General Information

SCOPE OF THE CONFERENCE

The 55th Magnetism and Magnetic Materials Conference is sponsored jointly by Physics Conferences Inc. and the Magnetics 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 worldwide participants to meet their colleagues and collaborators and discuss new as well as controversial developments in all areas of magnetism research.

ATLANTA, GEORGIA

The City of Atlanta is an exciting destination for both conference goers and their families. Visitors can experience a diverse and thriving cultural scene at the city's many theatres, museums, galleries and concert halls. They can also enjoy family attractions such as the Georgia Aquarium (the world's largest aquarium), the New World of Coca-Cola or a behind-the-scenes Inside CNN Studio Tour. Critically-acclaimed restaurants featuring a multitude of cuisines can be found throughout the city. To learn more about the City of Atlanta and what you might like to see and do during your visit, go to the official web site at: *www.attend.atlanta.net/*.

TRANSPORTATION

The Hyatt Regency Atlanta (on Peachtree Street) can be reached from Hartsfield-Jackson International Airport in a variety of ways, the most efficient and cost-effective being by shuttle (the Atlanta Link Airport Shuttle for approximately $16.50 one-way) or by MARTA (the light rail system at approximately $2.50 one-way). For complete information about the Airport and the various types of ground transportation available go to: *http://www.atlanta-airport.com/*. For information on using MARTA from the airport, go to: *http://www.itsmarta.com/airport.aspx*. The hotel offers an indoor connection to the Peachtree Center Station of MARTA. If you choose to use a taxi from the airport, the fare to the Hyatt Regency will be approximately $35 plus tip.

HOTEL

HELP KEEP YOUR CONFERENCE FEES DOWN: Costs for the MMM Conference meeting and exhibits 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 Hyatt Regency Atlanta for the 2010 MMM Conference **before the cutoff date of Friday, October 22nd.**

The **Hyatt Regency Atlanta** is located in Atlanta's vibrant downtown district. A 24-hour gym and outdoor heated pool are available for guests free of charge. Located nearby are the CNN Center, High Museum of Art, Georgia Aquarium and the New World of Coca-Cola. The negotiated rates for MMM Conference participants are $159 plus tax for a single or double room. Each additional person in a room is $25.

Each Conference participant is responsible for making his/her own hotel reservation and for paying all personal bills upon checkout. You may book your room by going directly to the Hyatt Regency Atlanta reservations web site link for the MMM 2010 Conference at: *https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=2589329*.

Making a hotel room reservation via the web site is the fastest way to book the room you want, and will provide you with an immediate confirmation. The hotel can serve all special needs, so please make any required special requests when you reserve your room.

The deadline for reservations at the special MMM rate is Friday October 22, 2010.

If you prefer to make your reservation by telephone (at 1-402-592-6464 or 1-888-421-1442) prior to October 22, 2010 be sure to **ask for the "MMM" room block and special rate of $159 plus tax.**

Remember….your hotel room reservation must be received by the Hyatt Regency Atlanta no later than Friday, October 22nd, in order for you to receive the special MMM Conference rates.

CONFERENCE REGISTRATION

All 2010 MMM Conference attendees, including invited speakers, must pay registration fees. You can register in advance at a reduced rate prior to Friday, October 22, 2010. You are encouraged to register via the secure web site at: *http://www.regonline.com/2010_mmm_conference*.

If you prefer to send your payment by mail, you may also register by downloading, completely filling out, and mailing the Advance Registration Form posted on the MMM web site at: *http://www.magnetism.org/*. Payment in U.S. dollars must be made by MasterCard, Visa or American Express credit card or by personal or corporate check (**drawn on a U.S. bank only**). Checks are to be made payable to "2010 MMM Conference."

REMEMBER: All "Advance Registration" forms must be accompanied by FULL payment and must be received by October 22, 2010. Onsite registration during the Conference will be at the higher rates listed below. After October 22nd, only the higher registration fees will be accepted, and only at the Onsite Registration Desks at the Conference. **Mail-in forms not accompanied by payment or with incomplete or incorrect credit card information will be considered "late" and the higher rates will be collected onsite at the Conference.**

PLEASE NOTE: This MMM Conference begins on Sunday November 14th, with a new "Welcome and Networking Reception" being held beginning at 6:00 PM while the Registration Desks are also open for your convenience.

Registration Fees:

Advance Registration Fees	Prior to October 22	After October 22
Full Registrant	$470.00 (US Dollars)	$570
Student	$225.00 (US Dollars)	$275
Unemployed Retiree	$225.00 (US Dollars)	$275

The registration fees do not include any full meals/meal service during the Conference week.

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received no later than Friday, October 22, 2010. Refunds of the original payment, less a $75 service fee, will be mailed to the original registrant following the Conference.

Substitutions: Attendee substitutions may be made at any time, both on the Registration website and at the onsite registration desk, for a registrant who cannot attend but has paid the registration fee in advance. Onsite substitutes must bring authorization in writing from the original registrant.

Registration Hours:

The Conference Registration Desks, located opposite the Centennial Ballroom one level below the hotel's Atrium, will be open during the following hours:

Sunday, November 14th	5:00 PM – 9:00 PM
Monday, November 15th	7:30 AM – 4:30 PM
Tuesday, November 16th	8:00 AM – 4:00 PM
Wednesday, November 17th	8:00 AM – 3:00 PM
Thursday, November 18th	8:00 AM – 1:00 PM

Badge Policy: All attendees will be required to wear 2010 MMM Conference name badges to enter the Technical Sessions and Exhibits.

Recording Equipment Policy: The use of cameras, videotaping and/or recording devices in the technical sessions is strictly prohibited.

VISA REQUIREMENTS FOR ENTRY INTO THE USA:

The US has updated its visa policies to increase security, so it may take you 3 months or more to apply for and receive your visa. For details that apply specifically to your country please go **immediately** to your nearest US Consulate or Embassy. Review your visa status now to determine if you need a US visa or visa renewal and to find out how to schedule an interview appointment, pay fees, and other vital instructions. If you need a personal letter of invitation to attend the Conference, contact the Conference coordinators by email at: *mmm2010@widerkehr.com*. Please provide the following information: complete name, mailing address, and any other details that your country of residence requires for your visa application. Only an original copy (not faxed or email version) may be accepted with your visa application. **The Conference cannot contact or intervene with any U.S. Embassy or Consulate office abroad on your behalf so please begin your visa application process as soon as you determine that you want to attend the 55th MMM Conference.**

NEW VISA WAIVER PROGRAM TRAVEL: All nationals and citizens of Visa Waiver Program (VWP) countries (*http://www.travel.state.gov/visa/temp/without/without_1990.html#countries*) who plan to travel to the U.S. for temporary business or pleasure for 90 days or less are required by law to obtain travel authorization prior to initiating travel to the United States. This authorization can be obtained online through the Electronic System for Travel Authorization (see web site: *http://www.cbp.gov/xp/cgov/travel/id_visa/esta/*) (ESTA), a free Internet application administered by the U.S. Department of Homeland security (*http://www.dhs.gov/index.shtm*).

For additional information about the ESTA please visit *http://www.cbp.gov/esta*. Travelers from countries not in the VWP are still required to obtain a Visa prior to entry into the United States.

The site *http://www.nationalacademies.org/visas/*, maintained by The National Academies, also provides guidance on obtaining the necessary documents.

SUNDAY EVENING OPENING RECEPTION

On Sunday evening, while the Registration Desks are open in the same area for your convenience, there will be a "Welcome and Networking Reception" held from 6:00 PM until 10:00 PM in the Pre-Function Area outside the Centennial Ballroom. This area is located one level below the hotel's Lobby. This year marks a return to such a "traditional" opening reception that has previously been a part of this conference's 55-year history. Beer, wine, soft drinks, and light hors d'oeuvres will be served. Participants will also be surrounded by a "special poster session" outlining all of the Symposia to be held on Monday through Thursday, as well as displays of interesting facts and mementoes from the MMM Conference's history. Plan to be there!

WOMEN IN MAGNETISM NETWORKING EVENT

There will be a Women's Networking Reception with beverages and light hors d'oeuvres on Wednesday from 6:30 PM until 8:00 PM. All interested attendees (both Men & Women) are encouraged to participate. For questions, contact either Liesl Folks (*Liesl.folks@hitachigst.com*) or Julie Borchers at NIST (*Julie.borchers@nist.gov*). The 2010 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 Monday through Thursday mornings outside the Centennial Ballrooms from 8:00 AM – 10:00 AM. Coffee will then be available in Grand Hall East among the exhibits and Poster Sessions from 10:00 AM – 11:30 AM. on these days.

On Monday through Wednesday evenings, the Bierstube will be held from 5:30 PM – 7:00 PM in the Grand Hall East and Foyer. On Monday and Tuesday evenings the Bierstubes will again be sponsored through the generosity of Williams Advanced Materials.

PUBLICATIONS ROOM

The Publications Room, where authors can check the status of their manuscripts, will be located in Chicago B/C adjacent to the exhibits and Poster Sessions. 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:

Monday – Wednesday	9:00 AM – 5:00 PM
Thursday	9:00 AM – 12:00 Noon

SPEAKER PRACTICE ROOM

Speakers may use Chicago A, adjacent to the exhibits and Poster Sessions and next to the Publications Room, to practice their presentations and test their computer connections. Audiovisual equipment (LCD projector and screen) will be available for authors to use from Sunday at 1:00 PM until Thursday at 1:30 PM. Speakers are encouraged to use this facility to practice their presentation, either alone or with colleagues.

LCD PROJECTORS

Speakers are reminded that the Conference requires an all-electronic presentation format. Therefore, **only video LCD projectors** will be available for oral presentation materials. 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. In particular, Mac OS users must make sure that they have the correct adaptor plug and that video "mirroring" is activated.**

In each session room, there will be a multi-port switchbox so that a speaker can connect his/her laptop during the question period of the previous speaker. **Each speaker will be solely responsible for promptly connecting to the projector and switching to the correct input port.** The presentation timer will begin immediately after the introduction by the Session Chair, and there is no extra time allotted to troubleshoot connections or 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 for the speaker-supplied equipment. To partially protect yourself against laptop failure, it is suggested that you also bring a copy of your presentation on a USB flash memory stick as a back-up. However, session timing must be maintained therefore no additional presentation time will be given in the event of technical difficulties.**

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 be sure to bring your laptop computer to the Conference or arrange to borrow one during your session, as Chair laptops will be used for session timing. Further details will be emailed to Session Chairs a few weeks before the conference.

POSTER SESSIONS

NEW THIS YEAR: The hours of the Poster and Oral Sessions have been changed from those in past years, in order to reduce the time conflict between oral and poster presentations and allow better attendance at all sessions. **In addition, a cash-and-carry lunch option will be available in the Exhibit Hall on Monday through Thursday beginning at 11:30 AM** to facilitate attendance at the morning Poster Sessions.

The Poster Sessions will be in the Grand Hall East and **will be open from 10:00 AM–1:30 PM (morning poster sessions) and 3:00 PM–6:30 PM (afternoon poster session).** Authors should set up their materials at least 30 minutes before session start times. Poster presenters MUST be present at their poster for at least 1 hour at designated times (11:30 AM – 12:30 PM for morning sessions and 4:30 PM – 5:30 PM for 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 PROMPTLY at the end of their session (except the push-pins provided by the Conference). Any poster materials not removed may be discarded by Conference coordinators in order to prepare for the next session.**

EXHIBITS

An exhibition of Magnetism-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 Grand Hall East. Individuals and organizations who are interested in purchasing booth space should contact Wendy Walker, Exhibits Coordinator at Widerkehr & Associates, by e-mail at *mmm-exh@widerkehr.com*; or by Fax at 301-527-0994. 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 55th MMM Conference in Atlanta, GA to recognize and to encourage excellence in graduate studies in the field of magnetism. The finalists for this year are:

E. Jarormirska, AC-07, "Geometry-driven current-induced vortex excitations in point contact devices"

X. Cheng, EC-03, "Spin torque diode detectors with sensitivity exceeding that of Schottky diodes"

A. Dussaux, EC-09, "Large locking range and fractional synchronization in vortex based spin transfer oscillators"

E. Evarts, FC-l3, "Spin Torque Switching of 26 nm Diameter Magnetic Tunnel Junction Using a Conductive Atomic Force Microscope"

11th Joint Conference Best Student Presentation Winner
Lei Huang
(Stony Brook University)

for his presentation: GC-07 "Direct observation of current-driven magnetic vortex precession with unprecedented spatial resolution"

CONGRATULATIONS!

The student finalists for the 11th Joint Conference Best Student Presentation were:

Xi Chen, AB-09 "Accelerated formation of Bose-Einstein condensates in magnetic thin films,"

Igor Barsukov, EC-03 "Tailoring spin relaxation in thin films," and

Stefano Bonetti, BA-07 "Power and linewidth characteristics of localized and propagating spin was modes in nanocontact spin torque oscillators."

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 poster 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 available in-person to present poster details and answer attendee questions during the designated session time. Since the award will be made at the session itself, it is recommended that the authors be present for the majority of the session. All posters should include a full contact mailing address in case the authors are not present when the award is made.

Award: The best-poster award consists of $50 cash and an award 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 during the remainder of the conference.

