrid, Spain*

ER-10. Structural, Magnetic and Transport Properties for single crystal of (Sr_{0.9}Ca_{0.1})₃Ru₂O₇. B. Qian^{1,3}, Z. Qu¹, J. Peng¹, X. Wu² and Z. Mao¹. *1. physics, the university of Tulane, New Orleans, LA; 2. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 3. Physics, Changshu Institute of Technology, Changshu, China*

ER-11. Strong Increase of Critical Field and Current in Magnet-Superconductor Hybrids. A.E. Ozmetin¹, D. Rathnayaka¹, D.G. Naugle¹ and I. Lyuksyutov¹. *1. Department of Physics, Texas A&M University, College Station, TX*

ER-12. Magnetic field-dependent resistance measurements in the superconducting ferromagnets (Ru_{1-x}Nbx)Sr₂Eu_{1.4}Ce_{0.6}Cu₂O₁₀. M.E. Botello-Zubiate¹, O.E. Ayala-Valenzuela^{1,2}, M. Jaime² and J.A. Matutes-Aquino¹. *1. Física de materiales, Centro de Investigación en Materiales Avanzados, S.C, Chihuahua, Chihuahua, Mexico; 2. NHMFL, Los Alamos National Laboratory, Los Alamos, NM*

ER-13. Superconductivity in a two-dimensional system in a Strong correlated limit. E.S. Caixeiro¹ and A. Troper^{1,2}. *1. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Rio de Janeiro, Brazil; 2. Departamento de Eletronica Quantica, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil*

THURSDAY
MORNING
8:00

AUSTIN BALLROOM

Session ES
MAGNETO-OPTIC AND NEW MAGNETIC
MATERIALS
(POSTER SESSION)

Tom Thomson, Co-Chair
Michael Gibbs, Co-Chair

- ES-01. Magneto-optical properties of magnetic Ni grating.** *J. Kim¹, Y. Lu¹, M. Cho¹, N. Deshpande¹, Y. Lee¹, J. Rhee², J. Lee³ and K. Ho³*. *Quantum Photonic Science Research Center and BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul, South Korea; 2. Department of Physics, Sungkyunkwan University, Suwon, South Korea; 3. Ames Laboratory-U.S. DOE, Iowa State University, Ames, IA*
- ES-02. Magnetically Induced Optical Chirality in Zn-Mn Selenide.** *M.F. Saenger^{1,2}, M. Hetterich³, X. Liu⁴, J.K. Furdyna⁴, T. Hofmann^{1,2}, R. Skomski^{1,5}, D.J. Sellmyer^{1,5} and M. Schubert^{1,2,1}*. *Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Electrical Engineering, University of Nebraska, Lincoln, NE; 3. Institut für Angewandte Physik and Center for Functional Nanostructures (CFN), Universität Karlsruhe (TH), Karlsruhe, Germany; 4. Department of Physics, University of Notre Dame, Notre Dame, IN; 5. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE*
- ES-03. Magneto-Optical studies of Cd_{1-x-y}Mn_xCoyTe.** *S. Shen¹, Y. Um², X. Liu¹, Y. Cho¹, J.K. Furdyna¹ and M. Dobrowolska¹*. *Department of Physics, Univ. of Notre Dame, Notre Dame, IN; 2. Department of Physics, Ulsan University, Ulsan, South Korea*
- ES-04. Enhanced Magneto-Optic Characteristics of Au-Ferromagnetic Nanocomposite Systems Prepared by Aerosol Deposition Method.** *J. Park¹ and J. Akedo¹*. *National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*
- ES-05. Magneto-optical enhancement in gold-magnetite composite films.** *K.L. Stokes^{1,2} and F.E. Moolekamp, III^{1,2}*. *Dept. of Physics, University of New Orleans, New Orleans, LA; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA*
- ES-06. Magnetic and magneto-optical properties of epitaxial SrTi_{0.6}Fe_{0.4}O₃ films grown on Si substrates using Bi₄Ti₃O₁₂/CeO₂/YSZ and BaTiO₃/MgO buffer layers.** *H. Kim¹, L. Bi¹, H. Paik², G.F. Dionne^{1,3} and C.A. Ross¹*. *Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 3. Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA*

- ES-07. Thiol-capped ferromagnetic Au nanoparticles investigated by Au L₃ x-ray absorption spectroscopy.** *J.S. Garitaonandia¹, E. Goikolea¹, M. Insausti¹, M. Suzuki², N. Kawamura², H. Ohsawa², I. Gil del Muro¹, K. Suzuki³, J.D. Cashion⁴, C. Gorria¹, F. Plazaola¹ and T. Rojo¹*. *Zientzia eta Teknologia Fakultatea, University of the Basque Country (UPV/EHU), Bilbao, Spain; 2. Japan Synchrotron Radiation Research Institute (JASRI/SPring-8), Sayou, Japan; 3. Department of Materials Engineering, Monash University, Melbourne, VIC, Australia; 4. School of Physics, Monash University, Melbourne, VIC, Australia*
- ES-08. Confirmation of magnetism in dodecanethiol-capped Au films via magnetotransport.** *B. Knaus¹, S. Garzon¹ and T.M. Crawford¹*. *Physics and Astronomy, University of South Carolina, Columbia, SC*
- ES-09. Magnetism of Cr-Doped Diamond.** *J.A. Colon-Santana¹, R. Skomski¹, V. Singh^{2,3}, V. Palshin³, E.I. Meletis², Y.B. Losovyj³, A. Sokolov¹, P.A. Dowben¹ and I. Ketsman¹*. *Nebraska Center for Materials and Nanoscience and Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Mechanical Engineering Department, Materials Science and Engineering Program, Louisiana State University, Baton Rouge, LA; 3. Center for Advanced Microstructures and Devices, Louisiana State University, Baton Rouge, LA*
- ES-10. Magnetic property of the nano-sized iron silenite Bi₂FeO₄₀ (BiFeO) synthesized by hydrothermal method.** *Y. Du¹, X. Wang¹, Z. Cheng¹, M. Shahbazi¹ and S. Dou¹*. *Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia*
- ES-11. Enhanced Magnetization of CuCr₂O₄ Thin Films by Substrate-Induced Strain.** *J.M. Iwata¹, R.V. Chopdekar^{2,1}, F.J. Wong¹, B.B. Nelson-Cheeseman¹, E. Arenholz³, M.F. Toney⁴ and Y. Suzuki¹*. *Materials Science & Engineering, UC Berkeley, Berkeley, CA; 2. School of Applied Physics, Cornell University, Ithaca, NY; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Stanford Synchrotron Radiation Laboratory, Stanford Linear Accelerator Center, Menlo Park, CA*
- ES-12. Anomalous Magnetic Ground State in NiMn₂O₄ Thin Films.** *B.B. Nelson-Cheeseman¹, R.V. Chopdekar^{2,1}, M.F. Toney³, E. Arenholz⁴ and Y. Suzuki¹*. *Materials Science and Engineering, University of California, Berkeley, Berkeley, CA; 2. School of Applied and Engineering Physics, Cornell University, Ithaca, NY; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Stanford Synchrotron Radiation Laboratory, Stanford Linear Accelerator Center, Menlo Park, CA*
- ES-13. Magnetic, Transport and Magnetocaloric Properties of double perovskite oxide, LaCaMnCoO₆.** *R.N. Mahato¹, K. Sethupathi¹, V. Sankaranarayanan¹, R. Nirmala¹ and A.K. Nigam²*. *Department of Physics, Indian Institute of Technology Madras, Chennai, India; 2. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, India*

- ES-14. First-order magnetic phase transition in FeRh-Pt thin films.** *W. Lu¹, N.T. Nguyen¹ and T. Suzuki¹. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan*
- ES-15. Electrical transport and Magnetism in Mo-substituted $R_2Ti_3Ge_4$ ($R = Tb, Er$) compounds.** *R. Nirmala¹, K. Nagamanasa² and A.K. Nigam³. 1. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 2. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India; 3. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, India*
- ES-16. Local magnetic properties of Gd12Co5Bi and Y12Co5Bi studied by Muon Spin Resonance.** *M. Egilmez¹, K.H. Chow¹, A.W. MacFarlane², I. Fan¹, D.S. Martin², A.I. Mansour¹, J.A. Jung¹, B. Hitti⁴, D. Arseneau⁴, A.V. Tkachuk³ and A. Mar³. 1. Physics, University of Alberta, Edmonton, AB, Canada; 2. Chemistry, University of British Columbia, Vancouver, BC, Canada; 3. Chemistry, University of Alberta, Edmonton, AB, Canada; 4. TRIUMF, Vancouver, BC, Canada*
- ES-17. Anisotropy Relaxation of Non-Magnetic Indium Ion Doped Nickel Chromite.** *S. Park¹, H. Choi¹ and C. Kim¹. Department of Physics, Kookmin University, Seoul, South Korea*
- ES-18. Ferrimagnetism in strained Fe2As thin films on Si (001).** *Y. Hwang¹, J. Choi¹, W. Feng¹, J. Kim¹, S. Cho¹ and J. Ketterson². 1. Physics, University of Ulsan, Ulsan, South Korea; 2. Physics, Northwestern University, Evanston, IL*
- ES-19. Preparation and magnetic properties of pure Fe16N2 powder.** *S.G. Sankar¹, B.J. Zande¹, S. Simizu¹ and R.T. Obermyer¹. Advanced Materials Corporation, Pittsburgh, PA*

**THURSDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session ET
PERPENDICULAR MEDIA II
(POSTER SESSION)**

Hua Yuan, Chair

- ET-01. CoCr Based Intermediate Layers for Ru in Perpendicular Magnetic Recording.** *W. Joost¹, A. Das¹, M. Racine¹ and T. Alford². 1. Heraeus TMD, Chandler, AZ; 2. Arizona State University, Tempe, AZ*
- ET-02. Small and highly oriented Ru grains in intermediate layer realized by suppression of relaxation of low-angle grain boundaries for perpendicular recording media.** *N. Itagaki¹, S. Saito¹ and M. Takahashi^{2,1}. 1. Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan*

- ET-03. Uniaxial magnetocrystalline anisotropy for c -plane oriented $Co_{100-x}M_x$ ($M: Cr, Mo, W$) film with stacking faults.** *S. Hinata¹, R. Yanagisawa¹, S. Saito¹ and M. Takahashi^{2,1}. 1. Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan*
- ET-04. Microstructural difference in CoPt-TiO₂/CoCrPt-SiO₂ stacked media with stacking order difference and their coercivity.** *S. Park¹, S. Kim¹ and T. Lee¹. Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea*
- ET-05. Grain size effect on magnetic properties of CoPt with additive SiO₂.** *Y. Yang¹, J. Chen¹ and G. Chow¹. Materials Science and Engineering, National University of Singapore, Singapore, Singapore*
- ET-06. The study of substrate bias on the magnetic properties and mechanical property of CoCrPt-oxide perpendicular recording media.** *C. Wang¹. Seagate Technology, Fremont, CA*
- ET-07. Effect of magnetic softness in a soft layer on media properties in hard/soft stacked composite perpendicular media.** *H. Jung¹, S.S. Malhotra¹, B.R. Acharya¹, G. Bertero¹ and D. Suess². 1. Western Digital Media Inc., San Jose, CA; 2. Vienna University of Technology, Vienna, Austria*
- ET-08. Interlayer coupling and switching field of exchange coupled composite media.** *K.K. Pandey¹, J. Chen¹, J. Hu², B. Lim² and G. Chow¹. 1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*
- ET-09. Effect of PMR Media Nucleation Field on Thermal Stability.** *Z. Shi¹, K. Tang¹, J. He¹, J. Zhang¹ and S. Duan¹. Hitachi GST, San Jose, CA*
- ET-10. Influence on the recording performance due to the control of oscillatory interlayer interaction in perpendicular recording media.** *K. Shintaku¹. Akita Research Institute of Advanced Technology, Akita Prefectural R&D Center, Akita, Japan*

**THURSDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session EU
DYNAMICS AND DAMPING
(POSTER SESSION)**

Takahiro Moriyama, Chair

- EU-01. Modeling of soliton dynamics for spin torque nano-oscillators with a perpendicular free layer.** *T. Silva¹, M. Hofer¹, M. Schneider², W. Rippard¹ and J. Shaw¹. 1. Magnetics Group, NIST, Boulder, CO; 2. Physics and Astronomy Dept., University of Montana, Missoula, MT*

- EU-02. Field dependence of rectification of radio frequency current in a single layered ferromagnetic wire.** *A. Yamaguchi^{1,2}, H. Miyajima¹ and Y. Nakatani^{3,1}. Keio University, Yokohama, Japan; 2. PRESTO, JST, Honcho Kawaguchi, Japan; 3. University of Electro-communications, Chofugaoka 1-5-1, Chofu, Tokyo, Japan*
- EU-03. Mesofrequency magnetisation reversal dynamics probed by dynamic magneto-optical and dynamic magnetoresistance measurements.** *N. Steinke¹, J. LLandro¹, B. Hong¹, T.A. Moore² and C.H. Barnes¹. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. SPINTEC, Grenoble, France*
- EU-04. Excitation of magnetization dynamics in patterned thin films using surface acoustic waves.** *A. Baruth¹ and S. Adenwalla¹. Physics, University of Nebraska - Lincoln, Lincoln, NE*
- EU-05. Frequency modulation effect on microwave assisted magnetization switching.** *S. Okamoto¹, N. Kikuchi¹ and O. Kitakami¹. IMRAM, Tohoku University, Sendai, Japan*
- EU-06. Multiple NMR spin echoes in magnets: the echo structure and potential applications.** *A.M. Akhalkatsi², T.A. Gavasheli², T.O. Gegechkori¹, G.I. Mamniashvili¹, Z.G. Shermadini¹ and W.G. Clark³. Department of Condensed Matter Physics, Andronikashvili Institute of Physics, Tbilisi, Georgia; 2. Department of Exact Sciences, Tbilisi State University, Tbilisi, Georgia; 3. Department of Physics and Astronomy, UCLA, Los Angeles, CA*
- EU-07. Energy band and band gap engineering of dipole-exchange spin wave modes in nanostripe magnonic crystals by nanostripe-width modulation.** *K. Lee¹, D. Han¹ and S. Kim¹. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea*
- EU-08. An Experimental Apparatus for X-Ray Spectroscopy of Magnetization Dynamics.** *D. Arena¹, Y. Ding¹, E. Vescovo¹, S. Zohar² and W.E. Bailey². National Synchrotron Light Source, Brookhaven National Lab, Upton, NY; 2. Materials Science and Engineering, Dept. of Applied Physics, Columbia University, New York, NY*
- EU-09. Layer resolved magnetization dynamics in coupled magnetic films using time resolved x-ray magnetic circular dichroism with continuous wave excitation.** *T. Martin¹, G. Woltersdorf¹, C. Stamm², H.A. Dürr², R. Mattheis³, C.H. Back¹ and G. Bayreuther¹. Institut für Experimentelle und Angewandte Physik, Universität Regensburg, Regensburg, Germany; 2. Berliner Elektronenspeicherring-Gesellschaft für Synchrotronstrahlung mbH, Berlin, Germany; 3. Institut für Photonische Technologien e. V., Jena, Germany*
- EU-10. Microscopic description of Gilbert damping coefficient based on the s-d model.** *A. Sakuma¹, N. Yamada¹ and H. Tsuchiura¹. Applied Physics, Tohoku University, Sendai, Japan*

- EU-11. Low damping constant for Co₂FeAl Heusler alloy films and its correlation with density of states.** *S. Mizukami¹, D. Watanabe¹, M. Oogane², Y. Ando², Y. Miura³, M. Shirai³ and T. Miyazaki¹. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Graduate school of Engineering, Tohoku University, Sendai, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*
- EU-12. Effect of temperature on the ferromagnetic resonance linewidth (ΔH) of epitaxial Fe thin films.** *B.K. Kuanr¹, V. Veerakumar¹, R.E. Camley¹ and Z. Celinski¹. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO*

THURSDAY
MORNING
8:00

AUSTIN BALLROOM

Session EV
**MULTILAYERS AND SUPERLATTICES
(POSTER SESSION)**

Brian Kirby, Chair

- EV-01. Perpendicular interlayer coupling and magnetic domain structure in [Co/Pd]_n/Co/Ru/[Co/Pd]_m multilayers.** *Y. Fu¹, S. Ishio¹, T. Wang¹, T. Hasegawa¹ and H. Saito¹. Akita University, Akita, Japan*
- EV-02. The intermixing induced perpendicular magnetic anisotropy in ultrathin Co/Pt multilayers.** *C. Su², S. Lo³, J. van Lierop⁴, K. Lin² and H. Ouyang¹. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. National Chung Hsing University, Taichung, Taiwan; 3. Industrial Technology Research Institute, Hsinchu, Taiwan; 4. University of Manitoba, Winnipeg, MB, Canada*
- EV-03. Antiparallel orange-peel coupling in Co/Ni spin-valves with perpendicular anisotropy.** *A.M. Deac^{1,3}, J.M. Shaw¹, W.H. Rippard¹, T.J. Silva¹ and D.H. Smith². Electromagnetics Division, National Institute of Standards and Technology (NIST), Boulder, CO; 2. Department of Physics, Arizona State University, Tempe, AZ; 3. Institut fuer Festkoerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany*
- EV-04. Magnetic phase separation and domain wall transition in coupled [Co/Pd]_n multilayers with perpendicular magnetic anisotropy.** *L.Y. Zhu¹, D. Clarke¹ and C.L. Chien¹. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD*
- EV-05. Dynamic behavior of a superferromagnetic metal-insulator multilayer observed by magneto-optic Kerr microscopy.** *S. Bedanta¹, J. Rhensius^{1,2}, W. Kleemann¹, S. Cardoso³ and P.P. Freitas³. Angewandte Physik, Universität Duisburg-Essen, Duisburg, Germany; 2. Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 3. INESC, Lisbon, Portugal*

EV-06. Magnetocaloric properties of Co/Cr superlattices.

*T. Mukherjee*¹, *S. Sahoo*¹, *R. Skomski*¹, *D.J. Sellmyer*¹ and *C. Binek*¹. *Physics & Astronomy, University of Nebraska, Lincoln, Lincoln, NE*

EV-07. Interlayer exchange coupling in

Co₂FeAl_{0.5}Si_{0.5}/Cr/Co₂FeAl_{0.5}Si_{0.5} trilayers. *T. Furubayashi*¹, *K. Kodama*², *H.S. Goripati*², *Y.K. Takahashi*¹, *K. Inomata*¹ and *K. Hono*^{1,2}. *1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan*

EV-08. Evaluation of distribution of exchange coupling in

CoFe/Ru/CoFe synthetic antiferromagnetic structure after annealing. *T. Takenaga*¹, *H. Takada*¹, *S. Tomohisa*¹, *T. Furukawa*¹, *T. Kuroiwa*¹ and *K. Yoshiara*¹. *Advanced Technology R&D Center, Mitsubishi Electric Corp., Amagasaki, Hyogo, Japan*

EV-09. The alignment of magnetic moments in Gd/NiFe sputtered

multilayer films. *H. Miyagawa*^{1,2}, *F.J. Castaño*¹, *B.G. Ng*¹, *C. Nam*¹ and *C.A. Ross*¹. *1. Faculty of Engineering, Kagawa University, Takamatsu, Kagawa, Japan; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

EV-10. Temperature-dependent interlayer exchange coupling in epitaxial (001) NiO/Fe₃O₄/MgO/ Fe₃O₄ exchange biased nano-

structures. *H. Wu*¹, *O.N. Mryasov*² and *I.V. Shvets*¹. *CRANN, School of Physics, Trinity College Dublin, Dublin, Ireland; 2. Seagate Technology, Pittsburgh, PA*

**THURSDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session EW
SEMICONDUCTOR SPIN INJECTION AND
TRANSPORT
(POSTER SESSION)**

Ron Jansen, Chair

EW-01. Conductance modulation in anisotropic Rashba ring

interferometer. *M.B. Jalil*¹ and *S. Tan*². *1. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

EW-02. Magnetically tunable spin filtering in semiconductor

nanowires with symmetrically distributed Rashba spin-orbit coupling. *R. Zhang*¹, *X. Wu*¹, *R. Peng*¹, *D. Li*¹, *F. Gao*¹, *J. Li*¹ and *M. Wang*¹. *1. National Laboratory of Solid State Microstructures, Nanjing, China*

EW-03. Gate-Controlled Spin-Orbit Interaction in a Double-sided

doped InAs Quantum well structure. *K. Kim*^{1,2}, *H. Kim*¹, *H. Koo*¹, *J. Chang*¹, *S. Han*¹ and *Y. Kim*¹. *Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, 136-791, South Korea; 2. Department of Advanced Material Science and Engineering, Korea University, Seoul, 136-713, South Korea*

EW-04. Utilizing the Dresselhaus spin-orbit effect to quantify the traversal time of electrons across a tunneling barrier.

*M.B. Jalil*¹, *M. Jalil*¹ and *S. Tan*². *1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

EW-05. Generation and electrical detection of spin-polarized currents in cascaded InAs spin-filters.

*J. Jacob*¹, *G. Meier*¹, *S. Peters*¹, *T. Matsuyama*¹ and *U. Merkt*¹. *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

EW-06. Extraction of the pure spin-polarised current in FM/I/GaAs

structure by optical excitation. *K. Lee*¹, *T. Trypiniotis*¹, *H. Kurebayashi*¹, *S.N. Holmes*^{1,2}, *W.S. Cho*¹, *J.A. Bland*¹, *C.H. Barnes*¹ and *K.H. Shin*³. *1. Cavendish Laboratory, Univ. of Cambridge, Cambridge, United Kingdom; 2. Toshiba Research Europe Limited, Cambridge, United Kingdom; 3. Nano Device Research Centre, Korea Institute of Science and Technology, Seoul, South Korea*

EW-07. Tunneling magnetoresistance in Ga_{1-x}Mn_xAs/Al-O/CoFeB

hybrid structures. *G. Du*¹, *M.R. Babu*^{1,3}, *X. Han*¹, *J. Deng*², *W. Wang*² and *J. Zhao*². *1. State Key Laboratory of Magnetism, Institute of Physics, CAS, Beijing, China; 2. State Key Laboratory for Superlattices and Microstructures, Institute of Semiconductors, CAS, Beijing, China; 3. Crystal growth center, Anna University, Chennai, India*

EW-08. Hot electron transport in fully epitaxial magnetic tunnel

transistor with a MgO barrier. *T. Nagahama*¹, *H. Saito*^{1,2} and *S. Yuasa*¹. *1. Nano-electronics research institute, AIST, Tsukuba, Ibaraki, Japan; 2. PRESTO, JST, Chiyoda-ku, Tokyo, Japan*

EW-09. Spin injection through MgO tunnel barrier in an InAs

quantum well semiconductor. *S.H. Shim*^{1,2}, *J. Chang*^{1,3}, *Y. Park*^{1,3}, *Y. Lee*², *J. Moodera*³ and *S. Han*¹. *Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, South Korea; 2. National Research Laboratory for Nano Device Physics, Dept. of Physics, Korea University, Seoul, South Korea; 3. Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, MA*

EW-10. Effect of polymer processing on spin MR in organic

structures. *D. Dhandapani*¹, *A. Rao*¹, *N.A. Morley*¹, *A. Das*², *M. Grell*² and *M.R. Gibbs*¹. *1. Department of Engineering Materials, University of sheffield, Sheffield, United Kingdom; 2. Department of Physics and Astronomy, University of Sheffield, Sheffield, United Kingdom*

EW-11. Spin dependent transport properties of MnSi Nanowires.