Selection Process: Each Session Chair will nominate one poster from his or her session to be considered for the award. The Session Chairs will then be formed into two groups of four. Each group will then review four of the nominated posters to determine one of two winners. During each poster session time slots, two best poster awards will be awarded. Posters are ineligible if one of the Session chairs judging the posters is a coauthor. Selections will be based on the level of the research, quality of the poster materials, and clarity of the in-person presentation.

This is the list of the winners from the Washington, DC conference:

Best 11th Joint MMM-Intermag Conference
Poster Presentation Winners

AW-03
"Effect of multilayer configuration of [Fe/Pt] multilayer to attain (001) oriented FePt ordered alloy thin films"
Y. Ogata, Y. Imai and S. Nakagawa
Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan

BU-09
"Probing magneto-optical properties of non-magnetic metals in Kretschmann configuration"
S. Saito, M. Suzuki, G. Du and M. Takahashi
Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan

CR-15
"Optimal Design of Permanent Magnet Thrust Bearing for Weight Compensation of Flywheel Energy Storage Systems"
S. Yoo[1], W. Kim[2], S. Kim[2], Y. Bae[3] and M. Noh[1]
1. Mechatronics Engineering, Chungnam National University, Daejeon, Republic of Korea; 2. Korea Institute of Science and Technology, Seoul, Republic of Korea; 3. Korea Electric Power Research Institute, Daejeon, Republic of Korea

DQ-12
"Theoretical Analysis of Ferromagnetism in ε-Fe_2O_3 and ε-$GaxFe_2$-xO_3 Nanomagnets"
S. Ohkoshi, A. Namai and S. Sakurai
Department of Chemistry, The University of Tokyo, Tokyo, Japan

EV-01
"Voltage induced magnetic anisotropy change in ultrathin $Fe_{80}Co_{20}$ / MgO junctions"
Y. Shiota1, T. Nozaki1,2, T. Shinjo1,
M. Shiraishi[1], Y. Suzuki[1], S. Ha[3] and C.You[3]
1. Graduate School of Engineering Science, Osaka University, Osaka, Japan; 2. PREST, JST, Saitama, Japan; 3. Department of Physics, Inha University, Incheon, Republic of Korea

FR-09
"Direct measurements of magneto-thermoelectric effects in thin films and nanostructures"
A.D. Avery[1], R. Sultan[1], D. Bassett[1], M.R. Pufall[2] and B.L. Zink[1]
1. Department of Physics, University of Denver, Denver, CO;
2. NIST, Boulder, CO

GQ-02
"TC dependence on the demagnetization factor. Determination of the 'true' value of the Curie point TC for ferromagnetic materials"
V.I. Zverev[1], M.D. Kuz'min[3], Y. Mudryk[2], V.K. Pecharsky[2],
K.A. Gschneidner[2] and A.M. Tishin[1]
1. Department of Physics, M.V. Lomonosov Moscow State University, Moscow, Russian Federation; 2. The Ames Laboratory U.S. Department of Energy, Iowa State University, Ames, IA; 3 Leibniz-Institut für Festkörper- und Werkstoffforschung, Dresden, Germany

FUTURE CONFERENCES

INTERMAG Conference
April 25–29, 2011, Taipei, Taiwan

56th Conference on Magnetism and Magnetic Materials
October 30–November 3, 2011, Scottsdale, Arizona

INTERMAG Conference
May 7–11, 2012, Vancouver, B.C., Canada

2013 Joint MMM-Intermag Conference
January 14–18, 2013, Chicago, Illinois

57th Conference on Magnetism and Magnetic Materials
November 4–8, 2013, Denver, Colorado

58th Conference on Magnetism and Magnetic Materials
November 3–7, 2014, Honolulu, Hawaii

ADDITIONAL INFORMATION

If you would like to receive more information about the 55th 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 2010 MMM Conference can be found on the Web at the Conference homepage at: *http://www.magnetism.org/*.

CONFERENCE ORGANIZATION

Steering Committee 53rd MMM Conference

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Publications Editors . . . . . M. d'Aquino, C. Dennis, M. McHenry, J. Shaw, and K. Suzuki
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Poster and Student Presentation Awards . . . . . Pallavi Dhagat
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PCI/AIP Representative . . . . . Bill Burke
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Conference Management . . . . . Diane Melton, Wendy Walker; Widerkehr & Associates
PCI/AIP Coordinators . . . . . Janis Bennett, Linda Boniello, Christine Urso

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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
Term Expires **December 2011:** . . . C.-L. Chien, B. Hillebrands, A. Hoffmann, Y. Idzerda, Y. Ijiri, M. McHenry, H. Muraoka, C. Ross, R. Stamps, M. Willard
Term Expires **February 2013:** . . . . K. Coffey, P. Crowell, L. Folks, A. Kent, C. Leighton, L. Lewis, S. Majetich, A. Petford-Long, T. Suzuki, R. Victora

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CONFERENCE PROGRAM

Sun. Eve.			
6 - 10 pm		Welcome and Networking Reception	Centennial Foyer
Monday	AA	Symposium on Electric field effects on magnetic systems	Centennial I
8:30 a.m.	AB	Magnetization dyanmics I: Spinwaves	Centennial II
	AC	Vortex switching and dynamics I	Centennial III
	AD	Spin injection into metals	Centennial IV
	AE	Rare earths and superconductivity I	Regency V
	AF	Perpendicular recording media I: High anisotropy	Regency VI
	AG	Magnetocaloric materials I	Regency VII
	AH	Micromagnetics and numerical modeling I	Learning Center
10:00 a.m.	AP	Magnetization dynamics II	Grand Hall East
	AQ	Complex oxide films and nanostructures I	Grand Hall East
	AR	Patterned media I	Grand Hall East
	AS	Special magnetic materials	Grand Hall East
	AT	Magnetic nanoparticle synthesis I	Grand Hall East
	AU	Structured materials: Ultra-thin films and surface effects	Grand Hall East
	AV	Biomedical applications	Grand Hall East
	AW	Spin glasses, low dimensional magnets, and half metals	Grand Hall East
Monday	BA	Symposium on Magnetic properties of iron-based superconductors	Centennial I
1:30 p.m.	BB	Bulk complex oxides and multiferroics	Centennial II
	BC	Magnetization dynamics III: Ultrafast switching	Centennial III
	BD	Spin injection into semiconductors	Centennial IV
	BE	Magnetoelectronic materials I	Regency V
	BF	Magnetic imaging and microscopy	Regency VI
	BG	Sensors for molecular imaging and biomedical applications	Regency VII
	BH	Half metals, molecular magnets, and low dimensional systems	Learning Center
3:00 p.m.	BP	Magnetics and numerical modeling II	Grand Hall East
	BQ	Magnetocaloric materials II	Grand Hall East
	BR	Semiconductor spintronics	Grand Hall East
	BS	Intermetallic hard magnetic materials	Grand Hall East
	BT	Ribbons and nanowires	Grand Hall East
	BU	Patterned films I: Wires	Grand Hall East
	BV	Spin transport in metals	Grand Hall East
	BW	Perpendicular recording media II	Grand Hall East
Mon. Eve.			
7:30 p.m.	BZ	Tutorial: Applied research in magnetism	Centennial II
Tuesday	CA	Symposium on Spins in carbon-based materials	Centennial I
8:30 a.m.	CB	Magnetic tunnel junctions I	Centennial II
	CC	Domain wall motion and dynamics I	Centennial III
	CD	Magnetization dynamics IV: Damping	Centennial IV
	CE	Ultra-thin films and surface effects	Regency V
	CF	Patterned media II	Regency VI
	CG	Magnetic materials and sensors for biomedical applications	Regency VII
	CH	Advances in instrumentation	Learning Center
10:00 a.m.	CP	Heusler alloys and molecular magnets	Grand Hall East
	CQ	Bulk multiferroics	Grand Hall East
	CR	Superconductivity	Grand Hall East
	CS	Rare-earth hard magnetic materials	Grand Hall East
	CT	Multi-layered films and superlattices I	Grand Hall East
	CU	Soft magnetic materials and applications	Grand Hall East
	CV	Ordered alloys I	Grand Hall East
	CW	Magnetization dynamics V	Grand Hall East
Tuesday	DA	Symposium on Magnetic nanomechanical systems	Centennial I
1:30 p.m.	DB	Multiferroics BiFeO3 and thin films	Centennial II
	DC	Domain wall devices	Centennial III
	DD	Semiconductor devices	Centennial IV
	DE	Electronic structure and critical phenomena I	Regency V
	DF	Recording heads	Regency VI
	DG	Organic and carbon-based spin transport	Regency VII
	DH	Magnetoelastic materials I	Learning Center
3:00 p.m.	DP	Spin transfer torque switching	Grand Hall East
	DQ	Magnetocaloric materials III	Grand Hall East
	DR	Rare earths and superconductivity II	Grand Hall East
	DS	Nanostructured hard magnetic materials I	Grand Hall East
	DT	MgO-based tunnel junctions I	Grand Hall East
	DU	Magnetic microscopy and instrumentation	Grand Hall East
	DV	Magnetoresistance, magnetoimpedance, and Hall effect	Grand Hall East
	DW	Soft ferrite materials I	Grand Hall East

Wednesday	EA	Symposium on Topological insulators and quantum spin Hall effect	Centennial I
8:30 a.m	EB	Exchange bias I	Centennial II
	EC	Spin transfer torque oscillators I	Centennial III
	ED	Frustrated and low-dimensional systems	Centennial IV
	EE	Soft magnetics I	Regency V
	EF	Perpendicular recording media III	Regency VI
	EG	Anisotropy and interactions in magnetic nanoparticles	Regency VII
	EH	Hysteresis modeling	Learning Center
10:00 a.m.	EP	Vortex switching and dynamics II	Grand Hall East
	EQ	Magnetism in power applications	Grand Hall East
	ER	Magnetic fields and instrumentation	Grand Hall East
	ES	Permanent magnet processing and applications	Grand Hall East
	ET	Magnetic tunnel junctions II	Grand Hall East
	EU	New applications	Grand Hall East
	EV	Oxide ferromagnetic semiconductors	Grand Hall East
	EW	Bulk complex oxides	Grand Hall East
	EX	Multiferroics: Films and heterostructures	Grand Hall East
Wednesday	FA	Symposium on Perspectives on magnetism in metals	Centennial I
1:30 p.m.	FB	Complex oxide films and nanostructures II	Centennial II
	FC	Spin transfer torque switching II	Centennial III
	FD	Ferromagnetic semiconductors	Centennial IV
	FE	Magnetoresistance, spin transport, and Hall effect	Regency V
	FF	Nanostructured hard materials	Regency VI
	FG	Patterned films II	Regency VII
	FH	Soft magnetic alloys	Learning Center
3:00 p.m.	FP	Spin transfer torque oscillators and MRAM	Grand Hall East
	FQ	Magnetic sensors I	Grand Hall East
	FR	Magnetoelectric materials II	Grand Hall East
	FS	Nanostructured hard magnetic materials III	Grand Hall East
	FT	Nanoparticle characterization I	Grand Hall East
	FU	MEMS/new applications	Grand Hall East
	FV	Electronic structure and critical phenomena II	Grand Hall East
	FW	Magnetic recording and magneto-optics materials	Grand Hall East
Wed. Eve.			
7:30pm	FZ	Sustainable energy with magnets	Centennial II

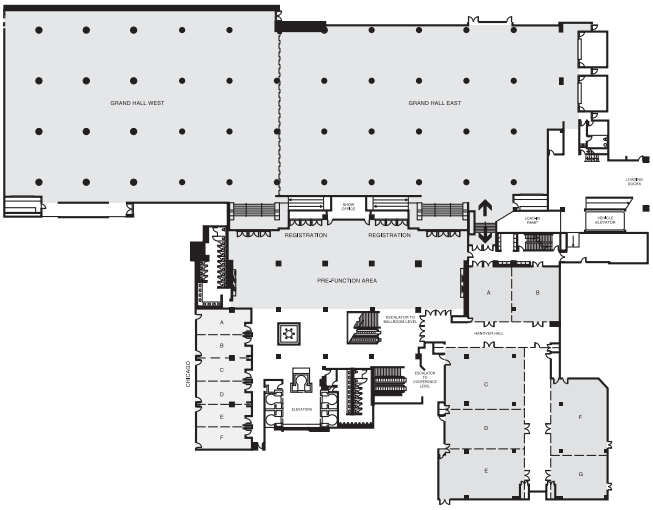
Thursday	GA	Symposium on New developments in spintronics for magnetic logic	Centennial I
8:30 a.m.	GB	Special magnetic materials: Perovskites, intermetallics, and nanoparticles	Centennial II
	GC	Spin transfer torque oscillators II	Centennial III
	GD	Magnetic sensors II	Centennial IV
	GE	Alternative magnetic recording and magneto-optic materials	Regency V
	GF	Permanent magnet processing	Regency VI
	GG	Nanoparticle characterization II	Regency VII
	GH	Magnetic applications	Learning Center
10:00 a.m.	GP	Domain wall motion and dynamics II	Grand Hall East
	GQ	Soft magnets II	Grand Hall East
	GR	Novel magnetic conductors	Grand Hall East
	GS	Magnetoelastic materials II	Grand Hall East
	GT	Exchange bias II	Grand Hall East
	GU	Patterned films III: Dot arrays	Grand Hall East
	GV	Soft ferrite materials II	Grand Hall East
Thursday	HA	Symposium on Atomic scale magnetic phenomena at surfaces	Centennial I
1:30 p.m.	HB	MgO-based tunnel junctions II	Centennial II
	HC	Magnetic random access memory	Centennial III
	HD	Multi-layered films and superlattices II	Centennial IV
	HE	Microwave ferrites, garnets, and applications	Regency V
	HF	Structure and properties of hard magnetic materials	Regency VI
	HG	Magnetic nanoparticle synthesis II	Regency VII
	HH	Ordered alloys II	Learning Center