*S. Kang*¹, *J. Battogtoh*¹, *G. Brewer*², *D. Mckweon*¹, *I.L. Pegg*¹ and *J. Philip*¹. *1. Vitreous State Laboratory, The Catholic University of America, Washington, DC; 2. Chemistry, The Catholic University of America, Washington, DC*

EW-12. Superconducting tunneling through a ferromagnetic tunnel

barrier: EuS. *M. Costache*¹, *M. Muller*¹ and *J. Moodera*¹. *1. MIT, Cambridge, MA*

EW-13. Unusual electronic properties of spin capacitor embedded by laser induced Co nanocrystals. *J. Lee¹, K. Kim¹, J. Yang² and J. Hong¹*. *1. Department of Physics, Hanyang University, Seoul, South Korea; 2. Photovoltaic technology team, Power & Industrial Systems R&D Center of Hyosung, Gyeonggi-do, South Korea*

THURSDAY
AFTERNOON
2:00

SALON C

Session FA

**SYMPOSIUM ON RECENT DEVELOPMENTS
IN SPIN TRANSFER TORQUE**

Ilya Krivorotov, Chair

2:00

FA-01. The Spin-Transfer-Torque Vector in MgO-Based Magnetic Tunnel Junctions and All-Metal Spin Valves. (Invited)
D. Ralph¹. *1. Physics Department, Cornell University, Ithaca, NY*

2:36

FA-02. Spin-Transfer Induced Coherent Microwave Emission With Large Power From Nanoscale MgO Tunnel Junctions. (Invited)
D. Houssameddine¹, S.H. Florez³, J.A. Katine³, J. Michel², U. Ebels¹, D. Mauri⁴, O. Ozatay³, B. Delaet², B. Viala², L. Folks³, B.D. Terris³ and M. Cyrille². *1. SPINTEC, CEA, CNRS, UJF, INPG, Grenoble, France; 2. CEA-LETI-MINATEC, Grenoble, France; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA; 4. Hitachi Global Storage Technologies, San Jose, CA*

3:12

FA-03. Spin Transfer Driven Dynamics in Perpendicularly Magnetized CoNi Nanocontacts. (Invited) *B. Rippard¹*. *1. NIST, Boulder, CO*

3:48

FA-04. Measurement of phase-locking of a Spin-Transfer Nano-Oscillator to an external signal in the presence of noise : a milestone for the synchronization of a large assembly of STNOs. (Invited) *J. Grollier¹, B. Georges¹, M. Darques¹, V. Cros¹, C. Deranlot¹, B. Marcilhac¹, G. Faini² and A. Fert¹*. *1. Unité Mixte de Physique CNRS/thales, Palaiseau, France; 2. Laboratoire de Photonique et Nanostructures LPN/CNRS, Marcoussis, France*

4:24

FA-05. Analytic theory of phase-locking of spin torque oscillators and oscillator arrays. (Invited) *V. Tyberkevych¹ and A. Slavin¹*. *1. Department of Physics, Oakland University, Rochester, MI*

THURSDAY
AFTERNOON
2:00

SALON G

Session FB

**MAGNETIC SENSORS II (NOT FOR
MAGNETIC RECORDING)**

Paulo Freitas, Chair

2:00

FB-01. Magneto-Optically Enhanced Surface Plasmon Resonance. (Invited) *R.A. Lukaszew^{1,3}, C. Clavero¹, R. Wincheski², K. Yang¹ and J.R. Skuza³*. *1. Applied Science, College of William and Mary, Williamsburg, VA; 2. NDE, NASA-Langley, Hampton, VA; 3. Physics, College of William and Mary, Williamsburg, VA*

2:36

FB-02. Quadrilayers with Ultrathin Fe for Magneto-Optic Sensing of Microwave Currents. *I. Harward¹, E. Liskova², R. Lopusnik³, S. Visnovsky² and Z.J. Celinski¹*. *1. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Matematics & Physics, Charles University, Prague, Czech Republic; 3. Seagate Technology, Bloomington, MN*

2:48

FB-03. Validation of the MEMS Flux Concentrator Concept for Minimizing the Effect of 1/f Noise. *A. Edelstein¹, J.E. Burnette¹, G. Fischer¹, K. Olver¹, W. Egelhoff, Jr.², E. Nowak³ and S. Cheng⁴*. *1. US Army Research Laboratory, Adelphi, MD; 2. National Institute of Standards and Technology, Gaithersburg, MD; 3. Department of Physics and Astronomy, University of Delaware, Newark, DE; 4. Naval Research Laboratory, Washington, DC*

3:00

FB-04. Reaching low frequency pico-Tesla field detection using a spin valve/MEMS hybrid device. *A.A. Guedes^{1,2}, S.B. Patil¹, V. Chu¹, J.P. Conde^{1,2} and P.P. Freitas^{1,2}*. *1. Magnetism, INESC-MN, Lisboa, Portugal; 2. Physics, Instituto Superior Tecnico, Lisboa, Portugal*

3:12

FB-05. Field Detection in MgO MTJs with Superparamagnetic Free Layer and Magnetic Flux Concentrators. *J.M. Almeida^{1,2} and P.P. Freitas^{1,2}*. *1. INESC-MN, Lisbon, Portugal; 2. Physics, IST, Lisbon, Portugal*

3:24

FB-06. Hysteresis loop collapse for linear response in magnetic-tunnel-junction sensors. *W.F. Egelhoff¹, P. Pong¹, A.J. Shaprio¹, R.D. McMichael¹ and B. Schrag²*. *1. NIST, Gaithersburg, MD; 2. MicroMagnetics, Falls River, RI*

3:36

FB-07. Exploiting Nonlinearity in a Coupled Core Fluxgate Magnetometer. *A. Bulsara¹, V. In¹, J. Neff¹, A. Kho¹, S. Baglio² and B. Ando²*. *1. SPAWAR Systems Center, San Diego, CA; 2. Electrical and Electronic Engineering, Univ di Catania, Catania, Italy*

3:48

FB-08. Highly sensitive “flux-spin” multi channel magnetometers. *P. Vetoshko¹, M. Valeiko², I. Syvorotka³ and P. Nikitin²*. *1. Institute of Radioengineering and Electronics, Academy of Science of Russia, Moscow, Russian Federation; 2. General Physics Institute of Russian Academy of Sciences, Moscow, Russian Federation; 3. Institute of Materials, Lviv, Ukraine*

4:00

FB-09. Element Design of Magnetic Rotation Angle Sensor by using Spin-Valve Films. *Y. Okada¹ and C. Mitsumata¹*. *Hitachi Metals, Ltd., Kumagaya-shi, Saitama-ken, Japan*

4:12

FB-10. High sensitivity magnetic gas sensing using magnetic semiconductor nanoparticles. *A. Thurber¹, A. Punnoose¹ and K.M. Reddy¹*. *1. Physics, Boise State University, Boise, ID*

4:24

FB-11. A Composite Magnetic Sensor Using SAW Resonator and Terfenol-D. *M. Zheng^{1,2}, Y. Wen^{1,2} and P. Li^{1,2}*. *1. The Key Lab for Optoelectronic Tech & Sys., Ministry of Education, ChongQing, China; 2. College of Optoelectronic Engineering, Chongqing University, ChongQing, China*

THURSDAY
AFTERNOON
2:00

SALON A

Session FC
RECORDING SYSTEMS AND PATTERNED MEDIA II

Harry Edelman, Chair

2:00

FC-01. A comparison of nanosphere lithography and block copolymer templating for patterning CoPt/CoPtCr perpendicular media. *X. Li^{1,2}, S. Gupta^{1,2}, M. Curry¹ and M. Bakker¹*. *1. MINT Center, The University of Alabama, Tuscaloosa, AL; 2. MicroFabrication Facility, The University of Alabama, Tuscaloosa, AL*

2:12

FC-02. Planar patterned media fabricated by ion irradiation into CrPt₃ ordered alloy films. *T. Kato¹, Y. Yamauchi², S. Iwata¹, S. Tsunashima², K. Matsumoto³, T. Morikawa³ and K. Ozaki⁴*. *1. Department of Quantum Engineering, Nagoya University, Nagoya, Aichi, Japan; 2. Department of Electrical Engineering and Computer Science, Nagoya University, Nagoya, Aichi, Japan; 3. Advanced Technology Department, Yamagata Fujitsu Ltd., Higashine, Yamagata, Japan; 4. Storage Technologies Laboratory, Fujitsu Laboratories Ltd., Akashi, Hyogo, Japan*

2:24

FC-03. Patterned media with composite layers to overcome writability beyond 5 Tb/in² *R. Sbiaa¹, K. Aung¹, S. Piramanayagam¹ and E. Tan¹*. *1. Data Storage Institute, Singapore, Singapore*

2:36

FC-04. A novel bit-patterned media structure to reduce switching field distribution. *S. Piramanayagam¹, K. Aung¹, S. Deng^{1,2} and R. Sbiaa¹*. *1. A*STAR (Agency for Science Technology and Research), Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore*

2:48

FC-05. Magnetic properties and topography of Gallium-dosed CoCrPt perpendicular media. *T.W. Clinton¹, L. Sun^{1,2}, L. Chang^{1,3} and R. Van de Veerdonk¹*. *1. Seagate Research, Seagate Technology, Pittsburgh, PA; 2. Department of Physics, University of Maryland, College Park, MD; 3. Department of Electrical & Computer Engineering, University of Houston, Houston, TX*

3:00

FC-06. Planarization of amorphous carbon films on patterned media using gas cluster ion beams. *N. Toyoda¹, K. Nagato^{2,3}, H. Tani⁴, Y. Sakane⁵, M. Nakao², T. Hamaguchi² and I. Yamada¹*. *1. Incubation center, Graduate school of engineering, University of Hyogo, Himeji, Hyogo, Japan; 2. Department of Engineering Synthesis, School of Engineering, The University of Tokyo, Bunkyo, Tokyo, Japan; 3. Research Fellow of the Japan Society for the Promotion of Science, Chiyoda, Tokyo, Japan; 4. Department of Mechanical Engineering, Kansai University, Suita, Osaka, Japan; 5. Western Digital Media Operations, San Jose, CA*

3:12

FC-07. Magnetic force microscopy (MFM) and spindrive testing of multi-array-per-track discrete bit patterned media fabricated by focused ion beam (FIB). *Y. Chen¹, T. Huang¹, S. Leong¹, S. Hu¹, K. Ng¹, Z. Yuan¹, B. Zong¹, J. Shi¹, B. Liu¹ and V. Ng²*. *1. SMI, Data Storage Institute (A*STAR), Singapore, Singapore; 2. ECE Dept, National University of Singapore, Singapore, Singapore*

3:24

FC-08. Bit patterned media with cap layer for high density magnetic recording. S. Li^{1,2}, B. Livshitz^{1,2}, E.E. Fullerton^{1,2}, H. Bertram^{2,3}, A. Inomata⁴ and V. Lomakin^{1,2,1}. *Department of Electrical and Computer Engineering, University of California San Diego, La Jolla, CA; 2. Center for Magnetic Recording Research, University of California San Diego, La Jolla, CA; 3. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA; 4. Storage and Intelligent Systems Laboratories, Fujitsu Laboratories Ltd, Atsugi, Japan*

3:36

FC-09. Analysis of recording in patterned media with geometry and material fluctuation. B. Livshitz^{1,2}, A. Inomata³, H.N. Bertram^{2,4} and V. Lomakin^{1,2,1}. *ECE, UCSD, San Diego, CA; 2. CMRR, UCSD, San Diego, CA; 3. Storage and Intelligent Systems Laboratories, Fujitsu Laboratories Ltd, Atsugi, Japan; 4. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA*

3:48

FC-10. Sidetrack thermal erasure for head random off-track writing. M. Benakli¹ and L. Pust¹. *Seagate, Bloomington, MN*

4:00

FC-11. Simpler Decoding for Direct Print Compound Phase Servo Patterns. B. Baker¹. *Redwood Technology, Redwood City, CA*

4:12

FC-12. A Runout Measuring Technology with nm Resolution for Spindle Motors Used in HDD. J. Huang¹ and C. Bi¹. *MRC, Data storage institute, a-star, Singapore, Singapore*

4:24

FC-13. Three-Dimensional Analyses of Suspension Interconnect of HDD. E. Jang¹. *HDD R&D, Samsung Information Systems America, San Jose, CA*

THURSDAY
AFTERNOON
2:00

SALON B

Session FD
HALF-METALLIC FERROMAGNETISM

Johan Akerman, Chair

2:00

FD-01. Induced half-metallic state in Cr-based chalcospinels: $\text{CuCr}_2\text{S}(\text{Se})_{4-x}\text{E}_x$ (E=F, Cl, Br), $\text{CuCr}_2\text{S}(\text{Se})_{4-x}$ and $\text{CdCr}_2\text{S}(\text{Se})_{4-x}\text{D}_x$ (D=N, P, As). Y.A. Wang^{1,3}, M. Chshiev³, W.H. Butler^{2,5} and A. Gupta^{1,3}. *Dept. of Chemistry, University of Alabama, Tuscaloosa, AL; 2. Dept. of Physics, University of Alabama, Tuscaloosa, AL; 3. MINT Center, University of Alabama, Tuscaloosa, AL*

2:12

FD-02. LEED study of the surface stability of $\text{CrO}_2(110)$ and $\text{CrO}_2(001)$. P.G. Ivanov¹ and K.M. Bussmann¹. *US Naval Research Laboratory, Washington, DC*

2:24

FD-03. X-ray magnetic circular dichroism of CrO_2 (100) and (110) epitaxial films. M. Pathak¹, K. Chetry¹, P.R. LeClair¹, A. Gupta¹ and G.J. Mankey¹. *MINT Center, University of Alabama, Tuscaloosa, AL*

2:36

FD-04. Surface ferromagnetism in antiferromagnetic Cr_2O_3 thin films. X. He¹, Y. Wang¹, N. Wu¹, S. Sahoo¹, K. Belashchenko¹, A. Caruso², E. Vescovo³, P. Dowben¹, A. Gruverman¹ and C. Binck¹. *Physics & Astronomy, University of Nebraska, Lincoln, Lincoln, NE; 2. University of Missouri, Kansas City KS 64110, MO; 3. National Synchrotron Light Source, Upton, NY, NY*

2:48

FD-05. Magnetic and structural properties of half-metallic $\text{Sr}_2\text{FeMoO}_6$ epitaxial films fabricated by ultra-high vacuum sputtering. A.J. Hauser¹, R.A. Ricciardo², A. Genc³, R.E. Williams³, P.M. Woodward², H.L. Fraser³ and F.Y. Yang¹. *Physics, Ohio State University, Columbus, OH; 2. Chemistry, Ohio State University, Columbus, OH; 3. Materials Science and Engineering, Ohio State University, Columbus, OH*

3:00

FD-06. Tunneling magnetoresistance of Fe_3O_4 using hexabromobenzene as insulating tunnel barrier. W. Wang¹ and J. Tang¹. *Department of Physics & Astronomy, Univ. of Wyoming, Laramie, WY*

3:12

FD-07. Extrinsic component of anisotropic magnetoresistance of magnetite thin films. R. Ramos¹, S.K. Arora¹ and I.V. Shvets¹. *School of Physics, Trinity College, Dublin, Ireland*

3:24

FD-08. Amplification magnetoresistance and Hall effect of Fe_3O_4 - SiO_2 -Si structure. X. Wang^{1,2}, Y. Sui^{1,3}, J. Tang², X. Zhang¹, C. Wang¹, Z. Liu¹ and W. Su^{1,3}. *Physics, Harbin Institute of Technology, Harbin, Heilongjiang, China; 2. Physics & Astronomy, University of Wyoming, Laramie, WY; 3. International Center for Materials Physics, Academia Sinica, Shenyang, Liaoning, China*

3:36

FD-09. Field induced resistivity anisotropy in SrRuO₃ films.

Y. Shperber¹, I. Genish¹, J.W. Reiner² and L. Klein¹. *Physics, Bar Ilan University, Ramat-Gan, Israel; 2. Applied Physics, Yale University, New Haven, CT*

3:48

FD-10. Magnetoresistance exceeding 1500% in a thin FeSi film.

N.A. Porter¹ and C.H. Marrows¹. *Condensed Matter, University of Leeds, Leeds, West Yorkshire, United Kingdom*

4:00

FD-11. Composition dependent properties of Fe₃Si films grown on GaAs(113)A substrates.

P.K. Muduli^{1,2}, K.J. Friedland², J. Herfort², H. Schonherr² and K.H. Ploog². *1. Department of Microelectronics and Applied Physics, Royal Institute of Technology, Stockholm, Sweden; 2. Paul-Drude-Institute for Solid State electronics, Hausvogteiplatz 5-7, D-10117, Berlin, Germany*

4:12

FD-12. Magnetic and electrical properties of Ni₅₀Mn₃₅In_{15-x}Si_x Heusler alloys.

A.K. Pathak¹, I. Dubenko¹, S. Stadler¹ and N. Ali¹. *Department of Physics, Southern Illinois University, Carbondale, IL*

THURSDAY
AFTERNOON
2:00

SALON D

Session FE
DOMAINS AND SOFT MAGNETIC
MATERIALS

Leonard Spinu, Chair

2:00

FE-01. Unusual Tubular Domain Structure and Topological

Hysteresis in CeAgSb₂ Single Crystals. *(Invited) R. Prozorov¹, S.L. Bud'ko¹ and P.C. Canfield¹. 1. Department of Physics & Astronomy, Iowa State University and Ames Laboratory, Ames, IA*

2:36

FE-02. Spin configuration of hexagonal shaped ferromagnetic elements in a ring network.

S.Y. Lua^{1,3}, S.S. Kushvaha², Y. Wu², K. Teo² and T. Chong³. *1. NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore, Singapore, Singapore; 2. Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. A*STAR Data Storage Institute, Singapore, Singapore*

2:48

FE-03. Investigations on the Permeability of Thin-film Soft Magnetic Structures.

C. Ruffert¹, M. Bedenbecker¹ and H.H. Gatzert¹. *Institute for Microtechnology, Leibniz Universität Hannover, Garbsen, Germany*

3:00

FE-04. Determination of the Three-Dimensional Magnetic Vector Potential by Lorentz Transmission Electron Microscopy.

(Invited) M. De Graef¹. 1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA

3:36

FE-05. Temperature Stability of Field Induced Anisotropy in Fe,Co-Based Amorphous and Amorphous/Nanocrystalline “Nanocomposites”

P.R. Ohodnicki¹, D.E. Laughlin¹, M.E. McHenry¹ and V. Keylin². *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Magnetics, A Division of Spang & Company, Pittsburgh, PA*

3:48

FE-06. Magnetoimpedance of a Glass Coated Amorphous Microwave.

S. Sinha¹ and K. Mandal¹. *1. Materials Science, S. N. Bose National Centre for Basic Sciences, Kolkata, West Bengal, India*

4:00

FE-07. Field-annealed nanocrystalline Fe₃₈Co₃₈Mo₈B₁₅Cu alloys with low coercivity.

J. Marcin¹, J. Turcanova¹, J. Kovac¹, D. Janickovic², P. Svec² and I. Skorvanek¹. *1. Magnetism, Institute of Experimental Physics Slov. Acad. Sci., Kosice, Slovakia; 2. Institute of Physics, Bratislava, Slovakia*

4:12

FE-08. ‘In-plane’ and ‘out-of-plane’ uniaxial magnetic anisotropy of amorphous precursors and nanocrystalline FeCuNbSiB alloys.

S.N. Kaul¹ and G.A. Basheed¹. *1. Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

4:24

FE-09. Anisotropic Magnetoresistance in single phase and bi-phase microwires.

G. Infante¹, K. Merazzo¹, G. Badini¹, F. Batallán¹ and M. Vázquez¹. *1. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain*

THURSDAY
AFTERNOON
2:00

SALON E

Session FF
SPIN WAVES & RESONANCES

Tim Mewes, Chair

2:00

FF-01. Precession Modes in Exchanged-Coupled Co/Ru/Co Films. Z. Li¹, S. Michalski¹, L. Yue¹, C. Moir^{1,2}, R. Skomski¹ and R.D. Kirby¹. *1. Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE; 2. Physics and Astronomy, University of California - Irvine, Irvine, CA*

2:12

FF-02. Ultrafast Optical Study of Spin Wave Resonance and Relaxation in CoFe/PtMn/CoFe Trilayer Films. Y. Ren¹, C. Wu¹, Y. Gong¹, C. Pettiford² and N.X. Sun². *1. Physics & Physics, Hunter College of the City University of New York, New York, NY; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA*

2:24

FF-03. Search for nonlocal magnetization dynamics in polycrystalline FM/NM/FM trilayers. S. Zohar¹ and W.E. Bailey¹. *1. Columbia University, New York, NY*

2:36

FF-04. Study of magnons in ultrathin Fe films on W(110). Y. Zhang¹, W. Tang^{1,2}, J. Prokop¹, I. Tudosa^{1,3} and J. Kirschner¹. *1. Max Planck Institute of Microstructure Physics, Halle, Germany; 2. School of Physics, Monash University, Clayton, VIC, Australia; 3. University of California, San Diego, CA*

2:48

FF-05. Spin wave dynamics in a Ni₈₀Fe₂₀ antidot lattice. B. Botters¹, S. Neusser¹, K. Nielsch², C.A. Ross³ and D. Grundler¹. *1. Physics Department E10, Technical University Munich, Garching, Bavaria, Germany; 2. Institute of Applied Physics, University Hamburg, Hamburg, Hamburg, Germany; 3. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

3:00

FF-06. Internal Spin-Wave Confinement in Magnetic Nanowires Due to Zig-Zag Shaped Magnetization. J. Topp¹, J. Podbielski¹, D. Heitmann¹ and D. Grundler². *1. Institut fuer Angewandte Physik, Universitaet Hamburg, Hamburg, Germany; 2. Physik-Department, Technische Universitaet Muenchen, Garching b. Muenchen, Germany*

3:12

FF-07. Dispersion and Attenuation in Nano-Structured Magnetostatic Spin Waveguides. A. Kozhanov¹, Z. Griffith¹, M. Rodwell¹, D. Lee², S. Wang², A. Jacob^{3,4} and S. Allen¹. *1. UC Santa Barbara, Santa Barbara, CA; 2. Department of Materials Science and Engineering, Stanford University, Stanford, CA; 3. Technology and Manufacturing Group, Intel Corporation, Santa Clara, CA; 4. Western Institute of Nanoelectronics (WIN), UCLA, Los Angeles, CA*

3:24

FF-08. Spin-Torque Ferromagnetic Resonance Spectroscopy of Permalloy Nanowires. C.T. Boone¹, J. Katine², J. Childress², J. Zhu¹, X. Cheng¹ and I. Krivorotov¹. *1. Physics, University of California, Irvine, Irvine, CA; 2. Hitachi Global Storage, San Jose, CA*

3:36

FF-09. Propagation of spin waves through domain walls in Permalloy thin-film wires: scattering and interference. M. Yan¹, S. Gliga¹, R. Hertel¹ and C.M. Schneider¹. *1. Institute of Solid State Research, Research Centre Jülich, Jülich, Germany*

3:48

FF-10. Edge mode interactions in patterned pseudo spin valves. R.D. McMichael¹. *1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD*

4:00

FF-11. Dissipation of quantized spin waves in nano-scaled magnetic ring structures. H. Schultheiss¹, C.W. Sandweg¹, B. Oby¹, S.J. Hermsdoerfer¹, S. Schaefer¹, V. Tiberkevich², B. Leven¹, A.N. Slavin² and B. Hillebrands¹. *1. Fachbereich Physik und Forschungsschwerpunkt OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, Oakland University, Rochester, MI*

4:12

- FF-12. Nanoengineered Anti-Crossings in Spin-Wave Cavities.** J. Podbielski¹, D. Heitmann¹ and D. Grundler². *1. Institut fuer Angewandte Physik, Universitaet Hamburg, Hamburg, Hamburg, Germany; 2. Physik-Department, Technische Universitaet Muenchen, Garching b. Muenchen, Germany*

4:24

- FF-13. Finite-element computations of resonant modes for small magnetic particles.** G. Miano¹, C. Serpico¹, M. d'Aquino² and C. Forestiere¹. *1. Department of Electrical Engineering, Università degli Studi di Napoli Federico II, Napoli, Italy; 2. Department of Technology, Università di Napoli Parthenope, Napoli, Italy*

4:36

- FF-14. Modification of the thermal spin-wave spectrum in a Ni₈₁Fe₁₉ stripe by a domain wall.** S.J. Hermsdoerfer¹, C.W. Sandweg¹, H. Schultheiss¹, S. Schäfer¹, B. Leven¹ and B. Hillebrands¹. *Fachbereich Physik and Forschungsschwerpunkt OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany*

4:48

- FF-15. Path integral analysis of thermal fluctuations in ferromagnetic nanoparticles.** G. Bertotti¹, C. Serpico², C. Ragusa³, M. d'Aquino⁴, P. Ansalone³ and I. Mayergoyz⁵. *1. INRIM, Torino, TO, Italy; 2. Dept. of Electrical Engineering, University of Naples Federico II, Napoli, NA, Italy; 3. Dept. of Electrical Engineering, Politecnico di Torino, Torino, TO, Italy; 4. Dip. per le Tecnologie, University of Naples Parthenope, Napoli, NA, Italy; 5. Dept. of Electrical and Computer Eng. and UMIACS, University of Maryland, College Park, MD*

THURSDAY
AFTERNOON
2:00

400/402

Session FG
MULTILAYERS, INTERFACES, AND SURFACES

Casey Miller, Chair

2:00

- FG-01. Manipulation of superconductivity by domain wall arrangements in ferromagnet-superconductor hybrids.** L.Y. Zhu¹, T.Y. Chen¹ and C.L. Chien¹. *Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD*

2:12

- FG-02. Adjustable Superconducting Anisotropy in MoGe - Permalloy Hybrids.** G. Karapetrov¹, A. Belkin^{1,2}, V. Novosad¹, M. Iavarone¹ and J.E. Pearson¹. *1. Materials Science Division, Argonne National Lab, Argonne, IL; 2. Physics Division, Illinois Institute of Technology, Chicago, IL*

2:24

- FG-03. Structural and magnetic properties of CoFeB/MgO multilayers.** M. Vadala¹, K. Zhernenkov¹, B. Toperverg¹, H. Zabel¹, H. Kubota² and S. Yuasa². *1. Physics and Astronomy, Ruhr-University Bochum, Bochum, Germany; 2. Nanoelectronics Research Institute, AIST, Tsukuba, Japan*

2:36

- FG-04. The Origin of Biquadratic Coupling in Co/Fe/MgO/Fe(001).** J. Wong¹, Y. Chaing¹, X. Tan¹, Y. Li¹, K. Pi¹, W. Wang¹, H.W. Tom¹ and R.K. Kawakami¹. *1. Department of Physics and Astronomy, University of California, Riverside, Riverside, CA*

2:48

- FG-05. Spatially resolved spectroscopy of MgO-Fe(100)-MgO(100) structure.** J. Lee^{1,2}, C. Krafft² and R.D. Gomez^{1,2}. *1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD*

3:00

- FG-06. Entropy change for magnetic phase transition in CoNi/Gd and CoFe/Gd nanolayers.** M.R. Hossu¹, Y. Hao² and A.R. Koymen¹. *1. Department of Physics, The University of Texas at Arlington, Arlington, TX; 2. Department of Material Science and Engineering, The University of Texas at Arlington, Arlington, TX*

3:12

- FG-07. X-Ray Evidence for Mesoscopic Relaxations in Cobalt Nanoislands on Cu(001).** H.L. Meyerheim¹, O. Mironets¹, C. Tusche¹, V.S. Stepanyuk¹, P. Zschack², H. Hong³, N. Jeutter⁴, R. Felici⁴ and J. Kirschner¹. *1. Max-Planck-Institut f. Mikrostrukturphysik, Halle, Germany; 2. APS Argonne National Laboratory, Argonne, IL 60439, IL; 3. University of Illinois at Urbana Champaign, Urbana, IL 61801, IL; 4. European Synchrotron Radiation Facility, F-38043 Grenoble, France*

3:24

FG-08. Characterization of magnetic interface roughness and magnetic domain structure in a magnetic multilayer using soft x-ray resonant magnetic scattering. *D.R. Lee¹, J. Park², Y. Choi³, J.W. Freeland³ and J.S. Jiang⁴*. *1. Beamline Division, Pohang Accelerator Laboratory, Pohang, Gyeongbuk, South Korea; 2. Department of Physics, Pohang University of Science and Technology, Pohang, Gyeongbuk, South Korea; 3. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 4. Materials Science Division, Argonne National Laboratory, Argonne, IL*

3:36

FG-09. Chirality in Dy/Y multilayer system. *D. Lott¹, S.V. Grigoriev², Y.O. Chetverikov² and A. Schreyer¹*. *1. GKSS research center, Geesthacht, Germany; 2. Petersburg Nuclear Physics Institute, Gatchina, Russian Federation*

3:48

FG-10. Exchange coupling in zero-magnetization ferromagnet based systems : a selective XMCD study. *K. Dumesnil¹, M. Ungureanu¹, C. Dufour¹, F. Wilhelm² and A. Rogalev²*. *1. LPM, Vandoeuvre les Nancy, France; 2. ESRF, Grenoble, France*

4:00

FG-11. Realization of low-loss dual tunable ferrite-ferroelectric layered structures for microwave applications. *J. Das¹, Y. Song¹, N. Mo¹ and C.E. Patton¹*. *1. Physics, Colorado State University, Fort Collins, CO*

4:12

FG-12. The role of the spin-density wave and disorder in the density of states of sputtered Cr films. *D.W. Cooke¹, D.R. Queen¹, Z. Boekelheide¹ and F. Hellman¹*. *1. Physics, University of California, Berkeley, CA*

4:24

FG-13. Temperature-dependence x-ray magnetic circular dichroism in ultra thin film Fe on GaAs(001) at the Fe L_{2,3} edges. *N. Wang¹, J. Thompson¹, W. Guan¹, W. Li¹, T. Shen¹, S.A. Morton² and E. Arenholz²*. *1. Institute for Materials Research, University of Salford, Manchester, United Kingdom; 2. Advanced Light Source Division, Lawrence Berkeley National Laboratory, Berkeley, CA*

4:36

FG-14. The effect of organic under-layer and thickness on morphology and magnetic properties of sputtered Permalloy films. *S.N. Ahmad¹ and S.A. Shaheen¹*. *1. Physics, Florida State University, Tallahassee, FL*

4:48

FG-15. Surface Effects in Nanoclusters and Cluster-Assembled Thin Films. *A. Pratt¹, C.W. Woffinden¹, S.P. Tear¹ and C. Binns²*. *1. Department of Physics, University of York, York, YO10 5DD, United Kingdom; 2. Department of Physics and Astronomy, University of Leicester, Leicester, LE1 7RH, United Kingdom*

**THURSDAY
AFTERNOON
2:00**

410

**Session FH
RARE-EARTH TRANSITION METAL BORIDES II**
Matt Kramer, Chair

2:00

FH-01. The coercivity and grain boundary chemistry of Nd-Fe-B HDDR powder. *W. Li¹, T. Ohkubo¹, K. Hono¹, T. Nishiuchi² and S. Hirosawa²*. *1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan; 2. NEOMAX Company, Hitachi Metals, Osaka, Japan*

2:12

FH-02. Correlation of the Energy Product with Evolution of the Nanostructure in the Y,Dy,Nd-(Fe, Co)-B Magnetic Alloy. *Y.Q. Wu¹, W. Tang¹, M.J. Kramer^{1,2}, K.W. Dennis¹, N. Oster^{1,2}, R.W. McCallum^{1,2} and I.E. Anderson^{1,2}*. *1. Ames Laboratory of USDOE, Iowa State University, Ames, IA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA*

2:24

FH-03. The effect of oxygen in a Nd coat on the surface coercivity of Nd-Fe-B sintered magnets. *T. Fukagawa¹, S. Hirosawa¹, T. Ohkubo² and K. Hono¹*. *1. Magnetic Materials Research Laboratory, Hitachi Metals, Shimamoto Mishima, Osaka, Japan; 2. Magnetic Materials Center, National Institute for Material Science, Tsukuba, Ibaraki, Japan*

2:36

- FH-04. Improvement of size and magnetic properties of $\text{Nd}_{9.5}\text{Fe}_{72.5}\text{Ti}_3\text{B}_{15}$ bulk magnets by Zr or Nb substitution for Ti.** *H. Chang*^{1,2}, *Y.T. Cheng*¹, *C.W. Chang*¹, *C.C. Hsieh*¹, *Z.H. Guo*¹, *W.C. Chang*¹, *A.C. Sun*³ and *Y.D. Yao*⁴. *1. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Department of Physics, National Taiwan University, Taipei, Taiwan; 4. Department of Materials Engineering, Tatung University, Taipei, Taiwan*

2:48

- FH-05. RE-Fe-B Die Upset Magnets with Increased Electrical Resistivity.** *M. Marinescu*¹, *A.M. Gabay*², *J. Liu*¹ and *G.C. Hadjipanayis*². *1. Electron Energy Corporation, Landisville, PA; 2. Department of Physics & Astronomy, University of Delaware, Newark, DE*

3:00

- FH-06. First-Principles Calculation of the Crystal Field Parameter near the Surfaces and the Interfaces of $\text{Nd}_2\text{Fe}_{14}\text{B}$.** *H. Moriya*^{1,2}, *H. Tsuchiura*¹ and *A. Sakuma*¹. *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. Mechanical Engineering Research Laboratory, Hitachi, Ltd., Hitachinaka, Japan*

3:12

- FH-07. Magnetic properties and microstructure of gas atomized $\text{MRE}_2(\text{Fe}, \text{Co})_{14}\text{B}$ powder with ZrC addition ($\text{MRE}=\text{Nd}+\text{Y}+\text{Dy}$).** *W. Tang*¹, *Y.Q. Wu*¹, *K.W. Dennis*¹, *N. Oster*¹, *M.J. Kramer*¹, *I.E. Anderson*¹ and *R.W. McCallum*¹. *Iowa State University, Ames, IA*

3:24

- FH-08. $\text{Nd}_2\text{Fe}_{14}\text{B}$ /soft magnetic wires nanocomposite magnets with enhanced properties.** *N. Lupu*¹, *M. Grigoras*¹, *M. Lostun*¹ and *H. Chiriac*¹. *1. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania*

3:36

- FH-09. Relationship Between the Supplied Electrical Energy and the Magnetic Properties of $\text{Fe}_3\text{B}/\text{Nd}_2\text{Fe}_{14}\text{B}$ Bulk Nanocomposite Magnets Prepared by Spark Plasma Sintering.** *T. Fukuzaki*¹, *K. Tanaka*², *K. Nishio*² and *R. Tamura*^{2,1}. *1. Polyscale Technology Research Center, Tokyo University of Science, Noda-shi, Chiba-ken, Japan; 2. Department of Materials Science and Technology, Tokyo University of Science, Noda-shi, Chiba-ken, Japan*

3:48

- FH-10. Crystallization Behavior under Pressure of $(\text{Nd}, \text{Pr})_{13}\text{Fe}_{80}\text{Nb}_1\text{B}_6$ melt-spun ribbons.** *X. Liu*¹, *J. Pan*¹, *P. Guo*^{1,2} and *W. Zhang*¹. *1. Ningbo University, Ningbo, China; 2. Ningbo Institute of Materials Science of Technology and Engineering, Ningbo, Zhejiang, China*

4:00

- FH-11. Graded Permanent Magnets.** *R. Skomski*¹, *G.C. Hadjipanayis*² and *D.J. Sellmyer*¹. *1. Nebraska Center for Materials and Nanoscience and Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE*

4:12

- FH-12. Crystallographic and magnetic properties of SrM film on various underlayers and substrates.** *A. Kaewrawang*¹, *G. Ishida*¹, *X. Liu*¹ and *A. Morisako*¹. *1. Information Engineering, Shinshu University, Nagano, Nagano, Japan*

4:24

- FH-13. Grain-size dependent correlation of spin misalignment in nanocrystalline Gadolinium.** *F. Döbrich*¹, *M. Elmas*¹, *A. Ferdinand*¹, *J. Markmann*¹, *M. Sharp*², *J. Kohlbrecher*³, *R. Birringer*¹ and *A. Michels*¹. *1. Technical Physics, Universität des Saarlandes, Saarbrücken, Germany; 2. GKSS Forschungszentrum, Geesthacht, Germany; 3. Paul Scherrer Institute, CH-5232 Villigen PSI, Switzerland*

4:36

- FH-14. Grain-size-dependent magnetic properties of nanocrystalline terbium.** *A. Michels*¹, *S. Philippi*¹, *J. Markmann*¹ and *R. Birringer*¹. *1. Technische Physik, Universität des Saarlandes, Saarbruecken, Germany*

THURSDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session FP
MAGNETIC TUNNEL JUNCTIONS AND SPIN INJECTION
(POSTER SESSION)
Marius Costache, Chair
John Philip, Chair

- FP-01. Effect of spin dependent interface barrier strength on Andreev reflection in superconductor-ferromagnet junction.** *S.R. Bakaul*^{1,2}, *K. Li*³, *G. Han*² and *Y. Wu*¹. *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Spintronic, Media and Interface, Data Storage Institute, Singapore, Singapore; 3. Industrial Materials Institute, Quebec, QC, Canada*

- FP-02. Electric manipulation of spin relaxation using spin-Hall effect.** K. Ando¹, S. Takahashi², J. Ieda², S. Maekawa² and E. Saitoh¹. *Applied Physics And Physico-Informatics, Keio University, Yokohama, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*
- FP-03. Thermo-spin effects in ferromagnetic/paramagnetic metallic films.** K. Uchida¹, K. Harii¹, T. Ota¹ and E. Saitoh¹. *Department of Applied Physics & Physico-Informatics, Keio University, Yokohama, Japan*
- FP-04. Local generation and detection of spin currents in a nanostructured NiFe system.** K. Sasage¹, K. Ando¹, K. Harii¹ and E. Saitoh¹. *Applied Physics and Physico-Informatics, Keio University, Yokohama, Kanagawa, Japan*
- FP-05. Correlation effect on the half-metallicity of the Co₂FeSi full Heusler alloy ; bulk and surfaces.** M. Kim¹ and J. Lee². *Energy System Research, Ajou University, Suwon, South Korea; 2. Physics, Inha University, Incheon, South Korea*
- FP-06. Electrical Spin Injection and Detection in Semimetallic and Semiconducting Films.** K. Lee¹, W. Lee², J. Chang¹, S. Han¹, K. Shin¹, W. Jeung¹ and M. Johnson³. *1. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of Materials Science and Engineering, Yonsei University, Seoul, South Korea; 3. Naval Research Laboratory, Washington, DC*
- FP-07. Rectifying characteristics and transport behavior of La_{0.9}Hf_{0.1}MnO₃ / Nb-doped SrTiO₃ heteroepitaxial junctions.** L. Wang¹ and J. Gao¹. *Physics, The University of Hong Kong, Hong Kong, China*
- FP-08. Orientation dependence of Schottky barrier heights for La_{0.6}Sr_{0.4}MnO₃/Nb:SrTiO₃ heterojunctions.** M. Minohara¹, Y. Furukawa², R. Yasuhara², H. Kumigashira^{2,3} and M. Oshima^{1,4}. *1. Graduate School of Arts and Sciences, The University of Tokyo, Tokyo, 153-8902, Japan; 2. Department of Applied Chemistry, The University of Tokyo, Tokyo, 113-8656, Japan; 3. JST-CREST, UTSRRO, The University of Tokyo, Tokyo, 113-8656, Japan; 4. Department of Applied Chemistry, JST-CREST, UTSRRO, The University of Tokyo, Tokyo, 113-8656, Japan*
- FP-09. Magneto- and Electroresistance of La_{0.7}Sr_{0.3}MnO₃/Nb(1.0%):SrTiO₃ junctions.** Y. Chen^{1,2} and M. Ziese². *1. University of Electronic Science and Technology of China, Chengdu, China; 2. University of Leipzig, Leipzig, Germany*
- FP-10. Spin Polarized Transport in an Asymmetric Ferromagnetic/Quantum Dot/Ferromagnetic System.** M. Ma¹, M. Bin Adul Jalil¹ and S. Tan². *1. Department of Electrical and Computer Engineering, Information Storage Materials Laboratory, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

- FP-11. Field-annealing effect on magnetostriction and tunneling magnetoresistance of Co/AlO_x/Co/IrMn junctions.** Y. Chen¹. *Department of Materials Science and Engineering, I-Shou University, Kaohsiung, Taiwan*
- FP-12. Study of Correlation in Tunneling Magnetoresistance with Infrared Magneto-transmission Effect in Magnetic Tunneling Junction Films.** J.R. Scheuermann¹, S.T. Malak¹, Z. Wen², X. Han² and J. Wang¹. *1. Department of Physics, Applied Physics, and Astronomy, Binghamton University, Binghamton, NY; 2. State Key Laboratory of Magnetism, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Science, Beijing 100190, China*
- FP-13. Spin-transport in the magnetic semiconductor EuO and its integration with Si(100).** M. Müller¹, G. Miao¹ and J.S. Moodera¹. *Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, MA*
- FP-14. Current-induced resistance oscillation in (Ga,Mn)As-based double-barrier magnetic tunnel junctions.** J. Okabayashi¹, M. Watanabe¹ and J. Yoshino¹. *Department of Physics, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan*
- FP-15. EuO spin filter thin films by pulsed laser deposition.** J. Beukers¹, A. Brinkman¹ and H. Hilgenkamp¹. *MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*
- FP-16. Manganite-based Magnetic Tunnel Junction with Piezoelectric Barrier.** A.K. Pradhan¹, R. Mundle¹, R. Konda¹, D. Sahu², J. Huang² and D. Nikonov³. *1. Center for Materials research, Norfolk State University, Norfolk, VA; 2. Department of Materials Science & Engineering, National Cheng Kung University, Tainan, Taiwan; 3. Intel Corp., Santa Clara, CA*
- FP-17. Tunable Coupling in CrO₂ Via RuO₂ Layers.** H.R. Sims^{1,2} and W.H. Butler^{1,2}. *1. Physics, University of Alabama, Tuscaloosa, AL; 2. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL*
- FP-18. XMCD analysis of LSMO/XTO interfaces (X-Sr, Ba).** D. Mazumdar¹ and A. Gupta^{1,2}. *1. MINT center, University of Alabama, Tuscaloosa, AL; 2. Department of Chemistry, University of Alabama, Tuscaloosa, AL*

THURSDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session FQ
**THIN FILM GROWTH AND
CHARACTERIZATION
(POSTER SESSION)**

Yaowu Hao, Chair

- FQ-01. Anomalous growth-mode transition during the initial growth of epitaxial SrRuO₃ films on single-terminated SrTiO₃ (111).** J. Chang¹, Y. Park¹, J. Lee¹ and S. Kim¹. *1. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea*

- FQ-02. Preparation and structure characterization of SmCo₅(0001) epitaxial thin films grown on Cu(111) underlayers.** *M. Ohtake¹, Y. Nukaga¹, F. Kirino² and M. Futamoto¹. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Graduate School of Fine Arts, Tokyo National University of Fine Arts and Music, Tokyo, Japan*
- FQ-03. Magnetic Phase Diagram of Ultrathin Fe-Films on Cu(001) obtained using SEMPA in Magnetic DC Field.** *N. Saratz¹, A. Lichtenberger¹, T. Bähler¹, U. Ramsperger¹ and D. Pescia¹. Laboratory for Solid State Physics, ETH Zurich, Zürich, Switzerland*
- FQ-04. Iron-Nitride Thin Films with Different Phases.** *N. Ji¹, Y. Xu¹, X. Liu¹ and J.P. Wang¹. The Center for Micromagnetics and Information Technologies (MINT) and Department of Electrical and Computer Engineering, University of Minnesota,, Minneapolis, MN*
- FQ-05. Structure and magnetic properties of Ni and NiFe thin films epitaxially grown on MgO(100) single-crystal substrate.** *T. Tanaka¹, M. Ohtake¹, F. Kirino², N. Inaba³ and M. Futamoto¹. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Graduate School of Fine Arts, Tokyo National University of Fine Arts and Music, Tokyo, Japan; 3. Department of Electrical and Electronic Engineering, Yamagata University, Yonezawa, Japan*
- FQ-06. Microstructure and magnetic properties of FeCo epitaxial thin films grown on MgO single-crystal substrates.** *K. Shikada¹, M. Ohtake¹, F. Kirino² and M. Futamoto¹. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Graduate School of Fine Arts, Tokyo National University of Fine Arts and Music, Tokyo, Japan*
- FQ-07. Growth of ultrathin metal films on molecule-adsorbed MgO surface.** *T. Kojima¹, K. Oka¹, M. Mizuguchi¹, S. Mitani¹ and K. Takanashi¹. Institute for Materials Research, Tohoku University, Sendai, Japan*
- FQ-08. Growth and transport properties of ferrimagnetic beta-Manganese.** *W. Feng¹, Y. Hwang¹, J. Kim¹, J. Choi¹, D. Dung¹ and S. Cho¹. Department of Physics, University of Ulsan, Ulsan, South Korea*
- FQ-09. Manipulation of crystal structure and dynamic behavior in GaAs/Ag/Fe system with an ultrathin Fe seed layer.** *C. Yu¹, C. Tsai² and Y. Yao³. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Department of Electrical and Computer Engineering, University of California, Irvine, CA; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan*
- FQ-10. Hybrid Fe/GaN(0001) Epitaxial System for Spintronics.** *J. Wong¹, W. Zhang¹, I.G. Will¹, Y. Xu¹, X. Cui², Z. Tao², X. Li², Z. Xie² and R. Zhang². Spintronics and Nanodevice Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. Key Laboratory of Advanced Photonic and Electronic Materials, Department of Physics, Nanjing University, Nanjing, China*

- FQ-11. Effect of oxygen exposure on the magnetic properties of ultrathin Co/Si(111) films.** *H. Chang^{1,2}, J.S. Tsay³, W.Y. Chang³, K.T. Huang¹ and Y.D. Yao⁴. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics, Tunghai University, Taichung, Taiwan; 3. Department of Physics, National Taiwan Normal University, Taipei, Taiwan; 4. Department of Materials Engineering, Tatung University, Taipei, Taiwan*
- FQ-12. Effects of strain on magnetic and magnetotransport properties of Co films on plastic substrates.** *Y. Chen^{1,2}, J. McCord³, R. Kaltofen², J. Freudenberger³ and O. Schmidt². University of Electronic Science and Technology of China, Chengdu, China; 2. Institute for Integrative Nanosciences, IFW Dresden, Dresden, Germany; 3. Institute for metallic materials, IFW Dresden, Dresden, Germany*
- FQ-13. Magnetic states for V(001) bcc surface: an ab initio study.** *R. Felix-Medina¹, M.A. Leyva-Lucero¹ and S. Meza Aguilar¹. Escuela de Ciencias Fisico-Matematicas, Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico*
- FQ-14. Exchange coupling in a ferromagnetic Fe/EuS bilayer thin film.** *V.V. Volobuev¹, A.N. Stetsenko², A.Y. Sipatov² and J. van Lierop¹. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada; 2. National Technical University "Kharkov Polytechnical Institute", Kharkov, Ukraine*

THURSDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session FR
**NANOPARTICLES AND NANOSTRUCTURES
(POSTER SESSION)**

Cindi Dennis, Co-Chair
JW Harrell, Co-Chair

- FR-01. Small angle X-ray and neutron scattering study of disordered and periodic 3-D magnetic protein arrays.** *O. Kasyutich¹, F. Ogrin², C.D. Dewhurst³, D. Tatchev^{4,5}, A. Hoell⁴ and W. Schwarzacher¹. Physics, University of Bristol, Bristol, United Kingdom; 2. School of Physics, University of Exeter, Exeter, United Kingdom; 3. Institut Laue-Langevin, Grenoble, France; 4. Helmholtz Centre Berlin for Materials and Energy, Berlin, Germany; 5. Institute of Physical Chemistry, Sofia, Bulgaria*
- FR-02. Electron Magnetic Resonance Spectroscopy and SQUID Magnetometry of Iron Oxide Protein Cages.** *R.J. Usselman¹, M. Klem², M. Young², T. Douglas², D. Singel², S. Russek¹ and R. Goldfarb¹. Magentics Group, NIST, Boulder, CO; 2. Department of Chemistry and Biochemistry, Montana State University, Bozeman, MT*
- FR-03. AC susceptibility studies of magnetic relaxation in nanoparticles of Ni dispersed in silica.** *V. Singh¹, J. Bonevich² and M.S. Seehra¹. Physics Department, West Virginia University, Morgantown, WV; 2. National Institute of Standards and Technology, Gaithersburg, MD*

- FR-04. Synthesis and characterization of magnetic nanoparticles embedded in PVP nanofibre film by electrospinning.** C. Lin¹, M. Chung² and T. Tsai². *1. Institute of Nanotechnology and Department of Mechanical Engineering, Southern Taiwan University, Yung-Kang, Taiwan; 2. Department of Electronic Engineering, Southern Taiwan University, Yung-Kang, Taiwan*
- FR-05. High speed magneto-optical valve: Rapid control of the optical transmittance of aqueous solutions by magnetically induced self-assembly of superparamagnetic particle chains.** S. Park^{1,5}, E. Law², H. Handa^{3,4} and A. Sandhu^{1,2}. *1. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Tokyo, Japan; 2. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan; 3. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan; 4. Integrated Research Institute, Tokyo Institute of Technology, Tokyo, Japan; 5. Tokyo Tech Global COE Program on Evolving Education and Research Center For Spatio-Temporal Biological Network, Tokyo Institute of Technology, Tokyo, Japan*
- FR-06. Facile Fabrication of Magnetism-controlled Superparamagnetic Nanocomposites for Selective Magnetic Separation.** S. Park^{1,4}, D. Yang¹, T. Lim¹, J. Lee², S. Haam², Y. Huh³, J. Lee⁴ and S. Lee¹. *1. Dept. of Chemical and Bio Engineering, Kyungwon University, Seongnam, Gyeonggi-do, South Korea; 2. Dept. of Chemical Engineering, Yonsei University, Seoul, South Korea; 3. Dept. of Radiology, Yonsei University, Seoul, South Korea; 4. Advanced Energy Materials Processing Lab., Korea Institute of Science and Technology, Seoul, South Korea*
- FR-07. Magnetic Properties of core-shell structured Ni Nanoparticles.** S. Park¹, Y. Jo¹, M. Jung², S. Yoon³, H. Baik³, J. Choi³, J. Kim⁴, J. Park⁴, K. Lee⁵ and J. Lee⁵. *1. Korea Basic Science Institute, Daejeon, South Korea; 2. Sogang University, Seoul, South Korea; 3. Samsung Advanced Institute of Technology, Suwon, South Korea; 4. Pohang University of Science and Technology, Pohang, South Korea; 5. Korea University, Seoul, South Korea*
- FR-08. Fabrication and magnetic properties of 3-dimensional arrays of elongated magnetic particles.** L.M. Malkinski^{1,2}, M. Tanase², C. Spinu², J. Lim², J. Wiley², F. Moolekamp III¹, K. Stokes^{1,2}, P. Schilling³ and P. Young⁴. *1. Department of Physics, University of New Orleans, New Orleans, LA; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 3. Department of Mechanical Engineering, University of New Orleans, New Orleans, LA; 4. Department of Physics, Louisiana State University, Baton Rouge, LA*
- FR-09. Size effects in ordered arrays of magnetic nanotubes: Pick your reversal mode.** J. Bachmann^{1,2}, J. Escrij^{3,2}, K. Reckwell¹, J.M. Montero Moreno^{4,1}, J. Jing², D. Görlitz¹, D. Altbir³ and K. Nielsch¹. *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. Max Planck Institute of Microstructure Physics, Halle, Germany; 3. Physics Department, University of Santiago, Santiago de Chile, Chile; 4. Electrodeposition and Corrosion Laboratory, University of Barcelona, Barcelona, Spain*

- FR-10. Magnetization dynamics in magnetic core-shell nanowires.** J. Lim^{1,2}, H.N. Pham^{1,3}, O.C. Trusca^{1,3}, A. Sarwar¹, D. Cimpoesu¹, J.B. Wiley^{1,2} and L. Spinu^{1,3}. *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 2. Department of Chemistry, University of New Orleans, New Orleans, LA; 3. Department of Physics, University of New Orleans, New Orleans, LA*
- FR-11. Structure and magnetic properties in hexagonal arrays of ferromagnetic nanowires.** E. Padrón Hernández^{1,2}, A. Azevedo¹ and S.M. Rezende¹. *1. Departamento de Física - UFPE, Recife, Brazil; 2. Laboratório de Microscopia e Microanálise - CETENE, Recife, Brazil*
- FR-12. The first ternary intermetallic Heusler nanoparticles: Co₂FeGa.** L. Basil¹, G. Fecher² and C. Felser². *1. Analytical and Inorganic Chemistry, Johannes Gutenberg-Universität, Mainz, Rheinland-pfalz, Germany; 2. Johannes Gutenberg-Universität Mainz, Institut für Physik, Mainz, Rheinland-pfalz, Germany; 3. University of California, Department of Materials Science and Engineering, Berkeley, CA*
- FR-13. Synthesis and magnetic properties of gold coated iron oxide nanoparticles.** S. Pal¹, M.B. Morales¹, M.H. Phan¹, P. Mukherjee¹ and H. Srikanth¹. *1. Center for Integrated Functional Materials & Department of Physics, University of South Florida, Tampa, FL*
- FR-14. Synthesis and Magnetic Properties of Multifunctional CoPtAu Nanoparticles.** J. Min¹, J. Wu², A. Song¹ and Y. Kim¹. *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, Seoul, South Korea*
- FR-15. NiO nanoparticles dispersed in porous Vycor glass: Effect of the particle size distribution and applied field value.** W.C. Nunes¹, N.M. Carneiro², R.P. Borges¹, M. Godinho^{1,3} and I.O. Mazali². *1. Centro de Física da Matéria Condensada, Universidade de Lisboa, Campo Grande, Lisboa, Portugal; 2. Instituto de Química, Universidade Estadual de Campinas - UNICAMP, Campinas, SP, Brazil; 3. Departamento de Física, Universidade de Lisboa, Campo Grande, Lisboa, Portugal*
- FR-16. Characterization of magnetic properties and magnetic state change of α -Fe and ϵ -Fe₃N nanoparticles.** C. Choi¹, J. Lee¹, H. Lee¹, X. Dong², D. Li³, Z. Zhang³ and Y. Hong⁴. *1. Korea Institute of Materials Science, Changwon, South Korea; 2. Dalian University of Technology, Dalian, China; 3. Institute of Metal Research, Shenyang, China; 4. University of Alabama, Tuscaloosa, AL*
- FR-17. γ -Fe₂O₃ nanoparticle intrinsic magnetism dependence on iron-ion availability during synthesis.** E. Skoropata¹, R.D. Desautels¹ and J. van Lierop¹. *1. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