Hyatt Regency Atlanta

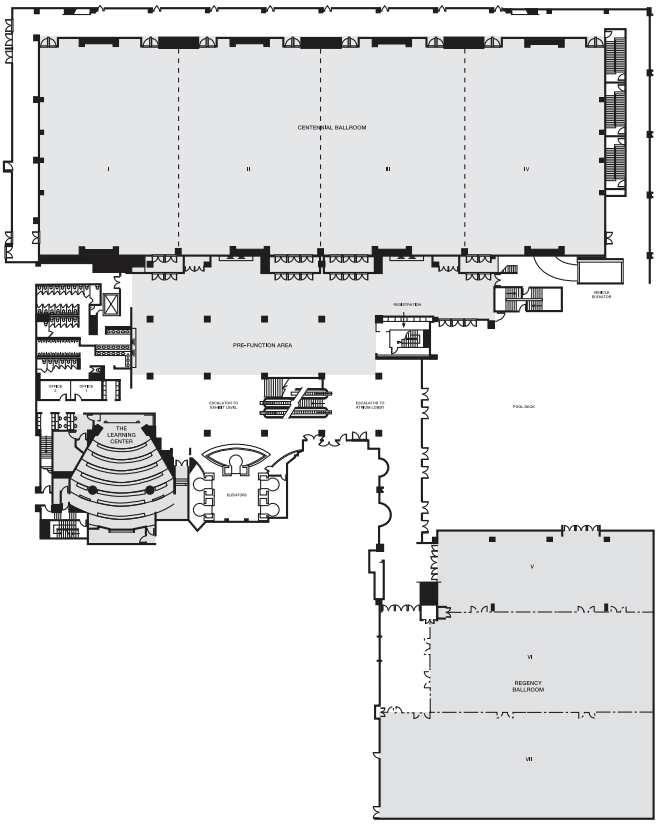
DIRECTIONS

From Hartsfield Int'l Airport (13 miles): Take 75/85 North to exit 248C (on right) and International Blvd. Turn left. Proceed to the third traffic light. Turn right on Peachtree Center Ave. Motor Lobby entrance is one block on left.

EXHIBIT LEVEL



BALLROOM LEVEL



MONDAY MORNING 8:30

CENTENNIAL I

Session AA
SYMPOSIUM ON ELECTRIC FIELD EFFECTS ON MAGNETIC SYSTEMS

Evgeny Tsymbal, Chair

8:30

AA-01. Electrically controlled ferromagnetism of lanthanum strontium manganese oxide. ***(Invited)*** *C. Ahn[1] 1. Yale University, New Haven, CT*

9:06

AA-02. Electric-field effects on magnetic semiconductors and metals. ***(Invited)*** *F. Matsukura[1,2] 1. CSIS, Tohoku Univ., Sendai, Japan; 2. RIEC, Tohoku Univ., Sendai, Japan*

9:42

AA-03. Robust isothermal electric control of exchange bias at room temperature. ***(Invited)*** *C. Binek[1], X. He[1], N. Wu[1], A.N. Caruso[2], E. Vescovo[3], K.D. Belashchenko[1] and P.A. Dowben[1] 1. Physics & Astronomy, University of Nebraska, Lincoln, NE; 2. Physics, University of Missouri, Kansas City, KS; 3. Brookhaven National Laboratory, National Synchrotron Light Source, Upton, NY*

10:18

AA-04. Complex magnetic structures and electric field studies of Kagomé-staircase compound $Ni_3V_2O_8$ ***(Invited)*** *I.M. Cabrera[1,2], O. Zaharko[3], M. Kenzelmann[4] and C. Broholm[1,2] 1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD; 2. NIST Center for Neutron Research, Gaithersburg, MD; 3. Laboratory for Neutron Scattering, ETH Zurich & Paul Scherrer Institut, Villigen, Switzerland; 4. Laboratory for Developments and Methods, Paul Scherrer Institut, Villigen, Switzerland*

10:54

AA-05. Electric control of magnetization in a magnet with D2d symmetry. ***(Invited)*** *T. Arima[1,2], M. Saito[1] and K. Taniguchi[1] 1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi, Japan; 2. SPring-8 Center, RIKEN, Kouto, Japan*

MONDAY MORNING 8:30

CENTENNIAL II

Session AB
MAGNETIZATION DYNAMICS I: SPIN WAVES
Leszek Malkinski, Chair

8:30

AB-01. Ambiguity functions of chaotic spin waves in magnetic thin film-based feedback rings. A. Hagerstrom[1] and *M. Wu*[1]*1. Department of Physics, Colorado State University, Fort Collins, CO*

8:42

AB-02. Field controlled propagation of collective spin modes array of NiFe stripes of alternating widths. *G. Gubbiotti*[1], S. Tacchi[1], M. Madami[1], G. Carlotti[1], S. Goolaup[2], A.O. Adeyeye[2], N. Singh[3] and M.P. Kostylev[4]*1. Dipartimento di Fisica, CNISM-CNR, Perugia, Italy; 2. Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Institute of Microelectronics, Singapore, Singapore; 4. University of Western Australia, Perth, WA, Australia*

8:54

AB-03. All-Linear Frequency Inversion and Time Reversal via a Dynamic Magnonic Crystal. A.V. Chumak[1], V.S. Tiberkevich[2], A.D. Karenowska[3], *A.A. Serga*[1], J.F. Gregg[3], A.N. Slavin[2] and B. Hillebrands[1]*1. Fachbereich Physik and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, Oakland University, Rochester, MI; 3. Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom*

9:06

AB-04. Domain wall motion damped by the emission of spin waves. *R. Wieser*[1], E.Y. Vedmedenko[1] and R. Wiesendanger[1]*1. University of Hamburg, Hamburg, Germany*

9:18

AB-05. A New Approach for Analysis of Magnetostatic Volume Waves in Magnonic Crystals. *K. Chi*[1] and C.S. Tsai[1,2]*1. Electrical Engineering and Computer Science, and Institute of Surface and Interface Sciences, University of California Irvine, Irvine, CA; 2. The Institute of Photonics and Optoelectronics, National Taiwan University, Taipei, Taiwan*

9:30

AB-06. Parametrical recovery of a spin-wave signal stored in a magnonic crystal. *V.I. Vasyuchka*[1], A.V. Chumak[1], A.A. Serga[1], M.P. Kostylev[2] and B. Hillebrands[1]*1. Fachbereich Physik and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. School of Physics, University of Western Australia, Crawley, WA, Australia*

9:42

AB-07. Parametrically-induced electromagnetic radiation from an artificial magnonic crystal formed by a planar array of permalloy dots. Y.V. Koblyanskiy[1], M.P. Kostylev[2], G.A. Melkov[1], V.A. Novosad[3] and *A.N. Slavin*[4]*1. Radiophysics, T.Shevchenko Kiev National University, Kiev, Ukraine; 2. Physics, University of Western Australia, Crawley, WA, Australia; 3. Argonne National Laboratory, Argonne, IL; 4. Physics, Oakland University, Rochester, MI*

9:54

AB-08. Magnetisation pinning at a Py/Co interface measured using broadband inductive magnetometry. *M. Kostylev*[1], K.J. Kennewell[1], M. Ali[2], A. Stashkevich[3], R. Magaraggia[1], D. Greig[2], B.J. Hickey[2] and R.L. Stamps[1]*1. School of Physics, University of Western Australia, Crawley, WA, Australia; 2. Department of Physics & Astronomy, University of Leeds, Leeds, United Kingdom; 3. LPMTM CNRS (UPR 9001), Université Paris 13, Villetaneuse, France*

10:06

AB-09. Phase patterns of laterally standing spin waves on the micrometer scale. K. Vogt[1], H. Schultheiss[1], S.J. Hermsdoerfer[1], P. Pirro[1], A.A. Serga[1] and *B. Hillebrands*[1]*1. Fachbereich Physik and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, D-67663 Kaiserslautern, Germany*

10:18

AB-10. Splitting of magnetostatic spin-wave modes of circular magnetic dots upon small deviation of magnetic field from the normal. *G.N. Kakazei*[1,2], S.A. Bunyaev[1,5], V.O. Golub[2], N.A. Sobolev[3], N. Santos[3], B.A. Ivanov[2], E.V. Tartakovskaya[2], A.A. Serga[4], A.V. Chumak[4], P.A. Beck[4], B. Laegel[4] and B. Hillebrands[4]*1. IFIMUP-IN/Department of Physics, University of Porto, Porto, Portugal; 2. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; 3. Departamento de Física and I3N, Universidade de Aveiro, Aveiro, Portugal; 4. Fachbereich Physik, Nano+Bio Center, and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 5. Institute of Radiophysics and Electronics NAS of Ukraine, Kharkov, Ukraine*

10:30

AB-11. Refractive index and Snell's law for dipole-exchange spin waves. *D. Jeong*[1], D. Han[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of*

10:42

AB-12. Spin-wave band structure of collective modes in a 2-D magnonic crystal consisting of interacting cylindrical dots. *S. Tacchi*[1], F. Montoncello[2], M. Madami[1], G. Gubbiotti[1], G. Carlotti[1], L. Giovannini[2], R. Zivieri[2], F. Nizzoli[2], A. Adeyeye[3] and N. Singh[3] *1. Dipartimento di Fisica, CNISM, Università di Perugia, Perugia, Italy; 2. Dipartimento di Fisica, CNISM-University of Ferrara, Ferrara, Italy; 3. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

10:54

AB-13. All-electrical spectroscopy on spin-wave propagation in nanostructured antidot lattices. *S. Neusser*[1] and D. Grundler[1] *1. Lehrstuhl für Physik funktionaler Schichtsysteme, Physik Department, Technische Universität München, Garching, Germany*

11:06

AB-14. Micro-Structured Ferromagnetic Tubes for Spin Wave Excitation. *A. Kozhanov*[1], D. Ouellette[1], M. Rodwell[1], S. Wang[2], D. Lee[2] and S. Allen[1] *1. UC Santa Barbara, Santa Barbara, CA; 2. Stanford University, Stanford, CA*

11:18

AB-15. Spin wave propagation and extrinsic damping in granular materials with high perpendicular anisotropy. *M. Benakli*[1], K. Rivkin[1] and N. Tabat[1] *1. Seagate Technology, Edina, MN*

MONDAY MORNING 8:30 CENTENNIAL III

Session AC
VORTEX SWITCHING AND DYNAMICS I
Kirill Rivkin, Chair

8:30

AC-01. Fast and Selective Switching of the Vortex Core with Orthogonal Magnetic Pulses. *M. Noske*[1], M. Weigand[1], M. Kammerer[1], M. Curcic[1], M. Sproll[1], H. Stoll[1], B. Van Waeyenberge[2], A. Vansteenkiste[2], G. Woltersdorf[3] and G. Schuetz[1] *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department of Subatomic and Radiation Physics, Ghent University, Ghent University, Ghent, Belgium; 3. Department of Physics, Regensburg University, Regensburg, Germany*

8:42

AC-02. Controlled Vortex Core Reversal by Excitation of Spin Waves. *M. Kammerer*[1], M. Weigand[1], M. Curcic[1], M. Noske[1], M. Sproll[1], H. Stoll[1], B. Van Waeyenberge[3], G. Woltersdorf[2] and G. Schuetz[1] *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department of Physics, University of Regensburg, Regensburg, Germany; 3. Department of Solid State Science, Ghent University, Ghent, Belgium*

8:54

AC-03. Unipolar Gaussian-Pulse Current Driven Vortex Core Switching in Cross-Point Architecture. *Y. Yu*[1], K. Lee[1], H. Jung[1], Y. Choi[1], J. Lee[1], M. Yoo[1], D. Han[1], M. Im[2], P. Fischer[2] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of; 2. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA*

9:06

AC-04. Direct observation of the controlled switching behavior and current-driven magnetic vortex precession in patterned nanomagnets. ***(Invited)*** *Y. Zhu*[1,2] and L. Huang[1,2] *1. Brookhaven National Laboratory, Upton, NY; 2. Physics and Astronomy, Stony Brook University, Stony Brook, NY*

9:42

AC-05. Exploring underlying physics of edge-soliton mediated vortex-core switching dynamics. *K. Lee*[1], M. Yoo[1], Y. Choi[1], D. Jeong[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of*

9:54

AC-06. Gröbli solution for three magnetic vortices. *S. Komineas*[1] and N. Papanicolaou[2,3] *1. Department of Applied Mathematics, University of Crete, Heraklion, Greece; 2. Department of Physics, University of Crete, Heraklion, Greece; 3. Institute for Theoretical and Computational Physics, University of Crete, Heraklion, Greece*