FR-18. Influence of the interactions in the magnetic behaviour of Fe-Ag thin films above the percolation limit. *J. Alonso*¹, M. Fernández-Gubieda¹, L. Fernández Barquín², M. Del Pedro², J. Barandiarán¹, I. Orue³ and A. Svalov¹. *Electricity and Electronics, UPV/EHU, Leioa, Vizcaya, Spain; 2. CITIMAC, Santander, Spain; 3. SGIKER, UPV/EHU, Leioa, Vizcaya, Spain*

FR-19. Morphological investigation of mono-dispersed manganese ferrite nanoparticles by impedance measurements. *S. Yoon*¹, M. Gonzales-Weimuller², Y. Lee² and K.M. Krishnan². *Department of Physics, Gunsan National University, Gunsan, South Korea; 2. Department of Material Science and Engineering, University of Washington, Seattle, WA*

FR-20. Size dependent Ferrites nano-particles; Application to Microwave Devices. B.K. Kuan¹, K. Lingam², S.K. Mishra², V. Veerakumar¹, R.E. Camley¹ and Z. Celinski¹. *Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Department of Physics, University of Memphis, Memphis, TN*

FR-21. Fabrication of Fe nanoparticles with sizes ranging from 30 nm to 170 nm by gas flow sputtering. *H. Aoshima*¹, H. Suzuki¹, T. Kobayashi¹, H. Sakuma¹ and K. Ishii¹. *Research Division of Functional Materials Design, Utsunomiya University, Utsunomiya, Japan*

FR-22. Orientation Control and Fixation of $L1_0$ -FePt Nanoparticles on Au-Covered Si Substrates. *Y. Tamada*¹, S. Yamamoto², S. Nasu¹ and T. Ono¹. *Institute for Chemical Research, Kyoto University, Kyoto, Japan; 2. Institute for Integrated Cell-Material Sciences, Kyoto University, Kyoto, Japan*

THURSDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session FS

MAGNETIC SEMICONDUCTORS: OXIDES (POSTER SESSION)

Byoung-Chul Min, Chair
Hidekazu Saito, Chair

FS-01. Intrinsic point defect driven ferromagnetism in wurtzite zinc oxide. *X. Zuo*¹, S. Yoon², A. Yang², C. Vittoria² and V.G. Harris². *College of Information Technical Science, Nankai University, Tianjin, Tianjin, China; 2. Department of Electrical and Computer Engineering, northeastern University, Boston, MA*

FS-02. Room-temperature Ferromagnetic $Zn_{0.98}Co_{0.02}O$ Diluted Magnetic Semiconducting Thin Films by Hydrothermal Epitaxy. *Y. Zhang*¹, S. Li¹ and G. Goh². *The University of New South Wales, Sydney, NSW, Australia; 2. Institute of Materials Research and Engineering, Singapore, Singapore*

FS-03. Enhancement of Room Temperature Ferromagnetism in C-doped ZnO Films by Nitrogen Codoping. *J. Yi*¹, L. Shen³, L. Van², S. Thongmee¹, J. Ding¹ and Y. Feng³. *Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Nanoscience and Nanotechnology Initiative, National University of Singapore, Singapore, Singapore; 3. Physics, National University of Singapore, Singapore, Singapore*

FS-04. Room Temperature Ferromagnetism in ZnO Doped with Al. *Y. Ma*¹, J. Yi¹, J. Ding¹, L. Van¹ and L. Zhang¹. *Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

FS-05. High-temperature ferromagnetism in Co-doped ZnO nanorods prepared by thermal diffusion. *L.T. Phan*¹, V. Roger¹, D. Cherns¹, D.H. Nguyen² and S. Yu³. *University of Bristol, Bristol, United Kingdom; 2. Vietnam Academy of Science and Technology, Hanoi, Viet Nam; 3. Chungbuk National University, Cheongju, South Korea*

FS-06. Structural and magnetic properties of Fe-doped ZnO films. *R.P. Borges*¹, A.O. Ankiewicz², J.S. Martins², A. Saraiva¹, E.R. Zhiteytsev², A.P. Gonçalves^{1,3}, P. Ferreira⁴, N.A. Sobolev² and M. Godinho^{1,5}. *CFMC-Universidade de Lisboa, Campo Grande, Ed. C8, 1749-016 Lisboa, Portugal; 2. I3N and Departamento de Física, Universidade de Aveiro, 3810-193 Aveiro, Portugal; 3. Departamento de Química, Instituto Tecnológico e Nuclear, 2686-953 Sacavém, Portugal; 4. Departamento de Engenharia Cerâmica e do Vidro, CICECO, Universidade de Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal; 5. Departamento de Física, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal*

FS-07. Room temperature ferromagnetism of conductive and insulating (Al,Co) doped ZnO thin films. *Y. Lee*¹, *J. Lee*¹, J. Min¹, C. Yu² and J. Lee³. *Physics, National Cheng Kung University, Tainan, Taiwan; 2. Applied Physics, National Chiayi University, Chiayi, Taiwan; 3. Applied physics, National Ping Tung University of Education, Ping Tung, Taiwan*

FS-08. Magnetic and electronic properties of Ni-doped ZnO. *W.R. Lopez*¹, R. González¹ and J.A. Rodríguez². *Physic, Universidad del Norte, Barranquilla, Atlantico, Colombia; 2. Physic, Universidad Nacional de Colombia, Bogotá, Cundinamarca, Colombia*

FS-09. Electrical transport and ac conductivity properties of hydrogenated annealing V-doped ZnO. *S. Liu*¹, C. Lin² and J.A. Huang¹. *Physics, National Cheng-Kung University, Tainan, Taiwan; 2. Mechanical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan*

FS-10. Microwave-absorption properties of Co-doped ZnO dilute magnetic semiconductor. *M. Yang*¹, M. Tung¹ and C. Fu². *Industrial Technology Research Institute, Hsinchu, Taiwan; 2. National Taiwan University, Taipei, Taiwan*

- FS-11. Origin of large positive magnetoresistance in epitaxial Co-doped ZnO ferromagnetic semiconductor.** Y. Tian^{1,3}, Q. Cao¹, J. Deng¹, L. Mei^{1,2}, S. Yan^{1,2} and Y. Qiang³. *1. School of Physics, Shandong University, Jinan, Shandong, China; 2. National Key Laboratory of Crystal Materials, Shandong University, Jinan, Shandong, China; 3. Department of Physics, University of Idaho, Moscow, ID*
- FS-12. Room temperature anomalous Hall effect in Co doped ZnO thin films in the semiconductor regime.** H. Hsu¹, C. Lin¹, H. Chou¹ and J. Huang². *1. Department of Physics, National Sun Yat-sen University, Kaohsiung, Taiwan; 2. Department of Physics, National Cheng Kung University, Tainan, Taiwan*
- FS-13. Point defects and magnetic properties of Cu-doped ZnO.** Y. Kim¹ and Y. Chung¹. *1. Department of Materials Science and Engineering, Hanyang University, Seoul, South Korea*
- FS-14. The inducement for ferromagnetism in ZnCoO nano-crystalline powder fabricated by sol-gel method.** S. Lee¹, Y. Cho², S. Kim³, S. Kim¹ and S. Jeong^{1,3}. *1. Department of Nano Fusion Technology, Pusan National University, Miryang, South Korea; 2. Research Center for Dielectric and Advanced Matter Physics, Pusan National University, Busan, South Korea; 3. BK21 Team of Nano Fusion Technology, College of Nanoscience and Nanotechnology, Pusan National University, Miryang, South Korea*
- FS-15. Effect of Al and Sb doping on the magnetic properties of ZnMnO and ZnCoO.** G.D. Varma¹ and V.K. Sharma¹. *1. Physics, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India*
- FS-16. Study of the magnetic transition in bulk Zn_{0.9}Co_{0.1}O.** M.E. Mercurio¹, A.W. Carbonari¹, M.R. Cordeiro¹ and R.N. Saxena¹. *1. CRPq, IPEN-CNEN/SP, Sao Paulo, Brazil*
- FS-17. Nanosized superparamagnetic precipitates in cobalt-doped ZnO.** M. Opel¹, K. Nielsen¹, S. Bauer¹, S.B. Goennenwein¹, J.C. Cezar², D. Schmeisser³, J. Simon⁴, W. Mader⁴ and R. Gross^{1,5}. *1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. European Synchrotron Radiation Facility, Grenoble, France; 3. Angewandte Physik II, Brandenburgische Technische Universität, Cottbus, Germany; 4. Institut für Anorganische Chemie, Rheinische Friedrich-Wilhelms-Universität, Bonn, Germany; 5. Physik-Department, Technische Universität München, Garching, Germany*
- FS-18. Structural and magnetic properties of chemically synthesized Fe doped ZnO.** S. Kumar¹, Y.J. Kim¹, B.H. Koo¹ and C.G. Lee¹. *1. School of Nano & Advanced Materials Engineering, Changwon National University, Changwon, Gyeongsangnam, South Korea*
- FS-19. Oscillation of exchange coupling in Co-doped ZnO nanocluster films.** Y. Tian^{1,2}, R. Souza¹, S. Yan² and Y. Qiang¹. *1. Department of Physics, University of Idaho, Moscow, ID; 2. School of Physics, Shandong University, Jinan, Shandong, China*

- FS-20. Ferromagnetism of manganese-doped indium tin oxide films deposited on polyethylene naphthalate substrates.** T. Nakamura¹, S. Isozaki¹, K. Tanabe¹ and K. Tachibana¹. *1. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan*
- FS-21. Synthesis and Characterization of Ni-doped In₂O₃ Nanoparticles.** M.K. Singh¹, S. Dussan¹, G. Sharma¹ and R. Katiyar¹. *1. University of Puerto Rico, San Juan, PR*
- FS-22. Bipolar Resistive Switching in Co:TiO₂ Diluted Magnetic Semiconductor Films.** K.A. Bogle¹, M. Bachhav¹, M. Deo¹ and S. Ogale¹. *1. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune -8, Pune, Maharashtra, India*
- FS-23. Electron Paramagnetic Resonance (EPR) study of Cr³⁺ in Nanoparticles of SnO₂.** S.K. Misra¹, S.I. Andronenko¹, S. Rao², S.V. Bhat², C. Van Kormen³ and A. Punnoose³. *1. Department of Physics, Concordia University, Montreal, QC, Canada; 2. Department of Physics, Indian institute of Science, Bangalore, India; 3. Department of Physics, Boise State University, Boise, ID*
- FS-24. Magnetic properties of V doped TiO₂ nano-crystalline film synthesized by liquid phase deposition technique.** Q. Wen¹, H. Zhang¹, Q. Yang¹, Y. Li¹, D. Gu¹, W. Wang² and J.Q. Xiao². *1. State Key Laboratory of Electronic Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE*
- FS-25. Room temperature ferromagnetism in Fe doped CeO₂ and Co doped CeO₂ polycrystalline oxides.** Q. Wen¹, H. Zhang¹, Q. Yang¹, X. Tang¹, Y. Liu¹, W. Wang² and J.Q. Xiao². *1. State Key Laboratory of Electronic Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE*
- FS-26. Evolution of ferromagnetism in Mn-doped BaSnO₃ with increasing Mn-content.** K. Balamurugan¹, N. Harish Kumar¹, J. Arout Chelvane² and N. Santhosh P.¹. *1. Physics, Indian Institute of Technology Madras, Chennai, Tamilnadu, India; 2. Advanced Magnetism Group, Defense Metallurgical Research Laboratory, Hyderabad, Andhra Pradesh, India*
- FS-27. Combinatorial fabrication and Magnetic properties of homoepitaxial Co and Li co-doped NiO thin films.** U. Joshi¹, K. Itaka², Y. Matsumoto³ and H. Koinuma². *1. Physics, Gujarat University, Ahmedabad, Gujarat, India; 2. Advanced Materials, Institute of Solid State Physics, University of Tokyo, Tokyo, Chiba, Japan; 3. Materials and Structures Laboratory, Tokyo Institute of Technology, Tokyo, Yokohama, Japan*
- FS-28. In-situ Mössbauer studies of role of defects on hyperfine interaction in lanthanum strontium iron oxides.** X. Zhou¹, J. Yang², Q. Cai², W. James², H.U. Anderson², W.B. Yelon², J.W. Stevenson¹ and L.R. Pederson¹. *1. Pacific Northwest National Laboratory, Richland, WA; 2. Missouri University of Science and Technology, Rolla, MO*

THURSDAY
AFTERNOON
1:00

AUSTIN BALLROOM

Session FT
**PATTERNED FILMS II
(POSTER SESSION)**

Alina Deac, Co-Chair
Seok-Hwan Chung, Co-Chair

FT-01. Non-lithographic fabrication of sub-25 nm magnetic nanodot array with perpendicular anisotropy. *M. Rahman*¹, N.N. Shams¹ and C. Lai¹. *Department of materials science and engineering, National Tsing Hua University, Hsinchu, Taiwan*

FT-02. Control of Magnetization Reversal by Engineering the Nanostructure of Thin Films with Perpendicular Anisotropy. *M. Rahman*¹, R.K. Dumas², Y. Wu¹, C. Lai¹, N. Eibagi² and K. Liu². *1. Department of materials science and engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Physics, University of California, Davis, Davis, CA*

FT-03. The role of defects on the magnetic reversal properties of perpendicularly magnetized nanostructures. *J. Shaw*¹, M. Olsen^{2,1}, M. Schneider^{2,1}, B. Terris³, O. Hellwig³, T. Thomson⁴ and J. Lau⁵. *1. Magnetism Group, NIST, Boulder, CO; 2. Univ. of Montana, Missoula, MT; 3. Hitachi Global Storage Technology, San Jose, CA; 4. Univ. of Manchester, Manchester, United Kingdom; 5. NIST, Gaithersburg, MD*

FT-04. Strong Alternating Magnetic Field from Magnetic Nanostructures. *K. Kim*¹, A.E. Ozmetin¹, H. Lee¹, I. Lyuksyutov¹, D.G. Naugle¹ and W. Wu¹. *Department of Physics, Texas A&M University, College Station, TX*

FT-05. Dipolar and exchange interlayer coupling in NiFe/Cu/Cu nanodisks. *G. Gubbiotti*¹, V. Bonanni², D. Bisero², P. Vavassori², M. Madami¹, A. Adeyeye³, S. Goolaup³, N. Singh³, T. Ono⁴ and C. Spezzani⁵. *1. Dipartimento di Fisica, CNISM, Unità di Perugia, Perugia, PG, Italy; 2. CNR-IFM S3, CNISM and Dipartimento di Fisica, Università di Ferrara, Ferrara, Italy; 3. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 4. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 5. Sincrotrone Trieste S. C. p. A, Trieste, Italy*

FT-06. Reduced uniaxial magnetic anisotropy in patterned epitaxial Fe dot arrays. *D. Niu*¹, X. Zou², I. Will¹, J. Wong¹, J. Wu² and Y. Xu¹. *1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, The University of York, York, United Kingdom*

FT-07. Micromagnetic Behavior of Soft Magnetic Nanodisks observed by Scanning Electron Microscopy with Polarization Analysis (SEMPA). *S. Chung*^{1,2}, D.T. Pierce¹ and J. Unguris¹. *1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD; 2. Maryland NanoCenter, University of Maryland, College Park, MD*

FT-08. High resolution imaging of geometrically-confined domain walls and vortex cores. *M. Klau*¹, D. Backes^{1,2}, M. Eltschka^{1,3}, F. Junginger^{1,3}, L.J. Heyderman², T. Kasama³, R. Dunin-Borkowski³ and U. Rüdiger¹. *1. Physics, University of Konstanz, Konstanz, Germany; 2. LMN, PSI, Villigen, Switzerland; 3. Materials Sciences, University of Cambridge, Cambridge, United Kingdom*

FT-09. Meta-stable states and switching routes depending on temperature related with defects on magnetic multilayer rings. *J. Lee*¹, T.J. Hayward¹, B. Hong¹, J. Llandro¹, K. Cooper¹, D. Anderson¹, J.C. Bland¹, C.W. Barnes¹ and S.N. Holmes². *1. Physics, University of Cambridge, Cambridge, United Kingdom; 2. Toshiba Research Europe Limited, Cambridge Research Laboratory, Cambridge, United Kingdom*

FT-10. Magnetic Properties of Exchange Biased Co/CoO Elongated Nanoring Arrays. *D. Tripathy*¹, A. Adeyeye¹, N. Singh² and R. Stamps³. *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore; 3. School of Physics, University of Western Australia, Crawley, WA, Australia*

FT-11. Modelling of nanoscale domain walls formation in arrays of parallel nanowires. *H. Wu*¹, O.N. Mryasov² and I.V. Shvets¹. *1. CRANN, School of Physics, Trinity College Dublin, Dublin, Ireland; 2. Seagate Technology, Pittsburgh, PA*

FT-12. Depinning field of a periodic domain wall array in vicinal nanowires. *A.L. Dantas*¹, F.I. Nascimento¹, G.O. Reboças² and A.S. Carriço². *1. Departamento de Física, UERN, Mossoro, RN, Brazil; 2. Departamento de Física, UFRN, Natal, RN, Brazil*

FT-13. High efficiency domain wall gate in Permalloy nanowires. *D. Petit*¹, A. Jausovec¹, E.R. Lewis¹, H.T. Zeng¹, L. O'Brien¹, D. Read¹ and R.P. Cowburn¹. *1. Physics, Imperial College London, London, United Kingdom*

FT-14. Local modes and two magnon scattering in ordered permalloy antidot arrays. *S. Martens*¹, K. Nielsch¹ and D. Görzlitz¹. *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

FT-15. Static and Dynamic Magnetic Properties of Ni₈₀Fe₂₀ Square Antidot Arrays. *D.Y. Tse*¹, S.J. Steinmuller¹, T. Trypiniotis¹, D. Anderson¹, G.C. Jones¹, J.C. Bland¹ and C.W. Barnes¹. *1. Department of Physics, University of Cambridge, Cambridge, United Kingdom*

FT-16. Magnetic domains configurations in perpendicular anisotropy CoCrPt antidot and nanodot arrays made on anodic alumina templates. *D. Navas*¹, F. Ilievski¹ and C.A. Ross¹. *1. Materials Science and Engineering Department, MIT, Cambridge, MA*

FT-17. Vibration assisted assembly of ferromagnetic particles on magnetic patterns. *K. Paul*¹ and L. Malkinski¹. *1. AMRI, University of New Orleans, New Orleans, LA*

FT-18. Effect of 30keV Ga ion beam irradiation on a first order antiferromagnetic-ferrimagnetic phase transition in $Mn_{2-x}Cr_xSb$ thin films. *K. Madono¹, T. Matsui¹, S. Muramatsu¹ and A. Iwase¹. Graduate School of engineering, Osaka Prefecture University, Sakai, Osaka, Japan*

FT-19. Remanent state and magnetization reversal in exchange-coupled permalloy nanodot chain arrays. *S.C. Hernandez¹, J. Dou¹, C. Yu¹, M.J. Pechan¹, L. Folks², J.A. Katine² and M.J. Carey². 1. Department of Physics, Miami University, Oxford, OH; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

**THURSDAY
AFTERNOON
1:00**

AUSTIN BALLROOM

**Session FU
EXCHANGE BIAS II
(POSTER SESSION)
David Lederman, Chair**

FU-01. Effects of seed layer on the exchange bias characteristics in $[Pd/Co]_5/FeMn$ and $FeMn/[Co/Pd]_5$ thin films with perpendicular anisotropy. *L. Lin¹, S. Bae¹, W. Ho² and J. Kim³. 1. Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 2. Departments of Computer and Electronic Physics, Sangji University, Wonju 660, South Korea; 3. Division of Materials and Chemical engineering, Hanyang University, An-San 426-791, South Korea*

FU-02. Effects of Co thicknesses and an oscillating perpendicular exchange bias in $[Pt/Co]_n/NiO$ multilayers. *J. Guo¹, S. Chung¹, H. Ouyang¹, K. Lin¹, E. Vass² and J. van Lierop³. 1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Institut für Experimentalphysik, University of Innsbruck, Innsbruck, Austria; 3. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

FU-03. Effects of Ar gas pressure during sputtering of $Co_{80}Fe_{20}$ insertion on the exchange bias characteristics in $[Pd/Co]_5/Co_{80}Fe_{20}/FeMn$ thin films with perpendicular anisotropy. *S. Kim¹, S. Bae¹, L. Lin¹, J. Heo², H. Joo² and K. Lee². 1. Electrical and Computer Engineering, Biomagnetics Laboratory (BML) & Information Storage Materials Laboratory (ISML), Singapore, Singapore; 2. Physics, Thin films Lab., Cheonan, Chungnam, South Korea*

FU-04. Correlating antiferromagnetic spin structures with ion-beam bombardment in exchange-biased $NiFe/Mn$ bilayers. *K. Lin¹, T. Chen¹, J. Guo¹, H. Ouyang¹, D. Wei² and J. van Lierop³. 1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 2. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 3. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

FU-05. Study of the exchange anisotropy dispersion; Comparison between H ion irradiation and field annealing. *S. Lee¹, Y. Han¹, J. Kang¹ and J. Hong¹. 1. Materials Science and Engineering, Yonsei University, Soeul, South Korea*

FU-06. Exchange bias of FM/AFM in FePt/FeRh bilayers. *T. Nguyen¹, W. Lu¹ and T. Suzuki¹. 1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan*

FU-07. Thermal hysteresis of FM/AFM compensated bilayers. *A.L. Dantas¹, F.I. Nascimento¹, L.L. Oliveira¹, V.D. Mello¹, R.E. Camley² and A.S. Carriço³. 1. Departamento de Fisica, UERN, Mossoro, RN, Brazil; 2. Departament of Physics, UCCS, Colorado Springs, CO; 3. Departamento de Fisica, UFRN, Natal, RN, Brazil*

FU-08. Contrasting Variation of Exchange Bias with Annealing Temperature in $Py/FeMn/CoFe$ Trilayers. *K. Kim¹, J. Lee¹, H. Choi² and C. You². 1. Neutron Science Division, Korea Atomic Energy Research Institute, Daejeon, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea*

FU-09. Reorientation of exchange anisotropy in epitaxial (002) $Ir_{20}Mn_{80}/Co_{50}Fe_{50}$ system. *H. Huang¹, C. Yang¹ and C. Lai¹. 1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

FU-10. Reduction of Interfacial Spin Disorder on $IrMn/CoFe$ Exchange Biased Systems. *L.E. Fernandez-Outon¹, N. Aley¹, G. Vallejo-Fernandez¹, K. O'Grady¹, S. Oh² and M. Pakala². 1. Physics, The University of York, York, United Kingdom; 2. Western Digital, Fremont, CA*

FU-11. Effective spin Hamiltonian for bulk antiferromagnets Mn_3Ir and $MnIr$. *L. Szunyogh¹, L. Udvardi¹, B. Lazarovits^{1,3}, J. Jackson², R. Chantrell² and U. Nowak⁴. 1. Theoretical Physics, Budapest University of Technology and Economics, Budapest, Hungary; 2. Physics, University of York, York, United Kingdom; 3. Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary; 4. Fachbereich Physik, Universität Konstanz, Konstanz, Germany*

FU-12. Competition between RKKY and exchange bias coupling interactions in synthetic-antiferromagnet thin film systems. *K. Srinivasan¹, S. Wong¹, R. Sbiaa¹ and S.N. Piramanayagam¹. 1. Data Storage Institute, Singapore, Singapore*

FU-13. Positive exchange bias in $CoFe/IrMn$ multilayers comprising nano-oxide layer. *J. Rhee¹, S. Lee¹, J. Hwang¹, H. Yim¹ and B. Chun². 1. Physics, Sookmyung Women's University, Seoul, South Korea; 2. CRANN, School of Physics, Trinity College, Dublin 2, Ireland*

FU-14. Reinforcement of Exchange Biasing of Ultra Thin Antiferromagnetic Oxide Layer. *K. Sawada¹, M. Doi¹ and M. Sahashi¹. 1. Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan*

FU-15. Magnetization Reversal in Exchange Biased Antidot Arrays.