10:06

AC-07. Geometry-driven current-induced vortex excitations in point contact devices. ***E. Jaromirska***[1], L. López-Díaz[1], A. Dussaux[2], A. Ruotolo[2], G. Julie[2], V. Cros[2] and D. Berkov[3] *1. Applied Physics, University of Salamanca, Salamanca, Spain; 2. Unité Mixte de Physique CNRS/Thales, Université Paris Sud 11, Palaiseau, France; 3. Innovent Technology, Jena, Germany*

10:18

AC-08. Current Induced Domain Wall Motion Logic Device. *J. Currivan*[3], Y. Jang[1], M. Baldo[2] and C.A. Ross[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA; 3. Physics, Harvard University, Cambridge, MA*

10:30

AC-09. Current-induced vortex dynamics and pinning potentials probed by homodyne detection. *O. Boulle*[1,3], J. Kim[1], S. Verstoep[1], L. Heyne[1], J. Rhensius[1], M. Kläui[1], L. Heyderman[5], R. Mattheis[4] and G. Faini[2] *1. Konstanz university, Konstanz, Germany; 2. LPN/CNRS, Marcoussis, France; 3. INAC/SPINTEC, Grenoble, France; 4. Institut für Photonische Technologien e.V., Jena, Germany; 5. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland*

10:42

AC-10. Influence of dipolar interaction on vortex dynamics in arrays of ferromagnetic disks. A. Vogel[1], A. Drews[1,2], T. Kamionka[1] and *G. Meier*[1] *1. Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Hamburg, Hamburg, Germany; 2. Arbeitsbereich Technische Informatik Systeme, Universität Hamburg, Hamburg, Hamburg, Germany*

10:54

AC-11. Monitoring Vortex Dynamics and Vortex Core Polarization with Magnetic Tunnel Junctions. *H. Stoll*[1], M. Noske[1], K. Rott[2], M. Sproll[1], M. Kammerer[1], M. Curcic[1], B. Van Waeyenberge[3], G. Reiss[2] and G. Schuetz[1] *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department of Physics, University of Bielefeld, Bielefeld, Germany; 3. Department of Solid State Science, Ghent University, Ghent, Belgium*

11:06

AC-12. Dynamics of stable double vortex state in circular nanomagnet. D. Dieleman[1], A.A. Awad[1], V. Metlushko[2] and *F.G. Aliev*[1] *1. Dpto. Fisica Materia Condensada, Universidad Autonoma de Madrid, Madrid, Spain; 2. Dept. Electrical and Computer Engineering, University of Illinois at Chicago, Chicago, IL*

11:18

AC-13. Dynamics of two coupled vortices excited by spin transfer torque. *N. Locatelli*[1], V.V. Naletov[2], J. Grollier[1], V. Cros[1], G. De Loubens[2], C. Ulysse[3], G. Faini[3], O. Klein[2] and A. Fert[1] *1. Unite Mixte de Physique CNRS/Thales and Université Paris Sud 11, CNRS, Palaiseau, France; 2. Service de Physique de l'État Condensé (CNRS URA 2464), CEA Saclay, Gif sur Yvette, France; 3. Laboratoire de Photonique et de Nanostructures, CNRS Phynanoteam, Marcoussis, France*

MONDAY MORNING 8:30 — CENTENNIAL IV

Session AD
SPIN INJECTION INTO METALS
Yi Ji, Chair

8:30

AD-01. Spin asymmetric interfacial resistance of fully epitaxial alternate monatomic layered $[Fe/Co]_n$ with Fe/Ag interface in CPP-GMR spin-valve devices. *J. Jung*[1], R. Shiozaki[1], D. Masaaki[1] and S. Masashi[1] *1. Electonic Engineering, Tohoku University, Sendai, Japan*

8:42

AD-02. A Study of Spin-flipping in Sputtered IrMn using Py-based, Exchange-Biased Spin-Valves. R. Acharyya[1], H.T. Nguyen[1], W.P. Pratt Jr[1] and *J. Bass*[1] *1. Physics and Astronomy, Michigan State University, East Lansing, MI*

8:54

AD-03. Mechanism of enhanced spin relaxation time in Au nanoparticles. *T. Koda*[1], S. Mitani[2], M. Mizuguchi[1] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. National Institute for Materials Science, Tsukuba, Japan*

9:06

AD-04. Spin Current Propagation in Au,Ag/Fe/GaAs and Fe/Au,Ag/Fe/GaAs(001) Structures. ***(Invited)*** *B.V. Heinrich*[1], B. Kardasz[1], G. Woltersdorf[2], O. Mosendz[1,3] and E. Girt[1] *1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Physics, University of Regensburg, Regensburg, Germany; 3. Hitachi Global Storage Technologies, Research Centre, San Jose, CA*

9:42

AD-05. Efficient spin injection through low resistive MgO layer in Permalloy/Ag lateral spin valves. *Y. Fukuma*[1], L. Wang[1,2], H. Idzuchi[3] and Y. Otani[1,3] *1. RIKEN, Wako, Japan; 2. University of Science and Technology Beijing, Beijing, China; 3. University of Tokyo, Kashiwa, Japan*

9:54

AD-06. Large and inverted spin signals in nonlocal spin valves. *Y. Ji*[1], H. Zou[1], S. Chui[1] and X. Wang[1] *1. Physics and Astronomy, University of Delaware, Newark, DE*

10:06

AD-07. Thermally driven spin injection from a ferromagnet into a non-magnetic metal. *F.L. Bakker*[1], A. Slachter[1], J. Adam[1], J. Flipse[1] and B.J. van Wees[1] *1. Physics of Nanodevices, University of Groningen, Zernike Institute for Advanced Materials, Groningen, Netherlands*

10:18

AD-08. Microscopic origin of anomalous Nernst effect in perpendicularly magnetized FePt thin films. *M. Mizuguchi*[1], S. Ohata[1], K. Uchida[1], E. Saitoh[1] and K. Takanashi[1] *1. Institute for Materials Research, Sendai, Japan*

10:30

AD-09. Measurement of a spin-polarised persistent current in a non-magnetic nanoring in a non-uniform field. *A. Hirohata*[1,2], I. Sugai[3], J. Kang[3], M. Mizuguchi[3], K. Takanashi[3] and S.N. Holmes[4] *1. Department of Electronics, University of York, York, United Kingdom; 2. PRESTO, JST, Kawaguchi, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. Cambridge Research Laboratory, Toshiba Research Europe, Cambridge, United Kingdom*

10:42

AD-10. Giant Spin Hall Effect of Au Films with Pt Impurities: Surface Scattering. *B. Gu*[1,2], T. Ziman[3], G. Guo[4,5], N. Nagaosa[6,7] and S. Maekawa[1,2] *1. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai-mura, Japan; 2. JST, CREST, Tokyo, Japan; 3. CNRS and Institut Laue Langevin, Grenoble, France; 4. Graduate Institute of Applied Physics, National Chengchi University, Taipei, Taiwan; 5. Department of Physics, National Taiwan University, Taipei, Taiwan; 6. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 7. Cross-Correlated Materials Research Group, ASI, RIKEN, Wako, Japan*

10:54

AD-11. Quantifying the Inverse Spin Hall effect from spin pumping in Ni80Fe20/ normal metal bilayers. *V. Vlaminck*[1], O. Mosendz[3], J.E. Pearson[1], F.Y. Fradin[1], S.D. Bader[1,2] and A. Hoffmann[1] *1. MSD, ANL, Argonne, IL; 2. CNM, ANL, Argonne, IL; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

11:06

AD-12. Temporal evolution of spin pumping from a magnetic insulator detected by the inverse spin Hall effect. B. Jungfleisch[1], A.V. Chumak[1], C. Sandweg[1], V.V. Vasyuchka[1], A.A. Serga[1], B. Obry[1], E. Saitoh[2] and *B. Hillebrands*[1] *1. Fachbereich Physik and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

11:18

AD-13. FMR and Conduction Electron Spin Resonance in (permalloy/copper) bimetallic films. *H.J. Hurdequint*[1], C. Le Graët[2], J. Ben Youssef[2], V. Castel[1], J. Grollier[3], V. Cros[3] and C. Deranlot[3] *1. Laboratoire de Physique des Solides, CNRS-Universite Paris-Sud, Orsay, France; 2. Laboratoire de Magnetisme de Bretagne, CNRS-UBO, Brest, France; 3. Unite Mixte de Physique, CNRS-Thales-Universite Paris-Sud, Palaiseau, France*

MONDAY MORNING 8:30 — REGENCY V

Session AE
RARE EARTHS AND SUPERCONDUCTIVITY I
Sergey Bud'ko, Chair

8:30

AE-01. Nonlinear Hall effect as a signature of electronic phase separation. ***(Invited)*** X. Zhang[1], L. Yu[1], S. von Molnár[1], Z. Fisk[2] and *P. Xiong*[1] *1. Department of Physics, Florida State University, Tallahassee, FL; 2. Department of Physics, University of California, Irvine, CA*

9:06

AE-02. The magnetic form factor of SrFe2As2. *W. Ratcliff*[1], P.A. Kienzle[1], J.W. Lynn[1], S. Li[2,4], P. Dai[2,3], G.F. Chen[4] and N.L. Wang[4] *1. NCNR, NIST, Gaithersburg, MD; 2. Physics and Astronomy, University of Tennessee, Knoxville, TN; 3. Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, TN; 4. Beijing National Laboratory, Institute of Physics for Condensed Matter Physics, Chinese Academey of Sciences, Beijing, China*

9:18

AE-03. Neutron diffraction and magnetization study of $La_{0.7}Ca_{0.3}FeO_3$ *A. Dogra*[1], N. Kumar[2], S. Rayaprol[3], S. Kaushik[4], V. Siriguri[5], V. Awana[6] and H. Kishan[7] *1. Superconductivity & Cryogenics Division, National Physical Laboratory, New Delhi, India; 2. Superconductivity & Cryogenics Division, National Physical Laboratory, New Delhi, India; 3. UGC-DAE Consortium for Scientific Research, Mumbai Centre,, Mumbai, India; 4. UGC-DAE Consortium for Scientific Research, Mumbai Centre,, Mumbai, India; 5. UGC-DAE Consortium for Scientific Research, Mumbai Centre,, Mumbai, India; 6. Superconductivity & Cryogenics Division, National Physical Laboratory, New Delhi, India; 7. Superconductivity & Cryogenics Division, National Physical Laboratory, New Delhi, India*

9:30

AE-04. High field neutron diffraction study in $Ce(Fe_{0.95}Si_{0.05})_2$ compound. *A. Haldar*[1], A. Das[2], A. Hoser[3], T. Hofmann[3], A.K. Nayak[1], K.G. Suresh[1] and A.K. Nigam[4] *1. Physics, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India; 2. Solid State Physics Division, Bhabha Atomic Research Centre, Mumbai, Maharashtra, India; 3. Institute for Complex Magnetic Materials, HZB, Berlin, Germany; 4. Tata Institute of Fundamental Research, Mumbai, Maharashtra, India*

9:42

AE-05. Electron magnetic resonance studies of the Pr3Ga5SiO14 and Nd3Ga5SiO14 kagome systems. *S. Ghosh*[1,2], S. Datta[1], H. Zhou[1], M. Hoch[1] and S. Hill[1,2] *1. National High Magnetic Field Laboratoty, Tallahassee, FL; 2. Physics, Florida State University, Tallahassee, FL*

9:54

AE-06. f-electron Dependence of the Physical Properties of $REAlB_4$; an AlB_2-type analogous "tiling" compound. *T. Mori*[1], K. Kudou[2], T. Shishido[3] and S. Okada[4] *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Kanagawa University, Yokohama, Japan; 3. Tohoku University, Sendai, Japan; 4. Kokushikan University, Tokyo, Japan*

10:06

AE-07. Synthesis, structural and magnetic properties of RCu_4Be compounds (R = rare earth). A. Provino[2], N. Kumar[1], P. Manfrinetti[2] and *S.K. Dhar*[1] *1. Condensed Matter Physics and Material Science, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India; 2. Dipartimento di Chimica e Chimica Industriale, Universitá di Genova, Genova, Italy*

10:18

AE-08. Phase diagram of iron pnictide Ba(Fe1-xCrx)2As2: a case of non-superconductivity. *K. Marty*[1], M.D. Lumsden[1], A.D. Christianson[1], A.S. Sefat[1], L.H. VanBebber[2], J.L. Zarestky[3,1], H. Cao[1] and B.C. Chakoumakos[1] *1. ORNL, Oak Ridge, TN; 2. University of Tennessee, Knoxville, TN; 3. Ames Laboratory, Ames, IA*

10:30

AE-09. Magnetic and transport properties in single crystals $EuFe_{2-x}Co_xAs_2$ *J. Hong*[1], Y. Cho[2] and Y. Kwon[1] *1. Department of Physics, Sungkyunkwan university, Suwon, Gyeonggido, Korea, Republic of; 2. Quantum materials research team, Korea Basic Science Institute, Dajeon, Korea, Republic of*

10:42

AE-10. Superconducting proximity effect of spin-triplet pairs in $NbN/Co_2Cr_{0.6}Fe_{0.4}Al/NbN$ junctions. *K. Matsuda*[1], T. Uemura[1] and M. Yamamoto[1] *1. Div. of Electronics for Informatics, Hokkaido Univ., Sapporo, Japan*