*D. Tripathy*¹, *A. Adeyeye*¹ and *N. Singh*². *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore*

FRIDAY
MORNING
9:00

SALON C

Session GA**SYMPOSIUM ON MICROWAVE ASSISTED
MAGNETIZATION REVERSAL**

Kristen Buchanan, Chair

9:00

- GA-01. Microwave assisted magnetization reversal in individual nanoparticles. (Invited)** *C. Thirion*¹, *C. Raufast*², *T. Crozes*³, *V. Dupuis*², *B. Diény*¹ and *W. Wernsdorfer*³. *1. Spintec/CNRS CEA, Grenoble, France; 2. Département de physique des matériaux, Université Lyon, Villeurbanne, France; 3. Institut Néel / CNRS, Grenoble, France*

9:36

- GA-02. Microwave Assisted Magnetic Recording with Circular AC Field Generated by Spin Torque Transfer. (Invited)** *J. Zhu*¹ and *Y. Wang*¹. *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

10:12

- GA-03. Microwave-assisted magnetization reversal in CoCr granular films. (Invited)** *M. Wu*¹, *C. Nistor*¹ and *S. Wu*². *1. Department of Physics, Colorado State University, Fort Collins, CO; 2. Seagate Technology, Fremont, CA*

10:48

- GA-04. Nonlinear-Dynamical-System Approach to Microwave-Assisted Magnetization Dynamics. (Invited)** *G. Bertotti*¹, *I.D. Mayergoyz*², *C. Serpico*³, *R. Bonin*⁴ and *M. d'Aquino*⁵. *1. Electromagnetism Division, INRIM, Torino 10135, Italy; 2. Electrical and Computer Engineering Department and UMIACS, University of Maryland, College Park 20742, MD; 3. Department of Electrical Engineering, University of Naples Federico II, Napoli 80125, Italy; 4. Osservatorio Astronomico della Regione Valle d'Aosta, Nus 11020, AO, Italy; 5. Department of Technology, University of Naples Parthenope, Napoli 80143, Italy*

11:24

- GA-05. Microwave Assisted Magnetization Reversal: theoretical developments. (Invited)** *K. Rivkin*¹, *W. Scholz*² and *S. Batra*². *1. Seagate Technology, Edina, MN; 2. Seagate Research, Pittsburgh, PA*

FRIDAY
MORNING
9:00

SALON G

Session GB**SPIN-TORQUE OSCILLATORS**

David Abraham, Chair

9:00

- GB-01. Non-monotonic temperature dependence of spin torque oscillator line widths.** *P.K. Muduli*¹, *N. Vreede*¹, *S. Bonetti*¹, *F.B. Mancoff*² and *J. Åkerman*¹. *1. Department of Microelectronics and Applied Physics, Royal Institute of Technology, Electrum 229, 16440, Kista, Sweden; 2. Technology Solutions Organization, Freescale Semiconductor Inc., Chandler, AZ*

9:12

- GB-02. Temperature dependence of generation linewidth in spin-torque auto-oscillators.** *V.S. Tiberkevich*¹, *J. Kim*² and *A.N. Slavin*¹. *1. Department of Physics, Oakland University, Rochester, MI; 2. Institut d'Electronique Fondamentale, CNRS & Université Paris-Sud, Orsay, France*

9:24

- GB-03. Spectral Line Shape of Spin Torque Oscillators. I.** *Krivorotov*¹, *C. Boone*¹, *J. Katine*², *J. Childress*², *J. Zhu*¹ and *X. Cheng*¹. *1. Physics and Astronomy, University of California, Irvine, Irvine, CA; 2. Hitachi Global Storage Technologies, San Jose, CA*

9:36

- GB-04. Fokker-Planck theory of stochastic dynamics of spin-torque auto-oscillators.** *J. Kim*¹, *V.S. Tiberkevich*² and *A.N. Slavin*². *1. Institut d'Electronique Fondamentale, CNRS & Université Paris-Sud, Orsay, France; 2. Department of Physics, Oakland University, Rochester, MI*

9:48

- GB-05. Magnetic noise spectroscopy in magnetic tunnel junctions.** *Y. Guan*¹, *D.W. Abraham*¹, *M.C. Gaidis*¹, *G. Hu*¹, *E.J. O'Sullivan*¹, *J.J. Nowak*¹, *P.L. Trouilloud*¹, *D.C. Worledge*¹ and *J.Z. Sun*¹. *1. IBM-MagIC MRAM Alliance, IBM T. J. Watson Research Center, Yorktown Heights, NY*

10:00

GB-06. Spin-torque oscillator with tilted fixed layer magnetization.

Y. Zhou¹, C. Zha¹, S. Bonetti¹, J. Persson¹ and J. Åkerman¹.
Institute of Microelectronics and Information Technology, Royal Institute of Technology, Stockholm-Kista, Sweden

10:12

GB-07. Multi-point-contacts spin-transfer oscillators.

A. Ruotolo¹, A. Dussaux¹, B. George¹, V. Cros¹, J. Grollier¹, C. Deranlot¹, S. Fusil¹, K. Bouzehouane¹ and A. Fert¹. *Unité Mixte de Physique CNRS/Thales, Palaiseau, France*

10:24

GB-08. Auto-oscillation threshold and linewidth optimization in MgO based spin torque oscillator.

S. Cornelissen^{1,4}, L. Bianchini², J. Kim², T. Devolder², M. Op de Beeck¹, G. Hrkac³, T. Schrefl³, L. Lagae^{1,5} and C. Chappert¹. *NEXTNS, IMEC, Heverlee (Leuven), Belgium; 2. Institut d'électronique fondamentale, UMR CNRS 8622, UPS, Orsay cedex, France; 3. Department of engineering materials, University of Sheffield, Sheffield, United Kingdom; 4. ESAT, KU Leuven, Leuven, Vlaams Brabant, Belgium; 5. Natuurkunde en sterrekunde, KU Leuven, Leuven, Vlaams Brabant, Belgium*

10:36

GB-09. Dependence of the current induced magnetization excitations on the free layer thickness in MgO based magnetic tunnel junctions.

L. Gao¹, M. Hayashi¹, R. Moriya¹, C. Rettner¹ and S. Parkin¹. *IBM Almaden Research Center, San Jose, CA*

10:48

GB-10. External field dependence of spin-torque induced precessions in magnetic tunnel junctions.

T. Wada¹, T. Yamane¹, T. Nozaki¹, T. Seki¹, H. Kubota², A. Fukushima², S. Yuasa², M. Shiraishi¹ and Y. Suzuki^{1,2}. *1. Graduate school of engineering science, Osaka university, Toyonaka, Japan; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

11:00

GB-11. Dependence of spin transfer torque oscillations upon static magnetic field orientation.

A. Neudert¹, R.J. Hicken¹, X. Cao², R.L. Lamberton² and A.B. Johnston². *School of Physics, University of Exeter, Exeter, United Kingdom; 2. Seagate Technology, Derry, United Kingdom*

11:12

GB-12. Spin-torque diode spectra under a perpendicular-to-plane magnetic field.

S. Yakata¹, H. Kubota¹, A. Fukushima¹, K. Yakushiji¹, S. Yuasa¹, K. Ando¹ and Y. Suzuki^{1,2}. *Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan*

11:24

GB-13. Spin-polarized current-driven excitations in spin-valve nanopillars with a synthetic antiferromagnetic pinned layer.

D. Houssameddine¹, D. Gusakova^{1,2}, B. Delaët², U. Ebels¹, M. Cyrille², J. Michel², L. Buda-Prejbeanu¹, O. Redon², B. Dieny¹, B. Ocker³, J. Langer³ and W. Maas³. *1. CEA-LETI-MINATEC, New Orleans, LA; 2. Singulus Technologies, Kahl/Main, Germany*

11:36

GB-14. Effective phase equation for the description of forced dynamics of a nonlinear spin-torque auto-oscillator.

V. Tyberkevych¹ and A.N. Slavin¹. *Department of Physics, Oakland University, Rochester, MI*

11:48

GB-15. Spin-Wave Analysis of Uniaxial Nanopillar Devices.

R. Bonin¹, G. Bertotti², C. Serpico³, M. d'Aquino⁴ and I. Mayergoyz⁵. *1. Politecnico di Torino – sede di Verrès, Verrès (AO), Italy; 2. Istituto Nazionale di Ricerca Metrologica, Turin, Italy; 3. Department of Electrical Engineering, University of Naples Federico II, Naples, Italy; 4. Department of Technology, University of Naples Parthenope, Naples, Italy; 5. Department of Electrical and Computer Engineering and UMIACS, University of Maryland College Park, College Park, MD*

FRIDAY
MORNING
9:00

SALON A

Session GC
NANOSTRUCTURED PERMANENT MAGNET MATERIALS

Jeff Shield, Chair

9:00

GC-01. Chemically Synthesized SmCo Nanoblades. (Invited)

C.N. Chinnasamy¹, J.Y. Huang², L.H. Lewis³, B. Latha¹, D. Heiman⁴, C. Vittoria¹ and V.G. Harris¹. *Center for Microwave and Magnetic Materials, Dept. of Electrical and Computer Engineering, Northeastern University, Boston 02115-5000, MA; 2. Center for Integrated Nanotechnologies, Sandia National Laboratories, Albuquerque, NM 87185, Mexico; 3. Dept. of Chemical Engineering, Northeastern University, Boston 02115, MA; 4. Dept. of Physics, Northeastern University, Boston 02115, MA*

9:36

- GC-02. Rapidly solidified Sm-Co nanocomposite permanent magnets.** *J.E. Shield^{1,2}, V. Litwinowicz¹, R. Valiveti¹, A. Ingmire¹ and P. Rasmussen³* *1. Mechanical Engineering, University of Nebraska, Lincoln, NE; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 3. Raymond Central High School, Raymond, NE*

9:48

- GC-03. Studies on the Giant Room-Temperature Coercivity in Melt-Spun and High-Energy Milled Sm(Co,Cu,Fe)₅ Alloys.** *D. Sultana¹, A.M. Gabay¹ and G.C. Hadjipanayis¹* *1. Physics and Astronomy, University of Delaware, Newark, DE*

10:00

- GC-04. Improvement in Coercivity of Bulk Anisotropic Nanocomposite Sm(CoFeTi)₈₋₁₀ Magnets.** *M. Huang¹, Z. Turgut¹, Z. Chen², J. Liu³, Y. Shen⁵, D. Lee⁴, A. Higgins⁴, C.H. Chen⁴, S. Liu⁴, J.C. Horwath⁶ and R.T. Fingers⁶* *1. Wright-Patterson Air Force Research Laboratory, UES inc, Dayton, OH; 2. Magnequench Inc., Singapore, Singapore; 3. Electron Energy Corporation, Landisville, PA; 4. Magnetics Lab, University of Dayton, Dayton, OH; 5. FutureTek Corp., Dayton, OH; 6. AFRL, Wright-Patterson Air Force Base, Dayton, OH*

10:12

- GC-05. High coercivity Sm-Fe melt-spun ribbon.** *T. Saito¹ and T. Furutani¹* *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan*

10:24

- GC-06. Crystal structure and magnetic properties of melt spun Sm(Co, V)₇ ribbons.** *C. Hsieh¹, H.W. Chang², C.W. Chang¹, Z.H. Guo^{1,3} and W.C. Chang¹* *1. Department of Physics, National Chung-Cheng University, Chia-Yi, Taiwan; 2. Department of Physics, Tunghai University, Taichung, Taiwan; 3. Institute of Functional Materials, Central Iron and Steel Research Institute, Beijing, China*

10:36

- GC-07. Effect of Temperature and Vacuum on Magnetic Properties and Compositional Changes of High Temperature Sm-Co Magnets.** *J. Liu¹, M. Marinescu¹, P. Vora¹, S. Wu² and M.P. Harmer²* *1. Electron Energy Corporation, Landisville, PA; 2. Center for Advanced Materials and Nanotechnology, Lehigh University, Bethlehem, PA*

10:48

- GC-08. Investigation of thermal fluctuation effect in exchange-coupled SmCo₅/α-Fe nanocomposite magnets.** *C. Rong¹, Y. Liu¹ and J. Liu¹* *1. Department of Physics, University of Texas at Arlington, Arlington, TX*

11:00

- GC-09. Anisotropic Sm₂(Co,Fe)₁₇ Nanoparticles Produced by Surfactant-Assisted Ball Milling.** *N. Gunduz Akdogan¹, G.C. Hadjipanayis¹ and D.J. Sellmyer²* *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Physics and Astronomy, University of Nebraska, Lincoln, NE*

11:12

- GC-10. Bulk Nanocrystalline of [Sm(Co,Fe)_z = 5.6 to 14.7] Alloys and the Effect of Fluorine Inclusion.** *C.H. Chen¹, A.K. Higgins¹, M.Q. Huang², J.C. Horwath³, Y. Shen⁴ and S. Liu^{4,1}* *1. University of Dayton Magnetics Lab, Dayton, OH; 2. UES Inc./Air Force Research Laboratory, Dayton, OH; 3. Air Force Research Laboratory (AFRL), Wright-Patterson Air Force Base, Dayton, OH; 4. FutureTek Corp, Dayton, OH*

11:24

- GC-11. Large-Scale Synthesis of Hard Magnetic Sm-Co Nanocrystals and SmCo/Fe Nanocomposite Particles by a Facile Method.** *G.S. Chaubey¹, N. Poudyal¹, Y. Liu¹, C. Rong¹ and J. Liu¹* *1. Physics, University of Texas at Arlington, Alington, TX*

11:36

- GC-12. Microstructure Analysis of a Bilayer Sm-Co/Fe Graded Exchange Spring Permanent Magnet.** *M.J. Kramer¹, Y.Q. Wu¹, Y. Liu³, Y. Choi³, J.S. Jiang³, Z.L. Wang⁴ and J.P. Liu²* *1. Ames Lab/Mat Sci and Eng, Iowa State University, Ames, IA; 2. Department of Physics, University of Texas at Arlington, Arlington, TX; 3. Materials Science Division, Argonne National Laboratory, Argonne, IL; 4. School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA*

11:48

- GC-13. Seedlayer effect on texture and magnetic properties of SmCo₅.** *J. Hu¹, L. Zhang², J. Chen² and J. Ding²* *1. Data Storage Institute, Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

FRIDAY
MORNING
9:00

SALON B

10:00

Session GD
MAGNETIC NANOSTRUCTURES:
MEASUREMENT, FABRICATION, AND
MODELING

Frank Johnson, Chair

9:00

GD-01. Conductive Atomic Force Microscopy measurements of magnetic nanopillars. *E.R. Evarts¹, C. Hogg¹, J.A. Bain², S.A. Majetich¹, J. Park³ and J. Zhu²*. *1. Physics, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:12

GD-02. Magnetically Active Nanospirals. *E. Schubert^{1,2}, M. Schubert^{1,2}, D. Schmidt^{1,2}, T. Hofmann^{1,2}, M. Chipara³, A.J. Villarreal³, X.H. Wei^{1,4}, R. Skomski^{1,4}, S.H. Liou^{1,4} and D.J. Sellmyer^{1,4}*. *1. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Electrical Engineering, University of Nebraska, Lincoln, NE; 3. Department of Physics and Geology, University of Texas–Pan American, Edinburg, TX; 4. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE*

9:24

GD-03. Room temperature magnetic stabilization of buried cobalt nanoclusters within a ferromagnetic matrix studied by soft x-ray magnetic circular dichroism. *A.T. Hindmarch¹, K.J. Dempsey¹, J.P. Morgan¹, B.J. Hickey¹, D.A. Arena² and C.H. Marrows¹*. *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY*

9:36

GD-04. Magneto-optic material selectivity to self-organized magnetic nanostructures. *K. Postava¹, D. Hrabovsky^{1,2}, D. Lukas³, J. Pistora¹, N. Dix², M. Rajaram², J.M. Roque², F. Sánchez² and J. Fontcuberta²*. *1. Department of Physics, Technical University of Ostrava, Ostrava - Poruba, Czech Republic; 2. Institut de Ciència de Materials de Barcelona - CSIC, Universitat Autònoma de Barcelona, Barcelona, Spain; 3. Department of Applied Mathematics, Technical University of Ostrava, Ostrava - Poruba, Czech Republic*

9:48

GD-05. Fabrication of two-dimensional assembly of well-isolated epitaxial Co-nanoparticles on insulating layers. *M. Mizuguchi¹, S. Mitani¹ and K. Takanashi¹*. *Institute for Materials Research, Tohoku University, Sendai, Japan*

GD-06. Co nanostructures arrays in a patterned polymeric template. *W.d. da Rosa¹, M. Jaafar¹, A. Asenjo¹ and M. Vázquez¹*. *Instituto de Ciencias de Materiales de Madrid, Madrid, Spain*

10:12

GD-07. Ferromagnetic nanoparticle monolayers from solution: a novel low-temperature solution-annealing approach. *T. Gang¹, S. Kinge², W. Naber¹, H. Boschker¹, D. Reinhoudt² and W. van der Wiel¹*. *MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands; 2. University of Twente, Laboratory of Supramolecular Chemistry and Technology, Enschede, Netherlands*

10:24

GD-08. Spin Reorientation Phase Transition in Self-Ordered Arrays of Magnetic Nanowires. *E.V. Tartakovskaya², M. Pardavi-Horvath¹ and M. Vázquez Villalabietia³*. *1. SEAS ECE, The George Washington University, Washington, DC; 2. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; 3. Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain*

10:36

GD-09. Magnetic Properties of Nickel Coated Carbon Nanofibers. *L. Sun¹ and H. Xing¹*. *Mechanical Engineering, University of Houston, Houston, TX*

10:48

GD-10. Adjusting the magnetic properties of semiconductor epilayers by the crystallographic orientation of embedded highly anisotropic magnetic nanoclusters. *C. Lacroix¹, S. Lambert-Milot¹, P. Desjardins¹, R.A. Masut¹ and D. Ménard¹*. *Regroupement Québécois sur les Matériaux de Pointe (RQMP), Département de Génie Physique, École Polytechnique de Montréal, Montréal, QC, Canada*

11:00

GD-11. Magnetic Properties of Macroscopic Colloid Crystals of Silica-Coated FePt Nanoparticles with Controllable Interstices for Molecular Separation. *C.C. Lo¹, S.C. Tsang², C.H. Yu², H. Tang³, H. He³, V. Castelletto⁴, I.W. Hamley⁴, T. Narayanan⁵ and K. Tam⁶*. *1. Center for NDE, Iowa State University, Ames, IA; 2. Wolfson Catalysis Centre, Inorganic Chemistry Laboratory, University of Oxford, Oxford, United Kingdom; 3. Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai, China; 4. Department of Chemistry, University of Reading, Whiteknights, United Kingdom; 5. European Synchrotron Radiation Facility, Grenoble, France; 6. AstraZeneca, Macclesfield, Cheshire, United Kingdom*

11:12

GD-12. Electrodynamic Model for Low Loss Microwave Nanocomposite Magnets Using Autonomous Blocks with Floquet Channels. *M. Pardavi-Horvath*¹, G.S. Makeeva² and O.A. Golovanov². *1. SEAS ECE, The George Washington University, Washington, DC; 2. Penza State University, Penza, Russian Federation*

11:24

GD-13. Effect of Particle-Size on the Resistive Switching Behavior in Magnetite Nanoparticle Compacts. *T. Kim*¹, E. Jang¹, J. Jang², N. Lee¹, J. Choi², K. Lee³ and J. Cheon². *1. Department of Physics, Ewha Womans University, Seoul, South Korea; 2. Department of Chemistry, Yonsei University, Seoul, South Korea; 3. Department of Materials Science and Engineering, Korea University, Seoul, South Korea*

11:36

GD-14. Micromagnetic Modeling of the Magnetic and Magnetoresistive Response of Co/Cu Multilayered Nanowire Arrays. *S. Hernandez*¹, L. Tan², B. Stadler¹ and R.H. Victora¹. *1. Electrical Engineering and Computer Science Department, University of Minnesota, Minneapolis, MN; 2. Chemical Engineering and Material Science Department, University of Minnesota, Minneapolis, MN*

FRIDAY
MORNING
9:00

SALON D

Session GE
MOLECULAR MAGNETS

Stephen Hill, Chair

9:00

GE-01. The effective barrier to magnetization reversal in single-molecule magnets. *S. Hill*^{1,2}, G. Redler², S. Datta², C. Lampropoulos³ and G. Christou³. *1. National High Magnetic Field Laboratory, Tallahassee, FL; 2. Physics, University of Florida, Gainesville, FL; 3. Chemistry, University of Florida, Gainesville, FL*

9:12

GE-02. Spin filtering effect in a single-molecule magnet Mn12 bridged between metallic electrodes. *S. Barraza-Lopez*¹, *K. Park*¹, V.M. Garcia-Suarez² and J. Ferrer³. *1. Department of Physics, Virginia Tech, Blacksburg, VA; 2. Department of Physics, Lancaster University, Lancaster, United Kingdom; 3. Departamento de Fisica, Universidad de Oviedo, Oviedo, Spain*

9:24

GE-03. Quantum Interference in the Longitudinal Oscillations of the Total Spin of a Dimeric Molecular Nanomagnet. (Invited) *E. del Barco*¹, C.M. Ramsey¹, S. Hill², S.J. Shah³, C.C. Beedle³ and D.N. Hendrickson³. *1. Physics, University of Central Florida, Orlando, FL; 2. Physics, University of Florida, Gainesville, FL; 3. Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA*

10:00

GE-04. Evidence of Glauber Dynamics in a Linear-Chain Metamagnet. *A. Prosvirin*¹, H. Zhao¹ and K.R. Dunbar¹. *1. Chemistry Department, Texas A&M University, College Station, TX*

10:12

GE-05. EPR Studies of Magnetically Dilute Ga-Doped Single Crystals of Fe18 Antiferromagnetic Molecular Wheels. *J.J. Henderson*¹, E. del Barco¹, S. Datta², S. Hill², T. Stamatatos³ and G. Christou³. *1. Physics, University of Central Florida, Orlando, FL; 2. Physics, University of Florida, Gainesville, FL; 3. Chemistry, University of Florida, Gainesville, FL*

10:24

GE-06. Rabi oscillations of a central spin in a dipolar-coupled spin bath. *V. Dobrovitski*¹, A.E. Feiguin^{2,3}, R. Hanson⁴ and D.D. Awschalom⁵. *1. Ames Laboratory, Ames, IA; 2. Dept. of Physics, University of Maryland, College Park, MD; 3. Microsoft Station Q, University of California, Santa Barbara, CA; 4. Kavli Institute of Nanoscience, Delft University of Technology, Delft, Netherlands; 5. Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA*

10:36

GE-07. Neutron scattering study of magnetic excitation and short-range magnetic order by inter-cluster interaction in the Mn6Sb2 molecular magnet. *K. Iida*¹, Y. Qiu^{2,3}, H. Ishikawa⁴, T. Yamase⁴ and T.J. Sato¹. *1. Institute for Solid State Physics, University of Tokyo, Chiba, Japan; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 3. Department of Physics, University of Virginia, Charlottesville, VA; 4. Chemical Resources Laboratory, Tokyo Institute for Technology, Yokohama, Japan*

10:48

GE-08. The Role of Fourth-Order Transverse Anisotropy in Thermally Assisted Tunneling in Mn₁₂-tBuAc. *J.R. Friedman*¹, E.H. da Silva Neto¹, C. Lampropoulos², G. Christou², N. Avraham³, Y. Myasoedov³, H. Shtrikman³ and E. Zeldov³. *1. Physics, Amherst College, Amherst, MA; 2. Department of Chemistry, University of Florida, Gainesville, FL; 3. Department of Condensed Matter Physics, Weizmann Institute of Science, Rehovot, Israel*

11:00

GE-09. Magnetic properties of a molecular-based magnet $AFe^{II}Fe^{III}(C_2O_4)_3$ with biaxial crystal-field. *W. Jiang¹, F. Zhang¹, W. Wang¹ and W. Ren²*. *School of Science, Shenyang University of Technology, Shenyang, China; 2. Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*

11:12

GE-10. Thermodynamic approach of the temperature and pressure hysteresis in spin-transition materials. *R. Tanasa¹ and A. Stancu¹*. *Department of Physics & CARPATH, "Alexandru Ioan Cuza" University, Iasi, Romania*

11:24

GE-11. Giant magneto-resistance in composites of organic polymers with manganese acetylacetonate and lanthanum-protactinium chlorides exhibiting ionic conductivity. *R. Rakhimov¹, V.G. Shevchenko², A.Y. Karmilov², I.A. Alexandrov² and A.I. Aleksandrov²*. *Center for Materials Research, Norfolk State University, Norfolk, VA; 2. Institute of Synthetic Polymer Materials, Moscow, Russian Federation*

FRIDAY
MORNING
9:00

SALON E

**Session GF
DAMPING MECHANISMS AND
MEASUREMENT**

Mike Schneider, Chair

9:00

GF-01. Simple Theory Of Gilbert Damping Based On Itinerant 3d Electrons Only. *L. Berger¹*. *Physics Department, Carnegie Mellon University, Pittsburgh, PA*

9:12

GF-02. Magnetization dynamics within magnetically non-uniform systems. *K. Gilmore^{1,2}, P.M. Haney¹, M.D. Stiles¹, I. Garate³ and A.H. MacDonald³*. *Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD; 2. Maryland NanoCenter, University of Maryland, College Park, MD; 3. Physics Department, University of Texas, Austin, TX*

9:24

GF-03. Theory of Magnetization Damping in Conducting Ferromagnets. *I. Garate¹ and A. MacDonald¹*. *Physics Department, University of Texas at Austin, Austin, TX*

9:36

GF-04. Calculation of intrinsic damping in half metals. *C.K. Mewes¹, C. Liu¹, M. Chshiev¹, T. Mewes¹ and W.H. Butler¹*. *Center for Materials for Information Technology, Tuscaloosa, AL*

9:48

GF-05. Laser-induced Magnetization Dynamics of Lanthanide-doped Permalloy Thin Films. *C. Back¹, I. Radu^{1,2}, M. Kiessling¹, A. Melnikov³, U. Bovensiepen³, G. Woltersdorf¹ and J. Thiele⁴*. *University Regensburg, Regensburg, Germany; 2. BESSY GmbH, Berlin, Germany; 3. Freie Universitaet Berlin, Berlin, Germany; 4. Hitachi Global Storage, San Jose, CA*

10:00

GF-06. Ferromagnetic resonance characterization of rare-earth (Ho) doped soft magnetic films. *N. Benatmane^{1,2} and T.W. Clinton¹*. *Seagate Research, Seagate Technology, Pittsburgh, PA; 2. Physics Department, Georgetown University, Washington, DC*

10:12

GF-07. Magnetic relaxation due to spin-pumping and rare earth impurities. (Invited) *G. Woltersdorf¹, O. Mosendz², B. Heinrich², C. Back¹, M. Kiessling¹ and J. Thiele³*. *1. Physics, University of Regensburg, Regensburg, Germany; 2. Physics, Simon Fraser University, Burnaby, BC, Canada; 3. Research Center, Hitachi Global Storage Technologies, San Jose, CA*

10:48

GF-08. Damping origins for Co-Cr granular films. *S.S. Kalarickal¹, P. Krivosik^{1,2}, N. Mo¹, S. Wu³ and C.E. Patton¹*. *Department of Physics, Colorado State University, Fort Collins, CO, CO; 2. Slovak University of Technology, Bratislava, Slovakia; 3. Seagate Technology, Fremont, CA*

11:00

GF-09. Spin wave relaxation mapping in permalloy films – spin wave instability under oblique pumping. *H.M. Olson¹, P. Krivosik^{2,3} and C.E. Patton²*. *Seagate Technology, Bloomington, MN; 2. Colorado State University, Fort Collins, CO; 3. Slovak University of Technology, Bratislava, Slovakia*

11:12

GF-10. Magnetization damping in exchange bias systems. H. Lee¹, M. Bradford¹, E. Edwards¹, Z. Tadisina¹, C.K. Mewes¹, S. Gupta¹ and T. Mewes¹. *Center for Materials for Information Technology, The University of Alabama, Tuscaloosa, AL*

11:24

GF-11. Landau-Lifshitz or Gilbert Damping? That is the Question. W.M. Saslow¹. *Physics, Texas A&M University, College Station, TX*

FRIDAY MORNING 9:00 **400/402**

Session GG

GALFENOL MAGNETOSTRICTIVE ALLOYS

David Jiles, Chair

9:00

GG-01. Soft and Hard Elastic Moduli of Galfenol Transduction Elements. (Invited) M. Wun-Fogle¹, J.B. Restorff¹ and A.E. Clark². *Code 617, Naval Surface Warfare Center, Carderock Division, West Bethesda, MD; 2. Clark Associates, Adelphi, MD*

9:36

GG-02. Magnetoelastic coupling in Fe_{100-x}Ge_x single crystals, 5 < x < 18. G. Petculescu¹, J.B. LeBlanc¹, M. Wun-Fogle², J.B. Restorff², T.A. Lograsso³ and A.E. Clark⁴. *Physics, University of Louisiana at Lafayette, Lafayette, LA; 2. Naval Surface Warfare Center, Carderock Division, West Bethesda, MD; 3. Ames Laboratory, Ames, IA; 4. Clark Associates, Adelphi, MD*

9:48

GG-03. Magnetic and Structural properties of thin Fe-Ga films. N.A. Morley¹, A. Javed¹ and M.R. Gibbs¹. *Engineering Materials, Sheffield University, Sheffield, United Kingdom*

10:00

GG-04. Structural evolution of magnetostrictive Fe-Ga alloy ribbons. X. Zhao¹, N.J. Mellors¹, N. Lupu² and H. Chiriac². *1. University of Salford, Salford, United Kingdom; 2. National Institute of Research and Development for Technical Physics, Iasi, Romania*

10:12

GG-05. Structure, magnetostriction and magnetoelastic coupling coefficient of thick Fe-Ga melt-spun ribbons. N. Lupu¹, H. Chiriac¹, M. Tibu¹, M. Lostun¹ and G. Ababei¹. *Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania*

10:24

GG-06. Nano-Textured Fe85Ga15 alloys: Fabrication and Properties. K. Martirosyan^{1,4}, E. Galstyan^{2,4}, H. Ye^{3,4} and D. Litvinov^{3,4}. *1. Chemical and Biomolecular Engineering, University of Houston, Houston, TX; 2. Texas Center for Superconductivity, University of Houston, Houston, TX; 3. Electrical and Computer Engineering, University of Houston, Houston, TX; 4. Center for Nanomagnetic Systems, University of Houston, Houston, TX*

10:36

GG-07. Magnetostriction and Texture Relationships in Annealed Galfenol Alloys. E.M. Summers¹, R. Meloy¹ and S. Na². *1. ETREMA Products, Inc., Ames, IA; 2. Aerospace Engineering, U. of Maryland, College Park, MD*

10:48

GG-08. Synthesis and characterization of Fe-Ga/Fe-Ni nanowires and their magnetic properties. J. Battogtokh^{1,2}, S. Kang^{1,2}, I. Pegg^{1,2} and J. Philip^{1,2}. *1. Physics, The Catholic University of America, Washington, DC; 2. Vitreous State Laboratory, The Catholic University of America, Washington, DC*

11:00

GG-09. Galfenol Thin Films Deposited by MBE. A. McClure¹, S. Albert^{2,1}, T. Jaeger^{2,1}, C. Wolfe¹, H. Li¹, C. Key¹, R.J. Smith¹, J.A. Schaefer², E. Arenholz³ and Y.U. Idzerda¹. *Physics, Montana State University, Bozeman, MT; 2. Institut für Physik and Institut für Mikro- und Nanotechnologien, Technische Universität Ilmenau, Ilmenau, Germany; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

11:12

GG-10. Magnetostriction in Fe-Co Binary Probed Using the Thin Film Composition Spread Technique. D.D. Hunter¹, R. Takahashi¹, R. Suchoski¹, J. Hattrick-Simpers¹, S.E. Lofland², M. Wuttig¹ and I. Takeuchi¹. *1. Department of Materials Science & Engineering, University of Maryland, College Park, MD; 2. Department of Physics and Astronomy, Rowan University, Glassboro, NJ*

11:24

GG-11. Magnetostriction in Fe-Ga alloys: invaluable insights from small angle neutron scattering studies. *M. Laver*¹, *M. Wuttig*² and *J. Cullen*². *1. NIST Center for Neutron Research, Gaithersburg, MD; 2. Materials and Nuclear Engineering, University of Maryland, College Park, MD*

11:36

GG-12. NbC Containing Magnetostrictive Fe-Ga Alloy Sheet for Lamination Actuator. *S. Na*¹, *A. Passell*¹, *P. Downey*¹ and *A.B. Flatau*¹. *1. Aerospace Engineering, University of Maryland, College Park, MD*

11:48

GG-13. Stress Dependent Magnetostriction in Highly Magnetostrictive Fe_{100-x}Ga_x, 20 < x < 30. *A.E. Clark*¹, *J. Yoo*², *J. Cullen*², *G. Petculescu*³, *M. Wun-Fogle*⁴ and *A. Flatau*². *1. Clark Associates, Adelphi, MD; 2. Dept. of Aerospace Engineering, University of Maryland, College Park, MD; 3. University of Louisiana, Lafayette, LA; 4. Code 617, Naval Surface Warfare Center, Carderock Division, West Bethesda, MD*

FRIDAY
MORNING
9:00

410

Session GH
SPIN GLASSES AND SPIN DYNAMICS IN CORRELATED SYSTEMS

Wouter Montfrooij, Chair

9:00

GH-01. The search for quantum critical scaling in a classical system. *J. Lamsal*¹, *J. Gaddy*¹, *M. Petrovic*¹, *W. Montfrooij*¹ and *T. Vojta*². *1. Physics & Astronomy, University of Missouri, Columbia, MO; 2. Physics, Missouri University of Science and Technology, Rolla, MO*

9:12

GH-02. Theory of magnetism with temporal disorder applied to magnetically doped ZnO. *G.A. Gehring*¹, *M.R. Ahmed*¹ and *A.J. Crombie*¹. *1. Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom*

9:24

GH-03. Soft mode dynamics of magnetic trilayered nanodisks in the vortex state. *F. Montoncello*¹, *L. Giovannini*¹ and *F. Nizzoli*¹. *1. Department of Physics and CNISM, University of Ferrara, Ferrara, Italy*

9:36

GH-04. AC demagnetization of interacting nanomagnet arrays*. *(Invited) X. Ke*¹. *1. Physics Department, Pennsylvania State University, University Park, PA*

10:12

GH-05. Magnetic configurations in artificial kagome ice structures. *L.J. Heyderman*¹, *E. Mengotti*¹, *A. Fraile Rodríguez*¹, *A. Bisig*¹, *F. Nolting*¹ and *H. Braun*². *1. Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. School of Physics, University College Dublin, Dublin, Ireland*

10:24

GH-06. Magnetism and cluster glass dynamics in geometrically frustrated LuFe₂O₄ *H. Srikanth*¹, *M. Phan*¹, *N.A. Frey*¹, *M. Angst*², *B.C. Sales*² and *D.G. Mandrus*². *1. Department of Physics, University of South Florida, Tampa, FL; 2. Materials Science & Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN*

10:36

GH-07. Correlated Superspin Dynamics in Ising- and Heisenberg-like Superspin glasses from Field Effect Experiments. *S. Nakamae*¹, *Y. Tahri*¹, *C. Thibierge*¹, *D. L'Hôte*¹, *E. Vincent*¹, *E. Wandersman*², *V. Dupuis*², *E. Dubois*² and *R. Perzynski*². *1. Service de Physique de l'Etat Condensé, SPEC/IRAMIS/DSM/CEA-Saclay, Gif-sur-Yvette, France; 2. Laboratoire des Liquides Ioniques et Interfaces Chargées, Université de Pierre et Marie Curie, Paris, France*

10:48

GH-08. Withdrawn

11:00

GH-09. Phase separation versus spin glass behavior in La_{0.85}Sr_{0.15}CoO₃. *D. Samal*¹, *C. Shivakumara*² and *A.P. Kumar*¹. *1. Department of Physics, Indian Institute of Science, Bangalore, India; 2. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India*

11:12

GH-10. Correlation-induced spin-charge coupling in an itinerant ferromagnet: magnon damping and anomalous softening. *S. Pandey*¹ and *A. Singh*¹. *1. Physics, Indian Institute of Technology, Kanpur, India*

11:24

GH-11. Competition or co-operation? Charge ordered insulating and ferromagnetic metallic phases in Ni²⁺ and Cr³⁺ doped Nd_{0.5}Ca_{0.5}MnO₃. A. Sharma¹ and S.V. Bhat¹. *Physics, Indian Institute of Science, Bangalore, Karnataka, India*

FRIDAY
MORNING
8:00

AUSTIN BALLROOM

Session GP
HEAD-MEDIA INTERFACE & TRIBOLOGY
(POSTER SESSION)

Yiao-tee Hsia, Chair

GP-01. Humidity effects on lubricant transfer in head-disk-interface. S. Kim¹, Q. Dai¹, B. Marchon¹ and K. Flechsig¹. *Hitachi Global Storage Technologies, San Jose, CA*

GP-02. Spinning Effects on the Spreading of PFPE Films over Carbon-Overcoated Disks. H. Chen², D. Kim¹, P. Chung¹ and M.S. Jhon¹. *Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Hewlett-Packard Company, San Diego, CA*

GP-03. Buff/Wipe Effects on the Ultra-Thin Perfluoropolyether Films. H. Chen², P. Chung¹, Y. Hsia³ and M.S. Jhon¹. *Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Hewlett Packard Company, San Diego, CA; 3. Electro-Mechanical Systems Integration, Seagate Technology, Pittsburgh, PA*

GP-04. A Novel Simulation of Air/Liquid Bearing based on Lattice Boltzmann Method. D. Kim¹, W. Kim², H. Kim³, H. Chen⁴, P. Jain¹ and M.S. Jhon¹. *Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Samsung Corning Precision Glass Co., Cheonan, South Korea; 3. Division of Mechanical System Design Engineering, Kyonggi University, Suwon, South Korea; 4. Hewlett-Packard, San Diego, CA*

GP-05. Thermal Stability of Lubricant film on Hard Disk under a High Temperature Flash Heating. J. Zhang¹, H. Xie¹, Q. Zhang¹, R. Ji¹, J. Xu², B. Xu¹, H. Yuan¹, N. Liu¹, G. He^{1,3}, R. Dharmawan^{1,4} and Y. Liew^{1,3}. *Data Storage Institute, Singapore, Singapore; 2. Institute of Materials Research & Engineering, Singapore, Singapore; 3. National University of Singapore, Singapore, Singapore; 4. Nanyang Technological University, Singapore, Singapore*

GP-06. Nano-Rheology of Thin Lubricant Films. Q. Guo², P. Chung¹, H. Choi³ and M.S. Jhon¹. *Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Seagate Technology, Fremont, CA; 3. Polymer Science and Engineering, Inha University, Incheon, South Korea*

GP-07. Withdrawn

GP-08. Study of Ultra-low Fly Height Glide Testing by Dynamic Fly Height Control. H. Tani¹, M. Kanda², M. Kubota² and N. Tagawa¹. *Dept. of Mechanical Engineering, Kansai University, Suita-shi, Osaka-fu, Japan; 2. Kubota Comps, Amagasaki-shi, Hyogo-ken, Japan*

FRIDAY
MORNING
8:00

AUSTIN BALLROOM

Session GQ
HIGH ANISOTROPY PERPENDICULAR
RECORDING MEDIA II
(POSTER SESSION)

Yingguo Peng, Chair

GQ-01. Tuning microstructure and magnetism in FePt-SiO₂ granular films by ion-beam bombardment. K. Lin¹, Y. Chiu¹, A. Sun^{2,3}, J. Hsu^{2,3}, J. van Lierop⁴ and S. Takao⁵. *1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Department of Physics, National Taiwan University, Taipei, Taiwan; 4. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada; 5. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan*

GQ-02. Effect of Cu doping on Magnetic and Microstructural Properties of FePtZr/MgO Nano Composite Films. D. Park¹, S. Lee¹ and J. Won Young². *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Materials Science and Engineering, Korea Institute of Science and Technology, Seoul, South Korea*

GQ-03. Effect of Sn on the microstructure and magnetic properties of FePt thin-film. D. Chun¹, G. Kim¹ and W. Jeung¹. *Division of Materials Research, Korea Institute of Science and Technology, Seoul, South Korea*

GQ-04. L₁ Ordering of FePt Thin Films using Millisecond Laser Pulses. Y. Inaba¹, K. Shishou¹, G.B. Thompson^{1,2}, J.R. Izatt³, I. Zana¹, J.W. Harrell^{1,3}, Y. Kubota⁴ and T.J. Klemmer⁴. *1. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL; 2. Dept. of Metallurgical and Materials Engineering, University of Alabama, Tuscaloosa, AL; 3. Dept. of Physics and Astronomy, University of Alabama, Tuscaloosa, AL; 4. Seagate Research, Pittsburgh, PA*

GQ-05. Perpendicular Magnetization and Coercivity Reduction in Exchange-Coupled NiFe/FePt Bilayers. N. Lee¹, J. Ahn¹, S. Kim¹, T. Kim¹, J. Kim², H. Kim² and G. Schemerber³. *1. Department of Physics, Ewha Womans University, Seoul, South Korea; 2. Department of Physics, Sogang University, Seoul, South Korea; 3. Institut de Physique et Chimie des Matériaux de Strasbourg, UMR 7504 CNRS-ULP, Strasbourg, France*

- GQ-06. Magnetic Properties and Microstructures of Particulate (FePt/Ag)_n Film with Perpendicular Magnetic Anisotropy.** C. Ou¹, J. Tsai¹, G. Lin¹ and M. Chen¹. *Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*
- GQ-07. Effect of bombardment with different types of ions on ordering transformation of Fe/Pt multilayer films.** A. Sun¹, F. Yuan², J. Hsu¹ and P. Kuo³. *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Physics+, Academia Sinica, Taipei, Taiwan; 3. Material Science & Engineering, Academia Sinica, Taipei, Taiwan*
- GQ-08. The influence of Ag doping on the CoPt thin films properties.** Y.O. Se^{1,2}, A.J. Shapiro², J. Hatrick-Simpers² and C. Lee¹. *1. Materials, Changwon National University, Changwon, South Korea; 2. National Institute of Standard and Technology, Gaithersburg, MD*
- GQ-09. Magnetic Properties and The Cluster Nature of Multilayer Thin Films of (CoPt/Ag/C)₆ After Annealing.** Y. Lee¹, G. Hung¹, R. Li¹, J. Min¹ and T. Wu¹. *1. Physics department, National Cheng Kung University, Tainan, Taiwan; 2. Department of Humanities and Sciences, National Yunlin University of Science and Technology, Touliu, Taiwan*

FRIDAY
MORNING
8:00

AUSTIN BALLROOM

Session GR
MOTORS AND ACTUATORS I
(POSTER SESSION)

Alexander Parkhomovsky, Chair

- GR-01. A new stator-flux orientation strategy for flux-switching permanent magnet motor based on current-hysteresis control.** H. Wei¹ and M. Cheng¹. *1. School of Electrical Engineering, Southeast University, Nanjing, 210096, China*
- GR-02. Analytical approach and verification of operational power and eddy current losses for applying coreless double-sided PM synchronous motor/generator to high-power FESS.** D. You¹, S. Jang¹, J. Park¹, S. Choi² and J. Lee³. *1. Chungnam National Univ., Daejeon, South Korea; 2. Korea Institute of Machinery and Materials, Dae-jeon, South Korea; 3. Korea Electric Power Research Institute, Dae-jeon, South Korea*
- GR-03. Torque Ripple Minimization of Flux-Controllable Stator-Permanent-Magnet Brushless Motors Using Harmonic Current Injection.** X. Zhu^{1,2}, M. Cheng² and K. Chau^{2,3}. *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China; 2. Engineering Research Center for Motion Control of MOE, School of Electrical Engineering, Southeast University, Nanjing, China; 3. Department of Electrical and Electronic Engineering, the University of Hong Kong, Hong Kong, China*

- GR-04. Optimal Rotor Design for Reducing the Partial Demagnetization Effect and Cogging Torque in Spoke type PM Motor.** K. Hwang¹, B. Yang¹, B. Kim³, S. Rhyu² and B. Kwon¹. *1. Department of Electronics, Electrical, Control & Instrumentation Engineering, Hanyang Univ., Ansan, South Korea; 2. Korea Electronics Technology Institute, Buchon, South Korea; 3. Department of Electric Electrical Engineering, Kunsan National Univ., Jeonbuk, South Korea*
- GR-05. Fuzzy Actuation Strategy and Implementation of a Magnetically-Actuated Optical Image Stabilizer with Hysteresis Compensation.** T. Tu¹, C. Chiu¹, P. Chao¹ and J. Huang². *1. Dept. of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung Yuan Christian University, Chung-Li, Taiwan*
- GR-06. Analysis and Comparison for Rotor Eddy Current Losses of Permanent Magnet Synchronous Generator according to DC and AC Load Conditions.** S. Jang¹, H. Kim¹, J. Choi¹ and I. Kim². *1. Chungnam National University, Daejeon, South Korea; 2. Hoseo, Asan, South Korea*
- GR-07. Quantitative comparison of double-stator and traditional permanent magnet brushless machines.** S. Niu¹ and K. Chau¹. *1. Depart. of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China*
- GR-08. Design and analysis of interior-magnet outer-rotor concentric magnetic gears.** X. Liu^{1,2}, K. Chau¹ and J. Jiang^{1,2}. *1. Department of Electrical & Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Automation Department, Shanghai University, Shanghai, China*
- GR-09. Effect of rotor eccentricity in a PM brushless motor with common and uncommon neutral point in parallel winding connections.** H. Chen¹ and M. Tsai¹. *1. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*
- GR-10. Experimental Works and Performance Analysis of Surface-Mounted Permanent Magnet Generator using Equivalent Circuit considering Power Losses.** S. Jang¹, J. Choi¹, K. Ko¹ and S. Lee². *1. Chungnam National University, Dae-jeon, South Korea; 2. KITECH, Gwangju, South Korea*
- GR-11. A Flux-Mnemonic Permanent Magnet Brushless Machine for Wind Power Generation.** C. Yu¹, K.T. Chau¹ and J.Z. Jiang². *1. Department of Electrical & Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. School of Automation, Shanghai University, Shanghai, China*
- GR-12. A study on the irreversible magnet demagnetization in single-phase line-start permanent magnet motor.** T. Kim¹, H. Nam² and J. Hong³. *1. Electrical Engineering, Gyeongsang National University, Jinju, South Korea; 2. LG Electronics Inc., Changwon, South Korea; 3. Automotive Engineering, Hanyang University, Seoul, South Korea*

- GR-13. Optimal design of stator interior permanent magnet machine based on FE analysis.** Z. Jianzhong¹, M. Cheng¹ and W. Hua¹. *School of Electrical Engineering, Southeast University, Nanjing, China*
- GR-14. The rewritable effects of bonded magnet for large starting torque and high efficiency in the Small Power Single-Phase Written Pole Motor.** J. Choi¹ and S. Lee². *Electric Motor Research Group, Korea Electrotechnology Research Institute, Changwon Si, Gyeongsangnam-Do, South Korea; 2. Materials & Component Team, Korea Institute of Industrial Technology, Gwangju, South Korea*
- GR-15. Magnetization Distribution in Transition Zones of Magnet Poles and Its Influence on Spindle Motor Performances.** J. Li¹ and Z. Liu². *1. School of Electrical Engineering, Xi'an Jiaotong University, P.R. China, China; 2. Data Storage Institute, Singapore, Singapore*
- GR-16. Analysis of armature reaction field and saturation effect in permanent magnet motors with concentrated windings.** J. Li² and Z. Liu¹. *1. School of Electrical Engineering, Xi'an Jiaotong University, P.R. China, China; 2. Data Storage Institute, Singapore, Singapore*
- GR-17. Optimal Design of Flux Barrier for Reducing of Cogging Torque and Torque Ripple, and Increasing Efficiency in Spoke type BLDC Motor by using Modified Taguchi Method.** B. Yang¹, K. Hwang¹ and B. Kwon¹. *Hanyang Univ., Ansan, South Korea*

FRIDAY
MORNING
8:00

AUSTIN BALLROOM

Session GS
MICROMAGNETIC SIMULATIONS AND METHODS
(POSTER SESSION)
Donald Porter, Chair

- GS-01. Hybrid Finite-Element / Boundary Element Method for Oersted field calculation in spin-torque driven magnetization dynamics.** R. Hertel¹. *Institute of Solid State Research, Julich Research Center, Julich, Germany*
- GS-02. Exploiting Effective Field Time Derivative Information to Improve Accuracy of a Norm-preserving Landau-Lifshitz Solver.** D.G. Porter¹ and M.J. Donahue¹. *NIST, Gaithersburg, MD*
- GS-03. Micromagnetic Simulation by Using Fast Multipole Method Specialized for Uniform Brick Elements.** Y. Takahashi¹, S. Wakao², T. Iwashita³ and M. Kanazawa³. *1. Graduate School of Informatics, Kyoto University, Kyoto, Japan; 2. Department of Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan; 3. Academic Center for Computing and Media Studies, Kyoto University, Kyoto, Japan*

- GS-04. High resolution large-scale micromagnetic simulations with hierarchical matrices.** A. Kakay¹, R. Hertel¹ and C. Schneider¹. *IFF-IEE, Forschungszentrum Juelich, Juelich, Germany*
- GS-05. Finite Element Method Based on a Minimization Theorem to Obtain Unique Magnetization Distribution.** A. Vashghani Farahani¹ and J. Lavers¹. *University of Toronto, Toronto, ON, Canada*
- GS-06. Non-uniform Grid algorithm for fast magnetostatic interactions calculation in micromagnetics.** B. Livshitz^{1,2}, A. Boag³, H.N. Bertram^{2,4} and V. Lomakin^{1,2}. *1. ECE, UCSD, San Diego, CA; 2. CMRR, UCSD, San Diego, CA; 3. Physical Electronics, Tel Aviv University, Tel Aviv, Israel; 4. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA*
- GS-07. A New Approach in Finite Element Analysis of Eddy Currents with Flux Skin Effect.** J. Merrikhi¹. *Islamic Azad University, Firozkoh, Iran*
- GS-08. Micromagnetic study of the above-threshold generation regime in a spin-torque oscillator based on a magnetic nano-contact magnetized at an arbitrary angle.** G. Consolo¹, B. Azzerboni¹, L. Lopez-Diaz², V. Tiberkevich³ and A.N. Slavin³. *1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Italy, Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Spain; 3. Physics, Oakland University, Rochester, MI*
- GS-09. Thermal effects in the magnetization dynamics of nanoscale spin-valves.** L. Torres², G. Finocchio¹, G. Consolo¹ and B. Azzerboni¹. *1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*
- GS-10. Low field and controlled domain wall structure during injection into nanostripes.** A. Kunz¹, A.J. Smith¹ and E.C. Breitbach¹. *Physics, Marquette University, Milwaukee, WI*
- GS-11. Effect of Elliptical Magnetic Impurity on Stripe Domain in Iron-Garnet Magnetic Films.** Y. Fedyunin¹, M.L. Akimov², A.O. Menshenina², P.A. Polyakov² and N.N. Usmanov². *1. Math and Science, Merchant Marine Academy, Kings Point, NY; 2. Lomonosov Moscow State University, Moscow, Russian Federation*
- GS-12. Micromagnetic numerical analysis of magnetization processes in patterned ferromagnetic films.** A. Manzin¹, O. Bottauscio¹ and M. Chiampì². *1. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Dipartimento di Ingegneria Elettrica, Politecnico di Torino, Torino, Italy*
- GS-13. Analysis of Magnetic Field for AC Singular Line Currents by Coupling of Analytical Solution and Finite Element Method.** Y. Kim¹, D. Kim², I. Park¹ and K. Lee². *1. School of Information and Communication Engineering Sungkyunkwan University, Suwon, Gyeonggi-do, South Korea; 2. Department of Electrical Engineering Dankook University, Yongin, Gyeonggi-do, South Korea*

GS-14. Modeling and calculation of magnetic fields in magnetic circuits: problems with the standard Ampere's Law model equation. *A.E. Umenei*¹, *Y. Melikhov*¹, *S. Zurek*¹ and *D.C. Jiles*¹. *Electrical Engineering, Wolfson Centre for Magnetism, Cardiff, Wales, United Kingdom*

GS-15. Numerical study of effective permeability of soft-magnetic composites with conductive inclusions. *B. Drnovšek*¹, *V.B. Bregar*¹ and *M. Pavlin*². *1. Nanotesla Institute, Ljubljana, Slovenia; 2. Faculty of Electrical Engineering, University of Ljubljana, Ljubljana, Slovenia*

GS-16. Numerical study of Magneto-Convection in a square enclosure. *M. Ghassemi*^{1,3}, *M. Pirmohammadi*¹ and *G. Sheikhzadeh*². *1. Kntoosi University of Technology, Tehran, Iran; 2. University of Kashan, Kashan, Iran; 3. New Mexico Tech, New Mexico, NM*