10:54

AE-11. Influence of the ferromagnetic layer on the pair breaking and lower critical field in superconductor/ferromagnet bilayer. D. Samal[1] and *A. Kumar*[1] *1. Department of Physics, Indian Institute of Science, Bangalore, Karnataka, India*

11:06

AE-12. Domain wall modulated superconductivity in Nb/Y3Fe5O12 hybrids. *Z. Yang*[1,2] and V. Moshchalkov[1] *1. INPAC - Institute for Nanoscale Physics and Chemistry, K. U. Leuven, Leuven, Belgium; 2. Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China*

11:18

AE-13. Angular Dependence of the Superconducting Transition Temperature in Ferromagnet-Superconductor-Ferromagnet Trilayers. *J. Zhu*[1] and I.N. Krivorotov[1] *1. Department of Physics and Astronomy, University of California,Irvine, Irvine, CA*

MONDAY MORNING 8:30

REGENCY VI

Session AF
PERPENDICULAR RECORDING MEDIA I: HIGH ANISOTROPY

Jingsheng Chen, Chair

8:30

AF-01. L10-ordered FePtAgC granular thin film for thermally-assisted magnetic recording (TAR) media. ***(Invited)*** *L. Zhang*[1], Y.K. Takahashi[1], B.C. Stipe[2] and K. Hono[1] *1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Ibaraki, Japan; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

9:06

AF-02. Structure and magnetic property of L10-FePt thin films on TiN/RuAl underlayers. *E. Yang*[1], D.E. Laughlin[1] and J. Zhu[2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:18

AF-03. Effect of pressure on microstructure and magnetic properties of FePt:X media. *H. Yuan*[1], A. Chernyshov[1], J. Mardinly[1], K. Srinivasan[1], R. Acharya[1], G. Bertero[1] and T. Yamashita[1] *1. Western Digital Media, Inc., San Jose, CA*

9:30

AF-04. Magnetic and structural properties of perpendicular FePt-Zr/MgO films dependence on Cu concentration. *J. Jung*[1], S. Lee[1] and W. Jeung[2] *1. Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Division of Materials Science and engineering, Korea Institute of Science and Technology, Seoul, Korea, Republic of*

9:42

AF-05. Composition/doping effects on temperature-dependent structure and magnetic properties of $L1_0$ FePt and FeMnPt films. *D. Xu*[1,2], J. Chen[1], T. Zhou[2] and G. Chow[1] *1. Materials Science & Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Agency for Science, Technology and Research (A*STAR), Singapore, Singapore*

9:54

AF-06. The A1 to $L1_0$ Transformation in FePt Films with Ternary Alloying Additions of Mg, V, Mn and B. *B. Wang*[1], K. Barmak[1] and T.J. Klemmer[2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Seagate Media Research, Fremont, CA*

10:06

AF-07. Low temperature growth FePt and CoPt thin films on MgO(111) substrates. F. Yuan[1], *A. Sun*[2] and J. Hsu[1] *1. Institute of Applied Physics & Center for Nanostaorge Research, National Taiwan Unviersity, Taipei, Taiwan; 2. Department of Chemical Engineering & Materials Science, Yuan Ze University, Taoyuan, Taiwan*

10:18

AF-08. Coercivity enhancement in $Co_{50-x}Cu_xPt_{50}$ $L1_1$ thin films. F. Yuan[1,2], A. Sun[3,2], *J. Hsu*[1,2], C. Tan[4,2], P. Kuo[4,2], W. Liao[5] and H. Lee[5] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Department of Chemical Engineering & Materials Science, Yuan Ze University, Chung-Li, Taiwan; 4. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 5. National Synchrotron Radiation Research Center (NSRRC), Hsinchu, Taiwan*

10:30

AF-09. Magneto-optic first order reversal curve analysis of graded anisotropy FePtCu films. *V. Bonanni*[1], Y. Fang[1], R.K. Dumas[2], C. Zha[1,3], S. Bonetti[1], J. Nogués[1,4] and J. Åkerman[1,2] *1. Department of Microelectronics and Applied Physics, Royal Institute of Technology (KTH), Kista, Sweden; 2. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 3. NanoLab and Department of Physics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; 4. Institució Catalana de Recerca i Estudis Avançats (ICREA) and Centre d'Investigació en Nanociència i Nanotecnologia (ICN-CSIC), Campus Universitat Autònoma de Barcelona, Bellaterra, Spain*

10:42

AF-10. Graded FePt-C Films Fabricated by Post-Annealing. F. Wang[1], J. Zhang[1], J. Zhang[1], Y. Liang[1] and *X. Xu*[1] *1. Shanxi Normal University, LinFen, China*

10:54

AF-11. Graded exchange spring media based on FePt. *D.G. Niarchos*[1], V. Alexandrakis[1], T. Speliotis[1], E. Manios[1], J. Fidler[2] and J. Lee[2] *1. IMS, NCSR Demokritos, Aghia Paraskevi, Attikis, Athens 15310, Greece; 2. Institute of Solid State Physic, Vienna University of Technology, Wiedner Hauptstr. 8-10, A-1040,Vienna, Austria*

11:06

AF-12. Fingerprinting magnetization reversal in graded anisotropy FePtCu films. *R.K. Dumas*[1], C. Zha[2,3], Y. Fang[3], V. Bonanni[3], J. Nogués[3,4] and J. Åkerman[1,3] *1. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 2. Department of Physics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; 3. Department of Microelectronics and Applied Physics, Royal Institute of Technology (KTH), Kista, Sweden; 4. Institució Catalana de Recerca i Estudis Avançats (ICREA) and Centre d'Investigació en Nanociència i Nanotecnologia (ICN-CSIC), Campus Universitat Autònoma de Barcelona, Bellaterra, Spain*

11:18

AF-13. $L1_0$-FePt-C granular media fabricated by low temperature sputter film deposition. *Y. Inaba*[1,2], T. Shimatsu[1], D. Inoue[1,2], H. Nakata[1,2], K. Komiyama[2], H. Aoi[1], O. Kitakami[3] and S. Okamoto[3] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Fuji Electric Holdings Co., Ltd., Matsumoto, Nagano, Japan; 3. IMRAM, Tohoku University, Sendai, Miyagi, Japan*

MONDAY MORNING 8:30

REGENCY VII

Session AG
MAGNETOCALORIC MATERIALS I
Alexandre Carvalho, Chair

8:30

AG-01. The maximum possible magnetocaloric effect: ΔSm – Aspect. *V. Zverev*[1], R. Gimaev[1] and A. Tishin[1] *1. Department of Physics, M.V. Lomonosov Moscow State University, Moscow, Russian Federation*

8:42

AG-02. Fist Principles Approach to the Magneto Caloric Effect: Application to Ni2MnGa. *D. Nicholson*[1], K. Odbadrakh[1] and M.E. Eisenbach[1] *1. Oak Ridge National Lab, Oak Ridge, TN*

8:54

AG-03. First order transition in the intermetallic compound Dy_5Si_3Ge: A transport property and first principles study. R. Nirmala[2,1], *D. Paudyal*[2], V.K. Pecharsky[2,3], K.A. Gschneidner Jr.[2,3] and A.K. Nigam[4] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. The Ames Laboratory U. S. Department of Energy, Iowa State University, Ames, IA; 3. Department of Materials Science and Engineering, Iowa State University, Ames, IA; 4. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, India*

9:06

AG-04. Magnetic Properties of Gd2C from Experiment and First Principles Calculations. Y. Mudryk[1], *D. Paudyal*[1], V.K. Pecharsky[1,2] and K.A. Gschneidner, Jr.[1,2] *1. Division of Materials Science and Engineering, The Ames Laboratory, US Department of Energy, Ames, IA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA*

9:18

AG-05. Magnetocaloric effect and refrigeration capacity in $Eu_8Ga_{16}Ge_{30}$ – EuO composites. A. Chaturvedi[1], S. Stefanoski[1], M.H. Phan[1], G.S. Nolas[1] and *H. Srikanth*[1] *1. Department of Physics, University of South Florida, Tampa, FL*

9:30

AG-06. Griffiths-like Phase Manifestation in the Magnetocaloric $R_5(Si_xGe_{1-x})_4$ Compounds. *A.M. Pereira*[1], L. Morellon[3], C. Magen[4], J. Ventura[1], P.A. Algarabel[2], M.R. Ibarra[3,4], J.B. Sousa[1] and J.P. Araujo[1] *1. Physic and Astronomy department, IFIMUP and IN-Institute of Nanoscience and Nanotechnology, Porto, Portugal; 2. Instituto de Ciencia de Materiales de Aragon,, Zaragoza, Spain; 3. Instituto de Nanociencia de Aragon, Universidad de Zaragoza,, Zaragoza, Spain; 4. Instituto de Nanociencia de Aragon-ARAID, Universidad de Zaragoza., Zaragoza, Spain*

9:42

AG-07. Reduced interface magnetization as the cause of broadened magnetocaloric range in Gd/W multilayers. *B.J. Kirby*[1], D.V. Williams[2], C. Bauer[2] and C.W. Miller[2] *1. Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Physics, University of South Florida, Tampa, FL*

9:54

AG-08. Magnetocaloric effect and critical exponents of $Fe_{77}Co_{5.5}Ni_{5.5}Zr_7B_4Cu_1$: a detailed study. *V. Franco*[1], R. Caballero-Flores[1], A. Conde[1], K.E. Knipling[2] and M.A. Willard[2] *1. Condensed Matter Physics Department, Sevilla University, Sevilla, Spain; 2. Multifunctional Materials Branch, U.S. Naval Research Laboratory, Washington, DC*

10:06

AG-09. Entropy Changes in Nanogranular Fe:$Ni_{1-x}Cu_x$ *S.A. Michalski*[1], R. Skomski[1], T. Mukherjee[1], C. Binek[1] and D.J. Sellmyer[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE*

10:18

AG-10. Adiabatic temperature change, entropy and magneto-volume effect in La-Fe-Si bulk, melt-spun and hydrogenated compounds. *K.P. Skokov*[1], J.D. Moore[1], J. Liu[1], M. Krautz[1] and G. Oliver[1] *1. Institute for Metallic Materials, Leibniz Institute for Solid State and Materials Research, Dresden, Germany*

10:30

AG-11. Giant magnetocaloric effects in La0.8Ce0.2Fe11.4-x(Cr or Ni)xSi1.6 compounds. *S. Li*[2,1], Z. Lin[2], Z. Tian[3], F. Xu[4], Y. Yang[2], J. Wu[2], Y. Hu[2], X. Cai[2] and N. Sun[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Physics, Fujian Normal University, Fuzhou, Fujian, China; 3. College of Mechanical and Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China; 4. Department of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu, China*

10:42

AG-12. Magnetocaloric properties of $Ni_{54.8}Mn_{20.2}Ga_{25}$ foams. *C.P. Sasso*[1], P. Zheng[2], V. Basso[1], M. Kuepferling[1], P. Müllner[3] and D.C. Dunand[2] *1. Electromagnetism, INRIM, Torino, Italy; 2. Materials Science and Engineering, Northwestern University, Evanston, IL; 3. Materials Science & Engineering, Boise State University, Boise, ID*

10:54

AG-13. Large magnetocaloric effect at low magnetic field in Ni50-xCoxMn35In15 ribbons. *W. Guan*[1], Q. Liu[1], B. Gao[1], S. Yang[1], M. Xu[1] and X. Song[1] *1. MOE Key Laboratory for Nonequilibrium Synthesis and Modulation of Condensed Matter & State Key Laboratory for Mechanical Behaviour of Materials, Xi'an Jiaotong University, Xi'an, Shaanxi, China*

11:06

AG-14. Magneto-thermal effect in Gd_3Rh. *P. Kumar*[1,2], K.G. Suresh[2] and A.K. Nigam[3] *1. Physics, Georgia State University, Atlanta, GA; 2. Physics, IIT Bombay, Mumbai, Maharastra, India; 3. Condence Matter, TIFR, Mumbai, Maharastra, India*

11:18

AG-15. Magnetocaloric effect and magnetic phase transition in Ho3Co. *J. Shen*[1] and J. Wu[1] *1. Key Laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China*

MONDAY MORNING 8:30 — LEARNING CENTER

Session AH
MICROMAGNETICS AND NUMERICAL MODELING I

Michael Donahue, Chair

8:30

AH-01. Fast micromagnetic solvers for large-scale simulations. ***(Invited)*** *S. Li*[1], R. Chang[1], M. Lubarda[1], B. Livshitz[2], J. van Ek[3] and V. Lomakin[1] *1. ECE, CMRR, UC San Diego, La Jolla, CA; 2. LSI Corporation, Mendota Heights, MN; 3. Western Digital Corporation, Longmont, CO*

9:06

AH-02. Micromagnetic studies of non-linear switching-field-distribution effects in bit-patterned magnetic recording media. *M.E. Schabes*[1] *1. Hitachi San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

9:18

AH-03. Micro-magnetic Theories of Linear Stability and Weakly Non Linear Magnetization Dynamics in Magnetic Nanostructures under Spin Transfer Induced Torques. *T.R. Valet*[1] and G. Albuquerque[1] *1. In Silicio, Aix en Provence, France*

9:30

AH-04. Micromagnetic method of s-parameters characterization of magnonic devices. *M. Dvornik*[1], M.L. Sokolovskyy[2], A.M. Kuchko[3] and V.V. Kruglyak[1] *1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom; 2. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 3. Physics department, Donetsk National University, Donetsk, Ukraine*