GS-17. Withdrawn

**FRIDAY
MORNING
8:00**

AUSTIN BALLROOM

**Session GT
MAGNETORESISTANCE,
MAGNETOIMPEDANCE, HALL EFFECT AND
HALF METALS
(POSTER SESSION)
Claudia Felser, Co-Chair
William Butler, Co-Chair**

GT-01. Magnetic Properties of Bulk and Thin Film $\text{Co}_2\text{MnSbSn}_{1-x}$ *M.R. Paudel*¹, *C. Wolfe*¹, *H. Anthony*¹, *I. Dubenko*¹, *N. Ali*¹, *Y. Li*⁶, *D.L. Ederer*^{2,6}, *T.A. Callcott*³, *J.W. Freeland*³ and *S. Stadler*^{4,1}. *1. Physics, Southern Illinois University, Carbondale, IL; 2. Center for Advanced Microstructures and Devices, Louisiana State University, Baton Rouge, LA; 3. Advanced Photon Source, Argonne National Lab, Argonne, IL; 4. Physics and Astronomy, Louisiana State University, Baton Rouge, LA; 5. Physics and Astronomy, University of Tennessee, Knoxville, TN; 6. Physics, Tulane University, New Orleans, LA*

GT-02. New quaternary half metallic material CoFeMnSi . *X. Dai*^{1,2}, *G. Liu*¹, *G.H. Fecher*¹, *C. Felser*¹, *Y. Li*² and *H. Liu*². *1. Institute of Inorganic and Analytical Chemistry, Johannes Gutenberg - University, Mainz, Germany; 2. School of Material Sciences and Engineering, Hebei University of Technology, Tianjin, China*

GT-03. Spin-dependent electronic structures of $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}$ Al electrodes investigated through tunneling spectroscopy. *N. Itabashi*¹, *T. Ishikawa*¹, *K. Yonemura*¹, *K. Matsuda*¹, *T. Uemura*¹ and *M. Yamamoto*¹. *Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

GT-04. Tailoring of structural and magnetic properties of Co_2MnSi Heusler compound by He^+ ion irradiation. *O. Gaier*¹, *J. Hamrle*¹, *B. Hillebrands*¹, *H. Schneider*², *M. Kallmayer*², *P. Pörsch*², *H.J. Elmers*², *J. Fassbender*³, *Y. Sakuraba*⁴, *S. Tsunegi*⁵, *M. Oogane*⁵ and *Y. Ando*⁵. *1. Fachbereich Physik and Forschungszentrum OPTIMAS, TU Kaiserslautern, Erwin-Schrödinger-Str. 56, D-67663 Kaiserslautern, Germany; 2. Institut für Physik, Johannes-Gutenberg-Universität, Staudingerweg 7, D-55128 Mainz, Germany; 3. Forschungszentrum Dresden-Rossendorf, Institut für Ionenstrahlphysik und Materialforschung, Bautzner Landstrasse 128, D-01328 Dresden, Germany; 4. Magnetic Materials Laboratory, Institute for Materials Research (IMR), Tohoku University, Katahira 2-1-1, Aoba-ku, Sendai 980-8577, Japan; 5. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Aoba-yama 6-6-05, Aoba-ku, Sendai 980-8579, Japan*

GT-05. High-Quality Full-Heusler $\text{Fe}_2\text{MnSi/Ge}$ Heterostructures Grown by Molecular Beam Epitaxy. *K. Hamaya*¹, *K. Yamamoto*¹, *K. Ueda*¹, *Y. Ando*¹, *H. Itoh*², *Y. Maeda*³ and *M. Miyao*¹. *1. Department of Electronics, Kyushu University, Fukuoka, Japan; 2. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 3. Department of Energy Science and Technology, Kyoto University, Kyoto, Japan*

GT-06. Withdrawn

GT-07. Magnetic properties and magnetoresistance effect of spinels $\text{Cd}_{1-x}\text{Cu}_x\text{Cr}_2\text{S}_4$ ($x=0, 0.01, 0.04, 0.1, 0.2$). *L. Yan*¹, *J. Shen*¹, *W. Ren*², *Z. Sun*¹ and *F. Wang*¹. *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Physics, Hong Kong University of Science and Technology, Hong Kong, China*

GT-08. Extraordinary Hall effect of SrRuO_3 in the ultrathin limit. *M. Schultz*¹, *J.W. Reiner*² and *L. Klein*¹. *1. Physics, Bar Ilan University, Ramat-Gan, Israel; 2. Applied Physics, Yale University, New Haven, CT*

GT-09. Universal scaling relation between Hall and longitudinal conductivity in Zn-substituted magnetite. *D. Venkateshvaran*^{1,2}, *A. Boger*¹, *M. Althammer*¹, *M. Rao*^{2,3}, *S.B. Goennenwein*¹, *M. Opel*¹ and *R. Gross*^{1,4}. *1. Walther-Meißner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, India; 3. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 4. Physik-Department, Technische Universität München, Garching, Germany*

GT-10. Growth and magnetic properties of half-metallic Fe_3O_4 epitaxial films on wide bandgap semiconductor $\text{GaN}(0001)$. *J. Wong*¹, *W. Zhang*¹, *Y. Xu*¹, *X. Cui*², *Z. Tao*², *X. Li*², *Z. Xie*² and *R. Zhang*². *1. Spintronics and Nanodevice Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. Key Laboratory of Advanced Photonic and Electronic Materials, Department of Physics, Nanjing University, Nanjing, China*

GT-11. Spin-Hall accumulation in a square 2DEG sample with a central defect. *I. Klik*¹, *S. Chen*¹ and *C. Chang*¹. *1. Physics, National Taiwan University, Taipei, Taiwan*

- GT-12. Electronic structure of Fe and Cr interlayers.** *K.N. Shrivastava¹, N.A. Zabidi¹ and H.A. Kassim¹. Department of Physics, University of Malaya, Kuala Lumpur, Selangor, Malaysia*
- GT-13. Magnetoresistance behavior of Elliptical Ring Nanomagnets in Close Proximity with Magnetic Elements.** *S. Jain¹ and A.O. Adeyeye¹. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*
- GT-14. The influence of the anisotropic effect on the spin Hall effect studied using the effective mean-free-path model.** *S. Chen¹ and C. Chang². Applied Physics, National Chia Yi University, Chiayi, Taiwan; 2. Physics, National Taiwan University, Taipei, Taiwan*
- GT-15. Magnetoresistance in a Fe/Fe₃O₄ nanowire array.** *F. Cuccureddu¹, H. Wu¹, R. Ramos¹ and I.V. Shvets¹. School of Physics, Trinity College Dublin, Dublin, Ireland*
- GT-16. Anisotropy Magnetoresistance(AMR) Effect of Macroscopic ferrimagnet Co-TbN.** *H. Lee¹, Y. Cho¹, M. Park¹, J. Cho², Y. Kim² and T. Kim¹. Sejong University, Seoul, South Korea; 2. Korea University, Seoul, South Korea*
- GT-17. Enhancement of Tunneling Magnetoresistance by Spin-flip Effects in a Double Magnetic Tunnel Junction System.** *M. Ma¹, M. Bin Abdul Jalil¹ and S. Tan². Department of Electrical and Computer Engineering, Information Storage Materials Laboratory, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*
- GT-18. Planar Hall effect of Permalloy films on Si(111), Si(100), and glass substrates.** *S. Jen^{1,2}, P. Wang², Y. Tseng² and H. Chuang². Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Optoelectronic Sciences, Nation Taiwan Ocean University, Keelung, Taiwan*
- GT-19. Current-perpendicular-to-plane giant magnetoresistance of multilayered films using Co₂MnSi Heusler alloys.** *K. Kodama¹, T. Furubayashi², T. Nakatani¹, H. Sukegawa², K. Inomata² and K. Hono^{2,3}. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 2. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan*

FRIDAY
MORNING
8:00

AUSTIN BALLROOM

Session GU
MAGNETO-ELASTIC MATERIALS
(POSTER SESSION)

Alex Punnoose, Chair

- GU-01. Resonance properties and anisotropy of Ni-Mn-Ga thin films of different thickness deposited on Si substrate.** *V. Golub¹, K.M. Reddy², V. Chernenko¹, P. Müller³, A. Punnoose² and M. Ohtsuka⁴. Institute of Magnetism NASU and MESU, Kiev, Ukraine; 2. Department of Physics, Boise State University, Boise, ID; 3. Department of Materials Science and Engineering, Boise State University, Boise, ID; 4. IMRAM, Tohoku University, Sendai, Japan*

- GU-02. Magnetic shape memory effect in free-standing cantilevers of Ni₂MnGa and Mn₂NiGa thin films.** *C. Jenkins^{1,2}, R. Ramesh¹, T. Eichhorn², G. Jakob² and C. Felser². University of California, Berkeley, Berkeley, CA; 2. Johannes Gutenberg University Mainz, Mainz, RLP, Germany*
- GU-03. Magnetic field influence on the structural transformation in ferromagnetic shape memory alloy Mn₅₀Ni₄₀In₁₀ melt spun ribbons.** *C. Garcia^{1,2}, J. Gonzalez², J.L. Sanchez Llamazares³, B. Hernando³, V.M. Prida³ and R. Varga⁴. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Dpto. de Fisica de Materiales, Fac. Quimicas, UPV/EHU, San Sebastian, Guipuzcoa, Spain; 3. Dpto. Fisica. Facultad de Ciencias, Universidad de Oviedo, Oviedo, Asturias, Spain; 4. Fac Sci, Inst Phys, UPJS, Kosice, Slovakia*
- GU-04. Metastability and the Magnetostructural Transitions in Ni₅₀Mn₃₉Sn₁₁** *W.M. Yuhasz¹, D.L. Schlage¹, Q. Xing¹, K.W. Dennis¹, R.W. McCallum¹ and T.A. Lograsso¹. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA*
- GU-05. Structural & Magnetic Properties of NiMnSn Ferromagnetic Shape Memory Alloy Thin Films.** *D. Kaur¹, R. Vishnoi¹, A. Kumar¹ and N. Chaudhary¹. Department of Physics & Centre of Nanotechnology, Indian Institute of Technology, Roorkee, Roorkee, India*
- GU-06. Microstructures and Magnetic Properties of Rapidly Solidified Iron-based Ni-Fe-Ga Ferromagnetic Shape Memory Alloys.** *S. Aich¹, S. Das¹, I.A. Al-Omari^{2,4}, P. Alagarsamy³, S. Ghosh Chowdhury⁵ and M. Chakraborti¹. Metallurgical & Materials Engineering, Indian Institute of Technology (IIT), Kharagpur, West Bengal, India; 2. Physics, Sultan Qaboos University, Muscat, Oman; 3. Physics, Indian Institute of Technology (IIT), Guwahati, Assam, India; 4. Physics, University of Nebraska-Lincoln, Lincoln, NE; 5. MST Division, National Metallurgical Laboratory, Jamshedpur, Bihar, India*
- GU-07. Phase formation and magnetic properties of rapidly quenched Ni-Fe-Ga Heusler alloy.** *N.V. Rama Rao^{1,2}, R. Gopalan¹, V. Chandrasekaran¹ and K.G. Suresh². AMG, DMRL, Hyderabad, Andhra Pradesh, India; 2. Physics, IIT Bombay, Mumbai, Maharashtra, India*
- GU-08. Magnetic and thermal properties of single crystal Ni-Fe-Ga Heusler alloys.** *V. Basso¹, D. Balma¹, M. Kuepferling¹, C.P. Sasso¹ and A. Vasiliev². Electromagnetics, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Moscow State University, Moscow, Russian Federation*
- GU-09. 1600 ppm Unloaded Magnetostriction in Epoxy-Bonded Terfenol-D Continuous-Fiber Composites with [112] Crystallographic Orientation.** *C. Lo¹, C. Leung¹, S. Or¹ and H. Chan². Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China; 2. Department of Applied Physics, The Hong Kong Polytechnic University, Hong Kong, China*

- GU-10. Synthesis and Magnetostriction of $Tb_xPr_{1-x}(Fe_{0.8}Co_{0.2})_{1.9}$ Cubic Laves Alloys.** Y. Shi¹, S. Tang¹, J. Yu¹, L. Zhai¹, X. Zhang¹ and Y. Du¹. *Department of Physics, Nanjing University, Nanjing, Jiangsu, China*
- GU-11. Young's moduli and damping capacity of magnetically annealed $Tb_{0.36}Dy_{0.64}(Fe_{0.85}Co_{0.15})_2$ polycrystals.** T. Ma¹, M. Yan¹, X. Chen¹ and Y. Pei². *1. Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China; 2. School of Science, Beijing Institute of Technology, Beijing, China*
- GU-12. Interplay between lattice clamping and helical magnetic ordering in (110) Eu epitaxial films.** K. Dumesnil¹, A. Bataille², C. Dufour¹, P. Mangin^{1,2} and A. Gukasov². *1. LPM, Vandoeuvre les Nancy, France; 2. Laboratoire Leon Brillouin, Gif sur Yvette, France*
- GU-13. Plastic deformation of thin ferromagnetic films on nitinol sheet metal.** A. Bandyopadhyay¹, W.J. Geerts¹, A. Gregory¹, K. Smith¹, C. Moore¹, J.S. Tate² and M.J. Sablik³. *1. Physics, Texas State University, San Marcos, TX; 2. Ingram School of Engineering, Texas State University, San Marcos, TX; 3. Applied Physics Division, Southwest Research Institute, San Antonio, TX*
- GU-14. Magnetic and magnetostrictive properties of Laves compounds $Sm_{1-x}Ce_xFe_2$ ($0 \leq x \leq 1$).** W.J. Ren¹, J.L. Yang¹, B. Li¹, D. Li¹, X.G. Zhao¹ and Z.D. Zhang¹. *Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*
- GU-15. Comparison of Alternative Techniques for Characterization of Magnetostriction and Inverse Magnetostriction in Magnetic Thin Films.** A. Raghunathan¹, D.C. Jiles¹ and J.E. Snyder¹. *Wolfson Centre for Magnetism, Cardiff School of Engineering, Cardiff University, Cardiff, United Kingdom*
- GU-16. Analysis of a power harvesting device with hysteretic magnetostrictive characteristics.** D. Davino¹, A. Giustiniani² and C. Visone¹. *1. Engineering Department, University of Sannio, Benevento, Italy; 2. DIIIIE, University of Salerno, Salerno, Italy*

FRIDAY
MORNING
8:00

AUSTIN BALLROOM

Session GV
POWER, SHIELDING, AND LEVITATION
(POSTER SESSION)

Chan Ham, Chair

- GV-01. Design and Analysis of a Hybrid Magnet Array for a Maglev System.** C.H. Ham¹. *Florida Space Institute, University of Central Florida, Kennedy Space Center, FL*

- GV-02. Characteristic Analysis of Electrodynamic Suspension Device with Permanent Magnet Halbach Array.** H. Cho¹, S. Moon¹, H. Sung¹, H. Han¹, J. Bang¹, K. Ko² and S. Jang². *1. System Engineering Research Division, Korea Institute of Machinery and Materials, Daejeon, South Korea; 2. Electrical Engineering, Chungnam National University, Daejeon, South Korea*
- GV-03. Magnetic Design and Dynamic Analysis of Rectangular-Surface Electromagnets for Levitation Application System.** S. Jang¹, J. Choi¹, J. Park¹, S. Sung¹ and H. Sung². *1. Chungnam National University, Dae-jeon, South Korea; 2. KIMM, Daejeon, South Korea*
- GV-04. Performance Prediction of a Small-sized Herringbone-grooved Bearing with Non-Newtonian Ferro-fluid Lubrication Considering Cavitation.** Y. Kao¹, P. Chao¹, C. Chang² and J. Huang². *1. Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Mechanical Engineering, Chung Yuan Christian University, Chungli, Taiwan*
- GV-05. Withdrawn**
- GV-06. Study of electromagnetic absorption on $Zn_{1-x}Co_xO$ film prepared by hybrid magnetic co-sputtering method.** S. Tong¹ and M. Tung¹. *Industrial Technology Research Laboratories, Hsinchu, Taiwan*
- GV-07. Coil geometry for efficient active compensation with separated magnetic shields.** Y. Nakashima^{1,2} and I. Sasada¹. *1. Department of Applied Science for Electronics and Materials, Kyushu University, Fukuoka, Japan; 2. Research Fellow of the Japan Society for the Promotion of Science, Tokyo, Japan*
- GV-08. Shielding Performance of Open-Type Magnetic Shielding Box Structure.** T. Saito¹. *Kajima Corporation, Tokyo, Japan*
- GV-09. Microstructural Characterization of Ferritic 12Cr Steel by Reversible Magnetic Permeability.** C. Kim¹, I. Park² and K. Ryu³. *1. Engineering Science and Mechanics, Pennsylvania State University, State College, PA; 2. Seoul National University of Technology, Seoul, South Korea; 3. Korea Research Institute of Standard and Science, Daejeon, South Korea*
- GV-10. Experimental Verification and Analytical Approach to Influence Stator Skew on Electromagnetic Performance of Permanent Magnet Generators with Multi-pole Rotor.** J. Choi¹, S. Jang¹, K. Ko¹ and J. Park¹. *Chungnam National University, Dae-jeon, South Korea*
- GV-11. Rotating Flux and Rotational Loss within Lamination at T-joint of a 3-phase 3-limb Transformer Core under PWM Voltage Excitation.** X. Yao¹, A. Moses¹, S. Somkun¹ and F. Anayi¹. *School of Engineering, Cardiff University, Wolfson Centre for Magnetism, Cardiff, Wales, United Kingdom*

GV-12. Micro-scaled on chip high Q toroidal inductors above 20GHz. S. Chen¹, J. Ou² and J. Wu³. *1. The Graduate Institute of Photonics, National Changhua Univ. of Education, Changhua, Taiwan; 2. Taiwan SPIN research center, National Changhua Univ. of Education, Changhua, Taiwan; 3. Department of Physics, National Changhua Univ. of Education, Changhua, Taiwan*

GV-13. An analytical estimation of dependence of copper loss in high frequency transformers on winding cross section. K.V. Namjoshi¹, A. Sadeghian² and J. Lavers¹. *1. Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada; 2. Computer Science, Ryerson, Toronto, ON, Canada*

GV-14. Incorporating Core Hysteresis Properties In 3-D Computations Of Transformer Inrush Current Forces. A.A. Adly¹ and H.H. Hassan¹. *1. Elect. Power & Machines, Cairo University, Giza, Egypt*

GV-15. MEMs Design of Air Core Ethernet Transformers. D. Bowen^{1,2}, I.D. Mayergoyz^{1,2} and M. Beyaz¹. *1. ECE, University of Maryland, College Park, MD; 2. UMLACS, University of Maryland, College Park, MD*

FRIDAY
AFTERNOON
2:00

SALON A

**Session HA
INTERMETALLIC AND OTHER HARD
MAGNETIC MATERIALS III**

Jan-Ulrich Thiele, Chair

2:00

HA-01. Grain isolated L1₀ FePt-Ta₂O₅ nanocomposite media with large coercivity for perpendicular recording applications. B. Lim¹, J. Chen², J. Hu¹, W. Phyoe¹, Y. Ding¹ and B. Liu¹. *1. Spintronics, Media and Interface (SMI) Division, Data Storage Institute, A*STAR (Agency for Science, Technology and Research), Singapore, Singapore; 2. Dept of Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

2:12

HA-02. L1₀ Alloys for Heat Assisted Magnetic Recording (HAMR) Media: On the Nucleation of the L1₀ Phase in FePt and FeCuPt Alloy Films. K. Barmak^{1,2}, D.C. Berry^{1,2} and J.M. Rickman³. *1. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 3. Department of Materials Science and Engineering, Lehigh University, Bethlehem, PA*

2:24

HA-03. L1₀ ordered FePt thin films with small distribution of perpendicular magnetic anisotropy. E. Kitagawa¹, M. Yoshikawa¹, T. Nagase¹, T. Daibou¹, K. Nishiyama¹, M. Nagamine¹, T. Kishi¹ and H. Yoda¹. *1. Toshiba Corporation, Kawasaki, Japan*

2:36

HA-04. Tailoring the FePt orientation on amorphous substrates by magnetron sputtering, structural and magnetic investigations. V. Cantelli¹, J. Grenzer¹, J. von Borany¹ and J. Fassbender¹. *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf, Dresden, Germany*

2:48

HA-05. Thickness dependence of structure and magnetic properties of annealed [Fe/Pt]_n multilayer films. B. Yao¹ and K.R. Coffey¹. *1. Advanced Materials Processing and Analysis Center, Department of Mechanical, Materials and Aerospace Engineering, University of Central Florida, Orlando, FL*

3:00

HA-06. In situ formation of L1₀ FePt nanoclusters via plasma ion heating during inert gas condensation. M. Patterson^{4,1}, X. Rui^{2,1}, T.A. Zimmerman^{6,1}, X. Li^{1,3}, M. Kramer⁵, S. Dave^{3,1} and J. Shield^{2,1}. *1. Nebraska Center for Materials and Nanoscience, University of Nebraska - Lincoln, Lincoln, NE; 2. Mechanical Engineering, University of Nebraska - Lincoln, Lincoln, NE; 3. Physics, University of Nebraska - Lincoln, Lincoln, NE; 4. Physics, University of Wisconsin - Stout, Menomonie, WI; 5. Materials Science and Engineering, Iowa State University, Ames, IA; 6. Physics, Gustavus Adolphus, St Peter, MN*

3:12

HA-07. Morphology and Crystalline Structure of Large Directly-Ordered L1₀ FePt Nanoparticles. X. Liu¹ and J. Wang¹. *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

3:24

HA-08. Ultra-high-density (001)-oriented FePt nanoparticles by atomic-scale-multilayer deposition. L. Wang¹, Y. Wu¹ and C. Lai¹. *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

3:36

HA-09. Shape Control of FePt Nanocrystals. *N. Poudyal*¹, G.S. Chaubey¹, C. Rong¹ and J. Liu¹. *Physics, University of Texas at Arlington, Arlington, TX*

3:48

HA-10. Observation of L10-like chemical ordered decahedral FePt nanoparticles by Cs-corrected HRTEM. X. Hu^{1,2}, L. Xie^{1,2}, P.J. Liu⁴ and J. Yuan³. *Laboratory of Advanced Materials, Department of Materials Science and Engineering, Tsinghua University, Beijing, China; 2. Beijing Electron Microscopy Centre, Tsinghua University, Beijing, China; 3. Department of Physics, University of York, York, United Kingdom; 4. Department of Physics, University of Texas at Arlington, Arlington, TX*

4:00

HA-11. Phenomenological analysis of magnetization reversal process for L1₀-FePt (001) particulate films. D. Wang¹, T. Seki¹, K. Takanashi¹ and T. Shima². *Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Faculty of Engineering, Tohoku-Gakuin University, Tagajo, Japan*

4:12

HA-12. Magnetic properties of L1₀ FePtAu100-x-y nanoparticles. V. Nandwana¹, G.S. Chaubey¹, Y. Zhang¹ and J. Liu¹. *Physics, University of Texas at Arlington, Arlington, TX*

4:24

HA-13. Phase transformations and magnetic structure of Fe-Pd and Co-Pt alloys studied by in-situ neutron powder diffraction. J. Lyubina¹, O. Isnard² and O. Gutfleisch¹. *Leibniz-Institute of Solid State and Materials Research, IFW Dresden, P.O. Box 270016, D-01171, Dresden, Germany; 2. Institut Néel, CNRS / University J. Fourier, Avenue des Martyrs 38042 Grenoble cedex 9 and Institut Laue-Langevin, Rue J. Horowitz, 38042, Grenoble cedex 9, France*

4:36

HA-14. Effects of substrate bias on magnetocrystalline anisotropy Ku of CoPt thin films with increasing Pt content. H. Yuan^{1,2}, Y. Peng³ and D.E. Laughlin^{1,2}. *Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 3. Seagate Technology, Pittsburgh, PA*

4:48

HA-15. Competing magnetic interactions in the intermetallic compound Ho₂Mn₃Si₅. R. Nirmala¹, A.V. Morozkin², J. Lamsal³, Z. Chu⁴, V. Sankaranarayanan¹, K. Sethupathi¹, Y. Yamamoto⁵, H. Hori⁵, W.B. Yelon⁶ and S.K. Malik⁷. *Physics, Indian Institute of Technology Madras, Chennai, India; 2. Department of Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation; 3. Department of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO; 4. Department of Physics, University of Missouri-Columbia, Columbia, MO; 5. School of Materials Science, Japan Advanced Institute of Science and Technology, Ishikawa, Japan; 6. Materials Research Center and Department of Chemistry, Missouri University of Science and Technology, Rolla, MO; 7. International Center for Condensed Matter Physics (ICOMP), University of Brasilia, Brasilia, Brazil*

FRIDAY
AFTERNOON
2:00

SALON B

Session HB
AMORPHOUS AND NANOCRYSTALLINE MATERIALS

Leszek Malkinski, Chair

2:00

HB-01. Soft magnetic nanocomposites generated by energetic iron/iron oxide core-shell nanocluster impact. Y. Qiang¹, D. Meyer¹, Y. Tian¹, R. Souza¹ and G. Donohoe². *Physics, University of Idaho, Moscow, ID; 2. Electrical and Computer Engineering, University of Idaho, Moscow, ID*

2:12

HB-02. Potential application of iron isotope fractionation in the mechanistic study of magnetite formation. P. Roonasi¹. *Luleå University of Technology, Luleå, Sweden*

2:24

HB-03. Characterization of Anomalous Magnetic Behavior of Iron Nanoparticles. T.C. Monson¹, D.L. Huber¹, J.M. Lavin¹, V. Petkov² and Y. Ren³. *Sandia National Labs, Albuquerque, NM; 2. Department of Physics, Central Michigan University, Mt. Pleasant, MI; 3. Advanced Photon Source, Argonne National Lab, Argonne, IL*