9:42

AH-05. Adaptive hybrid algorithm for fast computation of the 3D demagnetizing field in micro-magnetic simulations. *A.S. Kazmi*[1] and R.C. Giles[2] *1. Electrical Engineering, National University of Computer and Emerging Sciences, Lahore, Pakistan; 2. Electrical & Computer Engineering, Boston University, Boston, MA*

9:54

AH-06. Magnetization Process Analysis Using a Simplified Domain Structure Model. *T. Matsuo*[1] *1. Electrical Engineering, Kyoto University, Kyoto, Japan*

10:06

AH-07. Simultaneously solving magnetostatic Maxwell equations and LLG for extended micromagnetic simulations. *F. Bruckner*[1], C. Vogler[1], M. Fuger[1], J. Lee[1], J. Fidler[1] and D. Suess[1] *1. Institute for Solid State Physics, Technical University of Vienna, Vienna, Austria*

10:18

AH-08. Generalized H-theorems for Magnetization Dynamics Driven by Jump-Noise Process. *I.D. Mayergoyz*[1], G. Bertotti[2] and C. Serpico[3] *1. Department of Electrical and Computer Engineering, University of Maryland College Park, College Park, MD; 2. Instituto Nazionale di Ricerca Metrologica (INRiM), Torino, Italy; 3. Dipartimento di Ingegneria Elettrica, Università di Napoli "Federico II", Napoli, Italy*

10:30

AH-09. Time Scaling incorporated Path Reweighting for Magnetization Reversal Process. *X. Cheng*[1] and M. Jalil[1] *1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore*

10:42

AH-10. Micromagnetic model of RE-Fe-Ta-B permanent magnets. N. Mohd Saiden[1], *T. Shcrefl*[1,2], H. Davies[1], G. Hrkac[1] and I. Ahmad[3] *1. Material Engineering, University of Sheffield, Sheffield, United Kingdom; 2. St Pölten University of Applied Sciences, St. Pölten, Austria; 3. Department of Physics, University of Bahauddin Zakariya, Multan, Pakistan*

10:54

AH-11. Hybrid Monte Carlo-LLG simulations of exchange bias systems. *J.S. Dean*[1], G. Hrkac[1], A. Kohn[3], A. Goncharov[1], D. Suess[4], T. Schrefl[2] and A. Bashir[1] *1. Engineering materials, Univerisity of Sheffield, Sheffield, United Kingdom; 2. St. Poelten University of Applied Science, St. Poelten, Austria; 3. Department of Materials Engineering and the Ilse Katz Institute for Nanoscience and Nanotechnology, Ben-Gurion University of the Negev, Beer-Sheva, Israel; 4. Vienna University of Technology, Vienna, Austria*

11:06

AH-12. Modeling of the influence of the passivation shell on the magnetization process of advanced MP tape recording films. *M. Fuger*[1], J. Lee[1], J. Fidler[1], D. Suess[1] and T. Schrefl[2] *1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. St. Poelten University of Applied Science, St. Poelten, Austria*

11:18

AH-13. Simulation of thermal noise effects on fast switching of two coupled nanomagnets. *D. Cimpoesu*[1], A. Plamada[1] and A. Stancu[1] *1. Department of Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania*

MONDAY MORNING 10:00 — GRAND HALL EAST

Session AP
MAGNETIZATION DYNAMICS II (POSTER SESSION)

T. Mitch Wallis, Chair

AP-01. Theory of Dipole-Exchange Spin Waves in Metallic Ferromagnetic Nanotubes of Large Aspect Ratio. T.K. Das[1] and *M.G. Cottam*[1] *1. Department of Physics and Astronomy, The University of Western Ontario, London, ON, Canada*

AP-02. Observation of Black Spin Wave Soliton Pairs in Yttrium Iron Garnet Thin Films. *Z. Wang*[1], M. Wu[1], M. Cherkasskii[2] and B.A. Kalinikos[2] *1. Department of Physics, Colorado State University, Fort Collins, CO; 2. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation*

AP-03. Spin wave damping in confined micron-scale ferromagnets. *A. Yamaguchi*[1,2], Y. Kasatani[1], Y. Nozaki[1], T. Uchiyama[3] and Y. Utsumi[4] *1. Department of Physics, Keio University, Yokohama, Japan; 2. PRESTO, JST, Kawaguchi, Japan; 3. Department of Electrical Enegineering and Computer, Nagoya University, Nagoya, Japan; 4. Laboratory of Advanced Science and Technology for Industry, University of Hyogo, Ako, Japan*

AP-04. Frequency splitting of resonance modes in non-collinearly arranged rectangular magnets. *S. Jain*[1], A.O. Adeyeye[1] and M. Kostylev[2] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. University of Western Australia, Crawley, WA, Australia*

AP-05. Magnetization dynamics and reversal mechanisms in electrodeposited Ni80Fe20 nanowires with different aspect ratios. *N. Ahmad*[1], J. Chen[1] and X. Han[1] *1. Institute of Physics, Beijing, Beijing, China*

AP-06. Bulk and edge modes in two-dimensional magnonic crystal slab. *J.W. Klos*[1], M. Sokolovskyy[1] and M. Krawczyk[1] *1. Surface Physics Division, Faculty of Physics, Adam Mickiewicz University, Poznan, Poland*

AP-07. Vortex-core switching time: phase diagram on driving force parameters. *K. Lee*[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of*

AP-08. Localized Spin Torque Oscillation Modes of Magnetic Tunneling Junction. *Y. Zhang*[1], T. Chen[2], H. Zhao[1], A. Lyle[1], P. Crowell[2] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Department of Physics, University of Minnesota, Minneapolis, MN*

AP-09. Band Gaps at Terahertz Frequency Range in Quasiperiodic Magnonic Crystals. C.H. Costa[1], M.S. Vasconcelos[1] and *E.L. Albuquerque*[1] *1. Universidade Federal do Rio Grande do Norte, Natal, Brazil*

AP-10. Laser induced excitation of hybrid spin waves in Fe thin films. *Y. Gong*[1], X. Zhang[2], J.H. Zhao[2] and Y. Ren[1] *1. Physics & Astronomy, Hunter College of the City University of New York, New York, NY; 2. State Key Laboratory for Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China*

AP-11. Existence of a new type of Magnetostatic Waves. *K. Rivkin*[1], N. Tabat[1] and M. Benakli[1] *1. Seagate Technology, Edina, MN*

AP-12. Coherent spin precession induced by circularly or and linearly polarized light pulses in $DyFeO_3$ *R. Iida*[1], T. Satoh[1], K. Kuroda[1], T. Shimura[1], Y. Tokunaga[2] and Y. Tokura[2,3] *1. Institute of Industrial Science, The University of Tokyo, Tokyo, Japan; 2. Japan Science and Technology Agency, Tokyo, Japan; 3. Department of Applied Physics, The University of Tokyo, Tokyo, Japan*

AP-13. Ultrafast Coherent Control of Spin Reorientation and Surface Magnetism in Fe3O4 Nanoparticle Arrays. *Z. Cevher*[1], A.R. Kutayiah[1], Y. Ren[1], S. Delikanli[2], C. Kim[2] and H. Zeng[2] *1. Physics and Astronomy, CUNY Hunter College, Brooklyn, NY; 2. Physics, SUNY Buffalo University, Buffalo, NY*

AP-14. Real-time detection of forward volume spin wave under electrical currents. *K. Sekiguchi*[1], K. Yamada[1], S. Seo[2], K. Lee[2], D. Chiba[1], K. Kobayashi[1] and T. Ono[1] *1. ICR, Kyoto University, Uji, Kyoto, Japan; 2. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of*

AP-15. Direct current effects on 1/f and phase noise in Permalloy microwires. *H. Zhang*[1], C. Li[1] and P. Wang[1] *1. ECE Department, Clemson University, Clemson, SC*

MONDAY MORNING 10:00 GRAND HALL EAST

Session AQ
COMPLEX OXIDE FILMS AND NANOSTRUCTURES I (POSTER SESSION)
Jing Tao, Chair

AQ-01. Controlling the Magnetic, Magneto-Optical and Optical Properties of Room Temperature Ferromagnetic Sr(Ti0.6Fe0.4)O3 Thin Films: The Role of Defect Chemistry. *L. Bi*[1], P. Jiang[1], D. Kim[1], G.F. Dionne[1,2] and C.A. Ross[1] *1. DMSE, MIT, Cambridge, MA; 2. MIT Lincoln Lab, Lexington, MA*

AQ-02. The investigation of reversible strain and polarization effects in (011)-$La_{0.9}Ba_{0.1}MnO_3$ film using field effect configurations. *J. Wang*[1], F. Hu[1], L. Chen[1], J. Sun[1] and B. Shen[1] *1. Institute of Physics,CAS, Beijing, China*

AQ-03. Persistent photoconductivity induced by electric currents in epitaxial thin films of $Pr_{0.7}Sr_{0.3}MnO_3$ *J. Wang*[1] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, China*

AQ-04. Strong photoelectric and magnetoresistance effects in highly rectifying $Nd_{0.7}Sr_{0.3}MnO_3$/Nb:$SrTiO_3$ heterojunctions. *J. Wang*[1] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, China*

AQ-05. Static and dynamic strain effects in $La_{0.7}Ce_{0.3}MnO_3$ thin films. L. Chen[1,2], J. Wang[2], *F. Hu*[2], J. Shen[2], J. Sun[2], B. Shen[2], J. Yin[1] and L. Pan[1] *1. Department of Physics, University of Science and Technology Beijing, Beijing, China; 2. State Key Laboratory of Magnetism, Institute of Physics, CAS, Beijing, China*

AQ-06. Magneto-transport properties of LSMO/NCMO superlattices up to 25 T. S. Pinto[1], A. Pereira[1], *J. Ventura*[1], J.P. Araujo[1], D. Hsu[2] and J.G. Lin[2] *1. IFIMUP, Porto, Portugal; 2. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan*

AQ-07. Magnetic anisotropy and transport properties of 70nm SrRuO3 films grown on different substrates. X. Wang[1], Y. Zhang[1], H. Meng[1], *D. Li*[1] and Z. Zhang[1] *1. Insititute of Metal Research,CAS, Shenyang, China*

AQ-08. Structural and Magnetic Characterizations of Mn2CrO4 and MnCr2O4 Films on MgO(001) and SrTiO3(001) Substrates by Molecular Beam Epitaxy. Y. Jhuang[1], *K. Kuo*[1] and G. Chern[1] *1. SPIN Research Center and Physics Department, National Chung Cheng University, Chia-Yi, Taiwan*

AQ-09. A hidden magnetic state in monolithic La1-xSrxMnO3 films. *J. Lee*[1], D.A. Arena[1], C. Nelson[1], C. Kao[1], P. Wu[2] and R. Ramesh[2] *1. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY; 2. Physics, University of California, Berkeley, Berkeley, CA*

AQ-10. Nanometer Size Effect on Magnetic Properties of $La_{0.2}Ca_{0.8}MnO_3$ *V.I. Markovich*[1], A. Wisniewski[2], R. Puzniak[2], I. Fita[3], D. Mogilyansky[1], L. Titelman[1] and G. Gorodetsky[1] *1. Physics, Ben-Gurion University, Beer-Sheva, Israel; 2. Institute of Physics, Warsaw, Poland; 3. Donetsk Institute for Physics & Technology, Donetsk, Ukraine*

MONDAY MORNING 10:00 GRAND HALL EAST

Session AR
PATTERNED MEDIA I (POSTER SESSION)
Simon Greaves, Chair

AR-01. Observation of bit boundary in ion irradiation patterned $CrPt_3$ using dark-field TEM. *D. Oshima*[1], E. Suharyadi[1], T. Kato[1] and S. Iwata[1] *1. Nagoya University, Nagoya, Japan*

AR-02. Switching Field Distribution of Planar Patterned $CrPt_3$ Nanodots Fabricated by Ion Irradiation. *E. Suharyadi*[1,2], D. Oshima[1], T. Kato[1] and S. Iwata[1] *1. Department of Quantum Engineering, Nagoya University, Nagoya, Aichi, Japan; 2. Japan Society for the Promotion of Science (JSPS), Tokyo, Japan*

AR-03. Calculation of switching field distribution (SFD) of individual bit islands in perpendicular magnetic bit patterned media (BPM). *W. Li*[1,2], Y. Chen[2], J. Xue[1], T. Huang[2] and J. Ding[1] *1. Material Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Agency for Science, Technology and Research (A* STAR), Singapore, Singapore*

AR-04. Effect of Surface Layer on Magnetization Switching in CoPt and FePt Dot Arrays Studied by Magnetic Force Microscopy. *S. Ishio*[1], Z. Yan[1], W. Pei[1], T. Wang[1], S. Takahashi[1], T. Hasegawa[1], J. Ariake[2] and Y. Kondo[2] *1. Akita University, Akita, Japan; 2. Research Institue of Advanced Technology, Akita, Japan*

AR-05. The feasibility of 4 Tb/in^2 patterned media systems using conventional recording. *S. Greaves*[1], H. Muraoka[1] and Y. Kanai[2] *1. RIEC, Tohoku University, Sendai, Japan; 2. IEE, Niigata Institute of Technology, Kashiwazaki, Japan*

AR-06. Experimental Write Margin Analysis of Bit Patterned Media. H. Aoi[1], *H. Saga*[1,2], K. Shirahata[1], K. Miura[1], T. Shimatsu[1] and H. Muraoka[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Central Research Laboratory, Hitachi, Ltd., Odawara, Japan*

AR-07. Magnetic Properties of $L1_0$-FePt Dot Arrays for Bit Patterned Media Prepared by Electron Beam Lithography and Rapid Thermal Annealing. *Y. Kondo*[1], S. Takahashi[2], T. Hasegawa[2], Z. Yan[3], T. Narisawa[2], H. Yamane[1], M. Suzuki[4], N. Kawamura[4], J. Ariake[1] and S. Ishio[2] *1. Research Institute of Advanced Technology, Akita Research and Development Center, Akita, Japan; 2. Faculty of Engineering and Resource Science, Akita University, Akita, Japan; 3. Venture Business Laboratory, Akita University, Akita, Japan; 4. Japan Synchrotron Radiation Research Institute, Hyogo, Japan*

AR-08. Influences of film microstructure and defects on magnetization reversal in bit patterned Co/Pt multilayer thin film media. V.W. Guo[1], *H. Lee*[2] and J. Zhu[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Advanced Materials Lab, Central R&D Institute, Samsung Electro-Mechanics, Suwon, Korea, Republic of*

AR-09. Magnetization Reversal Mechanism of Magnetic Dot Array by Anomalous Hall Effect Measurement. *J. Ariake*[1], T. Kiya[1] and Y. Kondo[1] *1. AIT, Akita Research & Development Center, Akita, Japan*

AR-10. Effect of ion irradiation on the magnetic properties of CGC type media. *T. Ouchi*[1], M. Aniya[2], A. Shimada[2], J. Yasumori[2], Y. Sonobe[2], K. Sato[3], T. Shima[3], S.J. Greaves[4], H. Muraoka[4] and T. Homma[1] *1. Department of Applied Chemistry, Waseda University, Shinjuku-ku Tokyo, Japan; 2. R&D Center, HOYA corporation, Akishima-shi Tokyo, Japan; 3. Faculty of Engineering, Tohoku Gaukuin University, Tagajo-shi Miyagi, Japan; 4. RIEC, Tohoku University, Sendai-shi Miyagi, Japan*

AR-11. Effect of pattern size on gas cluster ion beam planarization. *K. Nagato*[1], N. Toyoda[2], K. Naito[2], H. Tani[3], Y. Sakane[4], I. Yamada[2], M. Nakao[1] and T. Hamaguchi[1] *1. Mechanical Engineering, The University of Tokyo, Tokyo, Japan; 2. Incubation center, Hyogo University, Hyogo, Japan; 3. Mechanical Engineering, Kansai University, Osaka, Japan; 4. Western Digital Media Operations, San Jose, CA*

AR-12. Magnetic Behaviour of Perpendicularly Magnetized Co/Pd nanopillars. *X. Liu*[1], Y. Ren[1,2] and A.O. Adeyeye[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Singapore-MIT Alliance, Singapore, Singapore*

AR-13. Fabrication of $L1_0$ FePt ECC patterned media by block-copolymer lithography. *H. Wang*[1], T. Rahman[1], H. Zhao[1] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

AR-14. Increase in Cross Track Shift Margin of Bit Patterned Media with Inclined Anisotropy. *N. Honda*[1], K. Yamakawa[2] and K. Ouchi[2] *1. Faculty of Engineering, Tohoku Institute of Technology, Sendai, Miyagi, Japan; 2. AIT, Akita Prefectural R & D Center, Akita, Akita, Japan*

MONDAY MORNING 10:00 — GRAND HALL EAST

Session AS
SPECIAL MAGNETIC MATERIALS (POSTER SESSION)
Paulo de Morais, Chair

AS-01. Quantitative control of magnetic ordering in FeRh thin film by 30 keV Ga ion beam irradiation using a focused ion beam system. *K. Aikoh*[1], S. Kosugi[1], T. Matsui[1] and A. Iwase[1] *1. Materials Science, Osaka Prefecture University, Sakai, Osaka, Japan*

AS-02. Giant Negative Thermal Expansion in Antiperoskite Manganese Nitrides. *T. Hamada*[1] and K. Takenaka[1] *1. Department of Crystalline Materials Science, Nagoya University, Nagoya, Aichi, Japan*

AS-03. Giant magnetoresistance and table-like magnetocaloric effect in double perovskite oxide $PrSrMnCoO_6$ R.N. Mahato[1], K. Sethupathi[1], *V. Sankaranarayanan*[1], R. Nirmala[1], A.K. Nigam[2] and S.K. Malik[3] *1. Physics, IIT Madras, Chennai, India; 2. Condensed Matter Physics, Tata Institute of Fundamental Research, Mumbai, India; 3. Physics, International Institute of Physics, Natal, Brazil*

AS-04. High Temperature Magnetic Properties of Fe81-xCoxGa19/Si(100) Films. *T. Tsai*[1,2], S. Jen[2] and P. Kuo[1] *1. Department of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Academia Sinica, Institute of Physics, Taipei, Taiwan*

AS-05. Magnetic Properties of Genetically Synthesized Helicobacter Pylori Ferritins. *K. Son*[1], J. Park[1], S. Yoon[2], B. Suh[2], Z. Jang[1], K. Cho[3], K. Kim[4] and K. Choi[5] *1. Physics, Kookmin univ., Seoul, Korea, Republic of; 2. Physics, The Catholic University of Korea, Bucheon, Gyunggi-do, Korea, Republic of; 3. Life Sciences & Biotechnology, Korea univ., Seoul, Korea, Republic of; 4. Biotechnology & Bioinformatics, Korea univ., Yeongi-gun, Chungcheongnam-do, Korea, Republic of; 5. Physics, Chungang univ., Seoul, Korea, Republic of*

AS-06. Induced Magnetism in ZnO Nano-Slab. *J. Choi*[1], J. Hong[1], S. Jang[1], Z. Wang[1], R.L. Snyder[1] and J. Gu[2] *1. School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA; 2. Physics and Astronomy, California State University Long Beach, Long Beach, CA*

AS-07. First-principles study of magnetism and electronic structure in Pd-doped AlN. *W. Lopez*[1], A. Gonzalez[1], R. Gonzalez[1] and J. Rodriguez[2] *1. Physic, Universidad del Norte, Barranquilla, Atlantico, Colombia; 2. Física, Universidad Nacional, Bogotá, Cundinamarca, Colombia*

AS-08. A 10 and 300 K EPR study of the effect of doping Ceria with 5% Co or Ni ions prepared at varying annealing temperatures. *S.K. Misra*[1], S.I. Andronenko[2], A. Thurber[3], G.L. Beausoleil, II[4] and A. Punnoose[5] *1. Physics, Concordia University, Montreal, QC, Canada; 2. Physics, Kazan Federal University, Kazan, Kazan, Russian Federation; 3. Physics, Boise State University, Boise, ID; 4. Physics, Boise State University, Boise, ID; 5. Physics, Boise State University, Boise, ID*

AS-09. Fluence dependence of disorder and resulting effect on magnetism in Mn-implanted 6H-SiC single crystal. *K. Bouziane*[1], S.M. Chérif[2], M. Al-Azri[1], A. Declémy[3], L. Thomé[4], M. Drouet[3] and M. Elzain[1] *1. Physics, Sultan Qaboos University, Muscat, Oman; 2. LPMTM (CNRS-UPR 9001), Université Paris 13, Villetaneuse, France; 3. PhyMat, CNRS UMR 6630, Université de Poitiers, Futuroscope Chasseneuil, France; 4. CSNSM-Orsay, Université d'Orsay, Orsay, France*

AS-10. Room temperature ferromagnetism of Na and Co co-doped ZnO nanoparticles. *M. Yan*[1] and H. Gu[1] *1. Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China*

AS-11. Structural and magnetic properties in $Tb_6Fe_{1-x}Co_xBi_2$ (x=0, 0.125, 0.25, 0.375) compounds. *L. Jia*[1], M. Koehler[1], D. McCarthy[1], M. McGuire[2] and V. Keppens[1] *1. Department of Materials Science and Engineering, The University of Tennessee, Knoxville, TN; 2. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN*

AS-12. Control of oxygen deficiency by swift heavy ion irradiation and its effect on structural and magnetic properties for epitaxial $Ba(Fe_{0.5}Mn_{0.5})O_{3-\delta}$ thin films. *R. Shinoda*[1], T. Matsui[1], N. Ishikawa[2] and A. Iwase[1] *1. Materials Science, Osaka Prefecture University, sakai, Osaka, Japan; 2. Japan Atomic Energy Agency(JAEA-Tokai), Tokai, Ibaraki, Japan*

AS-13. Magnetic properties of Cr-, Fe-, Cu-doped topological insulators. *Y. Choi*[1], N. Cho[1], K. Lee[1], J. Yoon[2], C. You[2] and M. Jung[1] *1. Department of Physics, Sogang University, Seoul, Korea, Republic of; 2. Department of Physics, Inha University, Incheon, Korea, Republic of*

AS-14. Magneto absorption measurements of nano-size ε-AlxFe2-xO3 powders materials at millimeter wavelengths. *M.N. Afsar*[1], Z. Li[1], K. Korolev[1], A. Namai[2] and S. Ohkoshi[2] *1. Electrical and Computer Engineering, Tufts University, Medford, MA; 2. Department of Chemistry, School of Science, University of Tokyo, Tokyo, Japan*

AS-15. Ligands effects on magnetic properties of FePt-Fe_3O_4 Core-Shell Nanoparticles. *D. Kim*[1], Y. Tamada[3], R.A. Elena[2], V. Novosad[1], T. Ono[3] and S.D. Bader[1,2] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 3. Institute for Chemical Research, Kyoto University, Uji, Japan*

MONDAY MORNING 10:00 — GRAND HALL EAST

Session AT
MAGNETIC NANOPARTICLE SYNTHESIS I (POSTER SESSION)

Natalie Huls, Chair

AT-01. Synthesis and XPS study of Prussian Blue coated Fe Nanoparticles Prepared by a Modified Reverse Micelle Reaction. F. Radwan[1], *K.J. Carroll*[1] and E.E. Carpenter[1] *1. Chemistry, Virginia Commonwealth University, Richmond, VA*

AT-02. Synthesis of ferromagnetic nanoparticles with a core/shell structure by a self-propagating combustion method. *S. Cho*[1], K. Jeon[1], K. Moon[1,2], J. Kim[1], K. Kim[3] and J. Kim[1] *1. Metallurgy and Materials Engineering, Hanyang University, Ansan, Korea, Republic of; 2. Nano Material Development Team, AMOGREENTECH, Gimpo, Korea, Republic of; 3. Physics, Yeungnam, Gyeongsan, Korea, Republic of*

AT-03. Characterization of Oxidation-resistant Fe@M(M=Cr,Ni) Core/shell Nanoparticles Prepared by a Modified Reverse Micelle Reaction. *S.H. Naik*[1], K.J. Carroll[1] and E.E. Carpenter[1] *1. Chemistry, Virginia Commonwealth University, Richmond, VA*

AT-04. Synthesis and characterization of FeO/Fe3O4 core shell nanoparticles: a magnetic study. *S.K. Sharma*[1], J.M. Vargas[2], J. Torrejon[1], K.R. Pirota[1], S. Kumar[3], C.G. Lee[3] and M. Knobel[1] *1. University of Campinas, Campinas, Brazil; 2. Center for High Technology Materials, University of New Mexico, Albuquerque, NM; 3. School of Nano & Advanced Materials Engineering, Changwon National University, Changwon, Changwon, Korea, Republic of*

AT-05. Chemical synthesis of gold coated FePt nanoparticles with hydrophilic chains. *D. Wei*[1,3], P.H. Chen[1], Y.D. Yao[2,3] and Y.C. Yu[3] *1. Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; 2. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

AT-06. High thermal stable core-shell fcc-Cobalt @ B_2O_3 nanoparticles. *V. Singh*[1], V. Srinivas[1] and N.H. Babu[2] *1. Department of Physics, Indian Institute of Technology, Kharagpur, Kharagpur, WB, India; 2. Department of Engineering, University of Cambridge, Cambridge CB2 1PZ, United Kingdom*

AT-07. PVP-Mediated Phase Transitions in Metastable Nanocristallyne Cobalt. *C.M. Osorio-Cantillo*[1], O.J. Perales-Perez[2,1] and M.J. Guinel[3] *1. Chemistry, UPR-Mayaguez, Mayaguez; 2. Engineering Science & Materials, UPR-Mayaguez, Mayaguez; 3. Chemistry, UPR-Rio Piedras, Rio Piedras*

AT-08. Tuning of Magnetic Properties in Co-Zn Ferrite Nanocrystals Synthesized by a Size-Controlled Co-Precipitation Method. *S. Urcia-Romero*[1], O. Perales-Pérez[2] and O.C. Uwakweh[2] *1. Physics, University of Puerto Rico, Mayaguez, Puerto Rico; 2. Department of Engineering Science & Marials, University of Puerto Rico, Mayaguez, Puerto Rico*