2:36

HB-04. Synthesis of Monodisperse FeCo Nanoparticles by Reductive Salt-matrix Annealing. N. Poudyal¹, G.S. Chaubey¹, C. Rong¹ and J. Liu¹. *Physics, University of Texas at Arlington, Arlington, TX*

2:48

HB-05. Magnetic Nanocrystalline Iron-Nickel alloy prepared by electrodeposition. *A. Sanaty Zadeh¹, A. Saidi¹ and K. Raeissi¹. Materials Engineerig, Isfahan University of Technology, Isfahan, Isfahan, Iran*

3:00

HB-06. Fabrication and magnetic properties of Ni nanodots using nanoporous polysulphone membrane. *S. Ramaswamy¹, G. Chandrashekar¹, A. Littleflower¹ and S.N. Kumar¹. Nanotechnology Research Center, SRM University, Chennai, Tamil Nadu, India*

3:12

HB-07. Formation of non-interacting Ni nanostructures in α -Al₂O₃ by negative ion implantation. *S.K. Sharma¹, P. Thakur², R. Kumar³, S. Kumar⁴, C.G. Lee⁴ and M. Knobel¹. 1. Physics, University of Campinas, Campinas, Sao Paulo, Brazil; 2. Thin Film Materials Research Center, KIST, Cheongrang, Seoul 130-650, South Korea; 3. Inter University Accelerator Centre (IUAC), New Delhi, India; 4. School of Nano & Advanced Materials Engineering, Changwon National University, # 9 Sarim dong, Chan, South Korea*

3:24

HB-08. Effect of boron on the field-induced magnetic anisotropy in Fe-based soft magnetic nanostructures. *N. Ito¹, K. Suzuki¹, J.S. Garitaonandia² and J.D. Cashion³. 1. Department of Materials Engineering, Monash University, Clayton, VIC, Australia; 2. Departamento de Física Aplicada II, UPV/EHU, Bilbao, Spain; 3. School of Physics, Monash University, Clayton, VIC, Australia*

3:36

HB-09. Process control of magnetic and structural properties of Fe₃Si films on Si substrates. *S. Liew¹, H.D. Seng¹ and D. Chi¹. IMRE, Singapore, Singapore*

3:48

HB-10. New Fe-Metalloids based nanocrystalline alloys with high Bs of 1.9T and excellent magnetic softness. *A. Makino¹, H. Men¹, K. Yubuta¹ and A. Inoue¹. IMR, Tohoku Univ., Sendai, Japan*

4:00

HB-11. Magnetic Behavior of SiCN/MWCNT Nano-composites. *A.A. Francis^{1,2}, E. Ionescu² and R. Riedel². 1. Advanced Materials, Central Metallurgical Research and Development Institute, Helwan, Egypt; 2. Materialwissenschaft, Technische Universität Darmstadt, Darmstadt, Germany*

4:12

HB-12. FeTaC soft underlayer for double-layered perpendicular recording media. *P. Alagarsamy¹, T. Yukiko K¹ and K. Hono¹. 1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

FRIDAY
AFTERNOON
2:00

SALON D

Session HC MAGNETO-CALORIC MATERIALS II

Robert Shull, Chair

2:00

HC-01. The Structure and Magnetocaloric Properties of Cu-doped Ni₂GaMn alloys. *V. Provenzano¹, T.B. Zhang^{1,2}, A. Shapiro¹ and R.D. Shull¹. 1. NIST, Gaithersburg, MD; 2. School of Materials Science and Engineering, Sichuan University, Chengdu, China*

2:12

HC-02. The effect of thermal/magnetic non-equilibrium in estimating the magnetocaloric effect from magnetization measurements. *J.S. Amaral¹ and V.S. Amaral¹. 1. Departamento de Física and CICECO, Universidade de Aveiro, Aveiro, Portugal*

2:24

HC-03. Influence of the demagnetizing field on the determination of the magnetocaloric effect from magnetization curves. *R. Caballero¹, V. Franco¹, A. Conde¹ and L.F. Kiss². 1. Department of Condensed Matter Physics, Sevilla University, Sevilla, Spain; 2. Research Institute for Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary*

2:36

HC-04. High cooling power of Co-doped PrNi₅ compounds exploiting its spin reorientation and magnetic transition over a wide temperature zone. *S. Das¹, D. Rocco¹, J. Amaral¹, J. Leitão¹, V. Amaral¹, M. Reis¹, R. Fernandes², J. Araújo³, A. Pereira³, P. Tavares⁴, N. Martins⁴ and A. Coelho⁵. 1. Departamento de Física and CICECO, University of Aveiro, Aveiro, Portugal; 2. Institut für Keramische Hochleistungswerkstoffe, Denickestraße, Technische Universität Hamburg-Harburg, Hamburg, Germany; 3. IFIMUP, Departamento de Física, Universidade do Porto, Porto, Portugal; 4. Departamento de Química and CQ-VR, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal; 5. Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas - UNICAMP, Campinas, S. Paulo, Brazil*

2:48

HC-05. Pressure Effect on Phase Transitions and Magnetocaloric Effect in Gd_5Ge_4 . *Z. Arnold¹, Y. Skorokhod¹, J. Kamarad¹, C. Magen² and P.A. Algarabel²*. *1. Magnetism and Superconductors, Institute of Physics AS CR, v.v.i., Prague 8, Czech Republic; 2. Departamento de Física de la Materia Condensada and Instituto de Ciencia de Materiales de Aragon, Universidad de Zaragoza and Consejo Superior de Investigaciones Científicas, 50009 Zaragoza, Spain*

3:00

HC-06. Field induced structural phase transition at higher temperatures in $Gd_5(Si_xGe_{1-x})_4$. *R.L. Hadimani¹, Y. Melikhov¹, J.E. Snyder¹ and D.C. Jiles¹*. *1. Wolfson Centre for Magnetism, Cardiff University, Cardiff, Wales, United Kingdom*

3:12

HC-07. A nano-resolution analytical electron microscopy study of Fe-substituted Gd-Ge-Si magnetocaloric alloys. *P. McGuinness¹, B. Podmiljsak¹, I. Skulj³, B. Markoli² and S. Kobe¹*. *1. Department for Nanostructured Materials, IJS, Ljubljana, Slovenia; 2. Department for Materials and Metallurgy, University of Ljubljana, Ljubljana, Slovenia; 3. Magneti Ljubljana d.d., Ljubljana, Slovenia*

3:24

HC-08. Pressure-induced enhancement of suppressed ferromagnetism in Ge-rich, $Gd_5(Si_{0.025}Ge_{0.975})_4$ magnetocaloric compound. *Y. Tseng^{1,2}, D. Haskel², N.M. Souza-Neto², Y. Mudryk³, V.K. Pecharsky³ and K.A. Gschneidner, Jr³*. *1. Materials Science & Engineering, Northwestern University, Evanston, IL; 2. Magnetic Materials Group, Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 3. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA*

3:36

HC-09. Magnetic and magnetocaloric properties of the $R_6Co_2Si_3$ compounds with $R = Pr, Nd, Gd$ and Tb . *J. Shen^{1,2}, B. Shen¹, F. Hu¹, J. Sun¹ and Y. Li²*. *1. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China; 2. School of Material Science and Engineering, Hebei University of Technology, Tianjin 300130, China*

3:48

HC-10. Magnetocaloric Effects in Spherical $La(Fe_{1-x}Si_x)_{13}$ and Their Hydrides for AMR-type Refrigerator. *A. Fujita¹, S. Koiwai², S. Fujieda¹, K. Fukamichi³, T. Kobayashi⁴, H. Tsuji⁴, S. Kaji⁴ and A. Saito-Takahashi⁴*. *1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai 980-8579, Japan; 2. JST Plaza Miyagi, Sendai 989-3204, Japan; 3. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai 980-8577, Japan; 4. Corporate Research & Development Center, Toshiba Corporation, Kawasaki 212-8582, Japan*

4:00

HC-11. Cooling power enhancement triggered by multiple metamagnetic transitions in $La(Fe,Si)_{13}$ -based compounds. *J. Lyubina¹ and O. Gutflisch¹*. *1. Leibniz-Institute of Solid State and Materials Research, IFW Dresden, P.O. Box 270016, D-01171, Dresden, Germany*

4:12

HC-12. Copper Induced Electronic Structure Changes in Giant Magnetocaloric Compound $Ni_2Mn_{0.75}Cu_{0.25}Ga$. *S. Roy¹, E. Blackburn², S.M. Valvidares³, M.R. Fitzsimmons⁴, S.C. Vogel⁴, J.B. Kortright³, S.K. Sinha², M. Khan⁵, I. Dubenko⁵ and N. Ali⁵*. *1. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 2. Department of Physics, University of California, San Diego, CA; 3. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Manuel Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, NM; 5. Department of Physics, Southern Illinois University, Carbondale, IL*

4:24

HC-13. Magnetocaloric Effect in MnP Nanorods: magnetic isotherms and direct thermal measurements. *R.A. Booth¹, J. Moran¹ and S.A. Majetich¹*. *1. Physics, Carnegie Mellon University, Pittsburgh, PA*

4:36

HC-14. Irreversible magnetocaloric response in Ni-Mn-Sn. *C.P. Sasso¹, L. Giudici^{1,2}, M. Pasquale¹, M. Kuepferling¹, V. Basso¹, T. Lograsso³ and D. Schlager³*. *1. Electromagnetics Division, INRIM, Torino, Italy; 2. Physics, Politecnico di Torino, Turin, Italy; 3. Materials and Engineering Physics, Ames Laboratory, Ames, IA*

4:48

HC-15. Mössbauer spectroscopy study on the magnetic transition in $\text{Mn}_{1.1}\text{Fe}_{0.9}\text{P}_{0.8}\text{Ge}_{0.2}$. X. Liu¹, Z. Altounian¹, D.H. Ryan¹, M. Yue², Z. Li², D. Liu² and J. Zhang². *1. physics department, McGill University, Montreal, QC, Canada; 2. College of Mater. Sci. & Eng., Beijing University of Technology, Beijing, China*

FRIDAY

SALON E

AFTERNOON

2:00

**Session HD
4f, 5f- AND STRONGLY CORRELATED
SYSTEMS III**

Joseph Ross, Chair

2:00

HD-01. Contribution of 4f states to the magnetic anisotropy of EuO. E. Arenholz¹, G. van der Laan², A. Schmehl³ and D.G. Schlom⁴. *1. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 2. Diamond Light Source, Didcot, Oxfordshire, United Kingdom; 3. Institut für Physik, Universität Augsburg, Augsburg, Germany; 4. Department of Materials Science & Engineering, Penn State University, University Park, PA*

2:12

HD-02. Electronic structure of ferromagnetic semiconductors EuX (X=O, S, Se, Te) probed by x-ray magnetic circular dichroism under high pressure. N.M. Souza-Neto¹, D. Haskel¹, Y. Tseng^{2,1} and G. Lapertot³. *1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 2. Department of Materials Science and Engineering, Northwestern University, Evanston, IL; 3. Département de Recherche Fondamentale sur la Matière Condensée, CEA, Grenoble, France*

2:24

HD-03. ^{33}S NMR Measurements in the Heisenberg Ferromagnet EuS. N. Bykovetz¹ and c. Lin². *1. Department of the Army, CECOM LCMC, AMSEL-SF-R, Fort Monmouth, NJ; 2. Physics, Temple University, Philadelphia, PA*

2:36

HD-04. Infrared study of SmMnO_3 crystal field excitations. V. Nekvasil¹, S. Jandl², A.A. Mukhin³, V.Y. Ivanov³ and A.M. Balbashov⁴. *1. Institute of Physics CAS, Prague, Czech Republic; 2. Université de Sherbrooke, Sherbrooke, QC, Canada; 3. General Physics Institute RAS, Moscow, Russian Federation; 4. Moscow Power Engineering Institute, Moscow, Russian Federation*

2:48

HD-05. Pressure and magnetic field effects in heavy-fermion $\text{UCu}_{3.5}\text{Al}_{1.5}$. F. Nasreen¹, A.M. Alsmadi², V. Zapf³, F. Fabris³, T.D. Dial³, A. Lacerda³, J. Kamarad⁴, K. Kothapalli¹ and H. Nakotte¹. *1. Physics Department, New Mexico State University, Las Cruces, NM; 2. Physics Department, The Hashemite University, Zarqa, Jordan; 3. Pulse Field Facility, NHMFL, Los Alamos National Laboratory, Los Alamos, NM; 4. Laboratory of High Pressure, Institute of Physics, ASCR, Praha, Czech Republic*

3:00

HD-06. Electronic Structure, Magnetic, and Transport Characterization of Eu-Mn Intermetallic Alloys. K.A. Balin^{1,2}, J. Szade², A. Hutchison¹ and Z. Celinski¹. *1. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Division of Solid State Physics, Institute of Physics, Silesian University, Katowice, Poland*

3:12

HD-07. Moment variation in $\text{Er}(\text{Co}_{1-x}\text{Fe}_x)_2$ Laves phase: magnetic measurements and Mössbauer spectroscopy study. X. Liu¹, Z. Altounian¹ and D.H. Ryan¹. *1. Physics Department, McGill University, Montreal, QC, Canada*

3:24

HD-08. Magnetic Properties of Thulium Layered Compounds; AlB_2 -type Analogues. T. Mori^{1,2} and K. Siemensmeyer³. *1. National Institute for Materials Science, Tsukuba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Hahn Meitner Institute, Berlin, Germany*

3:36

HD-09. Magnetic phase transitions in $R_2\text{NiPb}_3$, $R = \text{Ce, Nd}$ and Gd . V. Goruganti¹, K.D. Rathnayaka¹ and J.H. Ross¹. *1. Department of Physics, Texas A&M University, College Station, TX*

3:48

HD-10. Coexistence of magnetism and superconductivity in CeRhIn_5 . T. Park^{1,2}, J.L. Sarrao² and J.D. Thompson². *1. Physics, Sungkyunkwan University, Suwon, South Korea; 2. Condensed Matter and Thermal Physics, Los Alamos National Laboratory, Los Alamos, NM*

4:00

HD-11. Magnetic properties of plutonium and Pu compounds. L. Havela¹, A.B. Shick² and T. Gouder³. *1. Department of Condensed Matter Physics, Charles University, Prague 2, Czech Republic; 2. Institute of Physics, Academy of Sciences of the Czech Republic, Prague 8, Czech Republic; 3. European Commission, Joint Research Centre, Institute for Transuranium Elements, Karlsruhe, Germany*

4:12

HD-12. Ferromagnetism in UCoGe stabilized by transition metal doping. *J. Pospisil¹, J. Poltiero¹, M. Divis¹ and V. Sechovsky¹. 1. Department of Condensed Matter Physics, Charles University in Prague, Praha 2, Czech Republic*

4:24

HD-13. Magnetic disorder in Ti doped ErCo2: High magnetic field study. *Y. Öner¹ and M. Guillot². 1. Department of Physics, Istanbul Technical University, Istanbul, Turkey; 2. Grenoble High Magnet Field Laboratory, CNRS, Grenoble, France*

4:36

HD-14. Nanocrystals formation in amorphous $Y_xCe_{50-x}Cu_{42}Al_8$ ($x=0, 25$) heavy-fermion system. *B. Idzikowski¹, Z. Sniadecki¹ and B. Mielniczuk¹. 1. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

4:48

HD-15. Quadrupolar pair interactions in f-electron materials. *N.G. Fazleev^{1,2}. 1. Physics, University of Texas at Arlington, Arlington, TX; 2. Physics, Kazan State University, Kazan, Russian Federation*

FRIDAY

400/402

AFTERNOON

2:00

Session HE

FERRITES, GARNETS AND MICROWAVE MATERIALS

Rajasakeran Swaminathan, Chair

2:00

HE-01. Structural and Size dependent Magnetic Properties of Gadolinium- Iron- Garnet (GdIG) Nanoparticles under High Magnetic Field of 32 Tesla. *C.N. Chinnasamy¹, V.G. Harris¹, J.M. Greneche², T. Sakai¹, B. Latha¹, C. Vittoria¹ and M. Guillot³. 1. Center for Microwave and Magnetic Materials, Dept. of Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Laboratoire de Physique de L'Etat Condensé, UMR CNRS 6087, Institut de Recherche en Ingénierie Moléculaire et Matériaux Fonctionnels IRIM2F, FR CNRS 2575, Université du Maine, 72085 Le Mans Cedex 9, France; 3. Grenoble High Magnetic Field Laboratory, CNRS, Grenoble, BP 166, F-38042, France*

2:12

HE-02. Magnetism and magnetocaloric effect in bulk and nanostructured $Gd_3Fe_5O_{12}$ garnets. *M.H. Phan¹, M.B. Morales¹, H. Srikanth¹, C.N. Chinnasamy² and V.G. Harris². 1. Department of Physics, University of South Florida, Tampa, FL; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA*

2:24

HE-03. Imaging Capabilities of Etched (100) and (210) Garnet Films. *S. Tkachuk¹, D. Bowen¹, C. Krafft² and I.D. Mayergoyz^{1,3}. 1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD; 3. UMIACS, University of Maryland, College Park, MD*

2:36

HE-04. Monochromatic microwave radiation from the system of strongly excited magnons. *O. Dzyapko¹, V.E. Demidov¹, S.O. Demokritov¹, G.A. Melkov² and V.L. Safonov³. 1. University of Muenster, Muenster, Germany; 2. National Taras Shevchenko University of Kiev, Kiev, Ukraine; 3. Mag & Bio Dynamics, Inc., Escondido, CA*

2:48

HE-05. Magnetic Exchange Enhancement of Electron Spin Resonance. *G.F. Dionne¹. 1. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

3:00

HE-06. In-plane c-axis oriented barium ferrite films with self bias low microwave loss. *Y. Song¹, J. Das¹, Z. Wang¹, W. Tong¹ and C.E. Patton¹. 1. Department of Physics, Colorado State University, Fort Collins, CO*

3:12

HE-07. Synthesis, structural and magnetic properties of magnesium ferrite epitaxial thin films by molecular beam epitaxy. *J. Cheng¹, V.K. Lazarov², G.E. Sterbinsky¹ and B.W. Wessels¹. 1. Department of Materials Science and Engineering, Northwestern Univ., Evanston, IL; 2. Department of Materials, University of Oxford, Oxford, United Kingdom*

3:24

HE-08. Sharp Ferromagnetic Resonance in Polycrystalline Zn-ferrite Thin Films. *M. Bohra*^{1,2}, *S. Prasad*², *N. Venketaramani*³, *S.C. Sahoo*² and *R. Krishnan*⁴. *1. LSG2M, GT4, Ecole des mines, Nancy Cedex, France; 2. physics, IIT-Bombay, Mumbai, India; 3. Metallurgical Engineering and Material Science, IIT-BOMBAY, Mumbai, India; 4. Laboratoire de Magnetisme et d'Optique de l'Universite de Versailles, CNRS, 45 Avenue des Etats Unis, 78035 Versailles Cedex, France*

3:36

HE-09. Temperature dependence of magnetic anisotropy of germanium/cobalt co-substituted cobalt ferrite. *N. Ranvah*¹, *I.C. Nlebedim*¹, *Y. Melikhov*¹, *J.E. Snyder*¹, *A.J. Moses*¹, *P.I. Williams*¹, *F. Anayi*¹ and *D.C. Jiles*^{1,2}. *1. Wolfson Centre for Magnetism, Cardiff University, Cardiff, Wales, United Kingdom; 2. Materials Science and Engineering Department, Iowa State University, Ames, IA*

3:48

HE-10. Permeability and losses in ferrites from DC to the microwave regime. *M. Pasquale*¹, *F. Fiorillo*¹, *M. Coisson*¹ and *C. Beatrice*¹. *1. Divisione Elettromagnetismo, INRIM, Torino, Italy*

4:00

HE-11. An efficient model for the GHz permeability of sprayed ferrite films. *O. Acher*¹, *M. Ledieu*¹, *M. Abe*², *M. Tada*² and *T. Nakagawa*². *1. Departement Matériaux, CEA Le Ripault, F-37260 Monts, France; 2. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

4:12

HE-12. Low-loss magnetodielectric spinel-ferrite based ceramic with constant permeability and permittivity in the UHF range. *T. Atul*¹, *C. Alexis*¹, *M. Jean-Luc*¹ and *Q. Patrick*¹. *1. Lab-STICC, Brest Cedex 3, France*

4:24

HE-13. Ferromagnetic resonance and dielectric and magnetic properties of pure and diluted ferrites in millimeter waves. *M.N. Afsar*¹, *S. Chen*¹ and *K.A. Korolev*^{1,2}. *1. EECS, Tufts University, Medford, MA; 2. Extremely High Frequency Medical and Technical Association, Moscow, Russian Federation*

4:36

HE-14. Room Temperature Photo-induced Magnetization of Spinel (Mn,Zn,Fe)₃O₄ Thin Films. *J.S. Bettinger*¹, *R.V. Chopdekar*^{2,1}, *E. Arenholz*³ and *Y. Suzuki*¹. *1. Materials Science and Engineering, UC Berkeley, Berkeley, CA; 2. Applied Physics, Cornell University, Ithaca, NY; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

4:48

HE-15. Novel magnetic behaviors of CoFe₂O₄ nanoparticles prepared at low temperatures. *J. Tang*¹, *W. Wang*¹, *Q. Gao*², *G. Hong*² and *J. Ni*². *1. Physics & Astronomy, University of Wyoming, Laramie, WY; 2. Key Laboratory of Rare Earth Chemistry and Physics, Changchun Institute of Applied Chemistry, Changchun, Jilin, China*

FRIDAY
AFTERNOON
2:00

410

Session HF MOTORS AND ACTUATORS II

Helm Jansen, Chair

2:00

HF-01. Methods of Torque Ripple Reduction for Flux Reversal Motor. *G. Vakil*², *N.K. Sheth*¹ and *D. Miller*¹. *1. R&D, Magnequench Neo Powders Pte. Ltd., Singapore, Singapore; 2. Electrical Engineering Department, Nirma University of Science and Technology, Ahmedabad, India*

2:12

HF-02. Analysis and Design of a Slotless Tubular PM Actuator for High Acceleration Applications. *K.J. Meessen*¹, *J.J. Paulides*¹, *B.L. Gysen*¹ and *E.A. Lomonova*¹. *1. Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands*

2:24

HF-03. Evaluation of an Electro-magnetic Micro Actuator Using Scanning Hall Probe Microscopy Measurements. *D. Dinulovic*¹, *H. Saalfeld*¹, *Z. Celinski*², *S.B. Field*³ and *H.H. Gatzert*¹. *1. Institute for Microtechnology, Leibniz Universität Hannover, Garbsen, Germany; 2. Center for Magnetism and Magnetic Nanostructures, University of Colorado, Colorado Springs, CO; 3. Department of Physics, Colorado State University, Fort Collins, CO*

2:36

HF-04. Multilayered TbFe/Ni/TbFe Thin Film Multi Body Actuator for Micromachined Magnetostrictive Transducer. *H. Lee¹, C. Cho¹, C. You², H. Choi² and J. Yoon²*. *1. Mechanical Engineering, Inha University, Incheon, South Korea; 2. Physics, Inha University, Incheon, South Korea*

2:48

HF-05. ANN based Torque Calculation of SR Motor without Locking the Rotor. *F. Kucuk¹, . Goto¹, H.J. Guo² and O. Ichinokura¹*. *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku Gakuin University, Tagajo, Japan*

3:00

HF-06. Performance Analysis of Surface Mounted Permanent Magnet Brushless DC Motor using various Finite Element Packages. *P.R. Upadhyay¹, A.J. Sutaria² and T.N. Patel¹*. *1. Electrical and Computer Engineering Department, Institute of Technology, University of Minnesota, Minneapolis, MN, MN; 2. Department of Electrical Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India*

3:12

HF-07. Eddy currents due to vacuum chamber wall in the airgap of linear PM actuators. *J.W. Jansen¹ and E.A. Lomonova¹*. *1. Department of Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands*

3:24

HF-08. The influence of the stochastic features of the energy source on the design of an electromagnetic generator. *M. Trapanese¹*. *1. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Università di Palermo, Palermo, Italy*

3:36

HF-09. Sensorless Optimal Sinusoidal BLDC for Hard Disk Drives. *C. Soh^{1,2} and C. Bi^{1,2}*. *1. Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore*

3:48

HF-10. Comparative Study on Stator Structures in High-Speed Sensorless Brushless DC Motors. *K. Wang¹, M. Jin¹, J. Shen¹ and R. Qiu²*. *1. College of Electrical Engineering, Zhejiang University, Hangzhou, China; 2. Astronaut Center of China, Beijing, China*

4:00

HF-11. An Outer-Rotor Permanent Magnet Flux-Switching Machine for Traction Application. *Y. Wang¹, W. Fei^{2,1}, J. Shen¹ and Z. Fang¹*. *1. Zhejiang University, Hangzhou, China; 2. Cranfield University, Swindon, United Kingdom*

4:12

HF-12. A Study on the Integration of Contactless Energy Transfer in the End Teeth of a PM Synchronous Linear Motor. *D. Krop¹ and E. Lomonova¹*. *1. Electrical Engineering, University of Technology Eindhoven, Eindhoven, Netherlands*

4:24

HF-13. The use of Lie's Symmetries on the modeling of permanent magnet motors. *L.T. Loureiro¹, .F. Flores Filho¹, J.R. Zabadal² and R.P. Homrich¹*. *1. Electrical Engineering Department, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil; 2. Nuclear Engineering Department, Universidade Federal do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil*

4:36

HF-14. Noninvasive Detection of Unevenly Magnetized Permanent Magnet of a Brushless DC Motor by Characterizing Back Electro Motive Force. *C. Lee¹ and G. Jang¹*. *1. Dept. of Mechanical Engineering, PREM Lab., Hanyang University, Seoul, South Korea*

4:48

HF-15. Design and Construction of a Novel Rotary Magnetostrictive Motor. *N. Zhou¹*. *1. Hangzhou Dianzi University, Hangzhou, zj, China; 2. Pittsburg State University, Pittsburg, KS*

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