AT-09. Synthesis of High Magnetization FeCo Alloys Prepared by a Modified Polyol Process. *Z.J. Huba*[1], K.J. Carroll[1] and E.E. Carpenter[1] *1. Chemistry Department, Virginia Commonwealth University, Richmond, VA*

AT-10. Nonaqueous synthesis and magnetic properties of monodisperse ZnFe2O4 nanocrystals. *J. Jeong*[1,2], J. Wu[2,1], J. Min[1,2], A. Song[1,2], J. Lee[1,2] and Y. Kim[1,2] *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, Korea, Republic of; 2. Pioneer Research Center for Biomedical Nanocrystals, Korea University, Seoul, Seoul, Korea, Republic of*

AT-11. Synthesis and characterization of nanosized ferrites from the thermolysis of strontium and barium tris(succinato)ferrate(III)precursors. *H. Kaur*[1], J. Singh[1] and K. Gandotra[1] *1. Chemistry, Guru Nanak Dev University, Amritsar, Punjab, India*

AT-12. Intrinsic magnetism in BaTiO3 doped with magnetic transition elements (Cr, Fe, Co) synthesized by sol-precipitation method. *H. Liu*[1], B. Cao[1] and C.J. O'Connor[1] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA*

AT-13. Magnetic and ferroelectric properties of multiferroic Bi_2MnNiO_6 nanoparticles. *Y. Du*[1], Z.X. Cheng[1] and X.L. Wang[1] *1. Institute for Superconducting and Electronic Materials (ISEM), University of Wollongong, Fairy Meadow, NSW, Australia*

AT-14. Large-scale synthesis of monodisperse antiferromagnetic hematite nanocubes. *J. Jalli*[1], Y. Hong[1], S. Bae[1], G.S. Abo[1], J. Lee[1], J. Park[1], A.M. Lane[2], S. Kim[3], B. Choi[4], M.J. Kim[5], S.C. Erwin[6], T. Hyeon[7], R. Syslo[1] and N. Neveu[1] *1. Department of Electrical and Computer Engineering and MINT Center, University of Alabama, Tuscaloosa, AL; 2. Department of Chemical and Biological Engineering, University of Alabama, Tuscaloosa, AL; 3. Department of Physics and Astronomy, Mississippi State University, Mississippi State, MS; 4. Department of Physics & Astronomy and MINT Center, University of Victoria, Victoria, BC, Canada; 5. Department of Materials Science and Engineering, University of Texas, Dallas, TX; 6. Center for Computational Materials Science, Naval Research Laboratory, Washington, DC; 7. Department of Chemical and Biological Engineering, Seoul National University, Seoul, Seoul, Korea, Democratic People's Republic of*

AT-15. Amino modulation of nanosized magnetite particles. *P.C. Morais*[1], J.A. Coaquira[1], A.C. Oliveira[1], V.K. Garg[1], A.F. Rodriguez[2], J.G. Silva[3], R.F. Marques[4], T.P. Costa[4], R. Bini[4] and M. Jafelicci[4] *1. Institute of Physics, University of Brasilia, Brasilia, DF, Brazil; 2. Physics, Federal University of Acre, Rio Branco, Acre, Brazil; 3. Material Science, Federal University of Rondonia, Porto Velho, Rondonia, Brazil; 4. Chemistry, UNESP, Araraquara, Sao Paulo, Brazil*

MONDAY MORNING 10:00

GRAND HALL EAST

Session AU
STRUCTURED MATERIALS: ULTRA-THIN FILMS AND SURFACE EFFECTS (POSTER SESSION)

Andreas Schmid, Chair

AU-01. Magnetic anisotropy of Fe and Pd/Fe ultra-thin films on Pd(001). *T. Ueno*[1], M. Sawada[2], K. Furumoto[1], T. Tagashira[1], A. Kimura[1], M. Tsujikawa[3], T. Oda[3], H. Namatame[2] and M. Taniguchi[1,2] *1. Graduate School of Science, Hiroshima University, Higashi-Hiroshima, Japan; 2. Hiroshima Synchrotron Radiation Center, Hiroshima University, Higashi-Hiroshima, Japan; 3. Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa, Japan*

AU-02. Study on the magnetic properties of Fe/Cu(001) measured by XMCD and SMOKE measurements. *Y. Park*[1], L. Poornima[2], Y. Oh[3], B. Park[4], J. Kim[4], C. Kim[2], J. Hong[3], W. Kim[1] and C. Hwang[1] *1. Division of Industrial Metrology, Korea Research Institute of Standards and Science, 209 Gajeong-Ro, Yuseong-Gu Daejeon 305-340, Korea, Republic of; 2. School of Nanoscience and Engineering, Chungnam National University, Daejeon 305-764, Korea, Republic of; 3. Department of Physics, Pukyong National University, Busan 608-737, Korea, Republic of; 4. Pohang Accelerator Laboratory (PAL), POSTECH, Pohang 790-784, Korea, Republic of*

AU-03. Characterization of stearic acid adsorption on Ni(111) surface by experimental and first-principles study approach. *S. Liang*[1], D. Liu[1], W. Wang[1], T. Yu[1], Y. Wang[1] and X. Han[1] *1. Beijing National Laboratory of Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

AU-04. Influence of an Au Capping layer on the magnetic properties of ultrathin epitaxial Fe_3O_4/GaAs(001) film. E. Liu[1], J. Zhang[1], W. Zhang[2], P. Wong[2,4], Z. Huang[1,2], L. Lv[3], *Y. Zhai*[1,3], Y. Xu[2] and H. Zhai[3] *1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Electronics, University of York, York, United Kingdom; 3. National Laboratory of Solid Microstructures, Nanjing University, Nanjing, China; 4. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

AU-05. Microstructure and magnetic properties of bcc-Co films epitaxially grown on GaAs(110) single-crystal substrates. *M. Ohtake*[1], O. Yabuhara[1], J. Higuchi[1] and M. Futamoto[1] *1. Faculty of Science and Engineering, Chuo University, Tokyo, Japan*

AU-06. In-plane Magnetic Anisotropy in Fe/MgO/GaAs(001) System. *J. Li*[1], G. Chen[1], J. Zhu[1], J. Liang[1] and Y. Wu[1] *1. Department of Physics, State Key Laboratory of Surface Physics, and Advanced Materials Laboratory, Fudan univeristy, Shanghai, China*

AU-07. Superparamagnetic behavior in Fe ultrathin films on GaN(0001). J. Wong[1,2], W. Zhang[1], X. Cui[3], *Y. Xu*[1], Z.K. Tao[3], X. Li[3], Z.L. Xie[3] and R. Zhang[3] *1. Spintronics and Nanodevice Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands; 3. Jiangsu Provincial Laboratory of Advanced Photonic and Electronic Materials, Department of Physics, Nanjing University, Nanjing, China*

AU-08. Incorporation of iron on the clean and gallium-bilayer GaN(0001) surface. *R. Gonzalez-Hernandez*[1,2], W. Lopez[1] and J. Rodriguez[2] *1. Fisica, Universidad de Norte, Bogota, Cundinamarca, Colombia; 2. Fisica, Universidad Nacional de Colombia, Bogota, Colombia*

AU-09. Messbauer study Fe-57 in ultrathin trilayer films with sharp and rough interfaces. *A. Pogorily*[1], G. Bondarkova[1], O. Razumov[2] and O. Shypil[3] *1. Physics ofi Films, Institute of Magnetism, Kiev, Ukraine; 2. Institute of Metalphysics, Kiev, Ukraine; 3. Department of Physics, University of Alabama, Tuscaloosa, AL*

AU-10. Oxygen effect on Spin Reorientation Transistion of Co5Ni95/Cu(001) alloy films. C. Wu[1], *Y. Shih*[1] and W. Pan[1] *1. Physics, National Chung Cheng University, Chia-Yi, Taiwan*

AU-11. Surface magnetic order of rare-earth thin films. *A. Pratt*[1,2], M. Kurahashi[1] and Y. Yamauchi[1] *1. National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan; 2. York Institute for Materials Research, University of York, York, North Yorkshire YO10 5DD, United Kingdom*

AU-12. Spin Structure and Dynamics of Cobalt-Ruthenium-Cobalt Trilayers. *Z. Li*[1], M. Chipara[2], R. Skomski[1], S. Liou[1] and R.D. Kirby[1] *1. Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska - Lincoln, Lincoln, NE; 2. Physics and Geology, The University of Texas Pan American, Edinburg, TX*

AU-13. (In,Mn)As Nanowires with Ultrahigh Mn Concentration: Growth, Morphology and Magnetic Anisotropy. *F. Xu*[1], P. Huang[2], J. Huang[2], R. Huang[3], W. Lee[2], T. Chin[2] and S. Li[4] *1. Department of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Institute of Materials Engineering, National Taiwan Ocean University, Keelung, Taiwan; 4. Department of Physics, Fujian Normal University, Fuzhou, Fujian, China*

AU-14. Competition of exchange anisotropy and perpendicular exchange anisotropy in Pt/Co/Cr_2O_3(0001) thin film. *Y. Shiratsuchi*[1], H. Noutomi[1], T. Fujita[1], H. Oikawa[1] and R. Nakatani[1] *1. Osaka University, Osaka, Japan*

AU-15. Perpendicular magnetic anisotropy in $CoFe_2O_4$ (001) films epitaxially grown on MgO(001). *H. Yanagihara*[1], K. Uwabo[1] and E. Kita[1] *1. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan*

MONDAY MORNING 10:00 GRAND HALL EAST

Session AV
BIOMEDICAL APPLICATIONS (POSTER SESSION)
Zulmira Lacava, Chair

AV-01. Modulating of duty ratio and frequency in alternative magnetic field for cell stimulation. *T. Jang*[1], G. Cho[1], J. Choi[1], S. Kim[1] and D. Hwang[1] *1. Department of Oriental Medical Engineering, Sangji University, Wonju, Korea, Republic of*

AV-02. Cell patterning using ferromagnetic thin film array. L. Jian[1], C. Chen[1] and *M. Lai*[1] *1. Institute of NanoEngineering and MicroSystems, National Tsing Hua University, Hsinchu, Taiwan*

AV-03. NMR study of Gd-based nanoparticles to tag boron compounds in boron neutron capture therapy (BNCT). M. Corti[1], M. Bonora[1], *F. Borsa*[1], S. Bortolussi[2], N. Protti[2], D. Santoro[2], S. Altieri[2], C. Zonta[3], A. Clerici[3], L. Cansolino[3], C. Ferrari[3], P. Dionigi[3], A. Marchetti[4], G. Zanoni[4] and G. Vidari[4] *1. Dipartimento di Fisica A.Volta, Unita' CNISM e Unita' INSTM, Universita' di Pavia, I-27100 Pavia, Italy; 2. Dipartimento di Fisica Nucleare e Teorica e INFN Pavia, Universita' di Pavia, I-27100 Pavia, Italy; 3. Dipartimento di Scienze Chirurgiche, Laboratorio di Chirurgia Sperimentale, Universita' di Pavia, I-27100 Pavia, Italy; 4. Dipartimento di Chimica Organica, Universita' di Pavia, I-27100 Pavia, Italy*

AV-04. Non-Surface Immunoassay by Search Coils and Magnetic Nanoparticles. *L. Tu*[1], Y. Jing[1], T. Klein[1], Y. Zhuang[1] and J. Wang[1] *1. University of Minnesota, Minneapolis, MN*

AV-05. Selol-loaded magnetic nanocapsules: a new approach for hyperthermia cancer therapy. A.M. Falqueiro[1,2], F.L. Primo[1,2], P.C. Morais[3], E. Mosiniewicz-Szablewska[4], P. Suchocki[5,6] and *A.C. Tedesco*[1] *1. Departamento de Química, Laboratório de Fotobiologia e Fotomedicina, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil; 2. Departamento de Ciências Farmacêuticas, Faculdade de Ciências Farmacêuticas de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil; 3. Instituto de Física, Núcleo de Física Aplicada, Universidade de Brasília, Brasília, Distrito Federal, Brazil; 4. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 5. Department of Drugs Analysis, Warsaw Medical University, Warsaw, Poland; 6. Department of Pharmaceutical Chemistry, Drug Institute, Warsaw, Poland*

AV-06. Micromagnetic modeling of an MTJ bio-sensor under the presence of spherical magnetic beads. M.A. Hernandez-Lopez[1], *E. Martinez*[1], L. Torres[1], L. Lopez-Diaz[1] and D. Aurelio[1] *1. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*

AV-07. Separation of macrophage cell using biocompatible magnetic nanoparticles. *J. Min*[1], Y. Kim[1], S. Kim[2], K. Kim[2] and K. Lee[2] *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, Korea, Republic of; 2. Department of Biochemistry, College of Medicine, Korea University, Seoul, Seoul, Korea, Republic of*

AV-08. Numerical analysis and in-vitro experiments testing on a magnetic filter for extracorporeal blood purification. *V. Badescu*[1], L. Udrea[1], O. Rotariu[1], R. Badescu[2] and G. Apreotesei[2] *1. NIRDTP-Institute of Technical Physics, Iasi, Romania; 2. Department of Physics, Technical University "Gh. Asachi", Iasi, Romania*

AV-09. AC Field Dependence of Cluster Disruption in Magnetic Fluids. J. Zhong[1], W. Liu[1], M. Zhou[1] and *Q. Xiang*[1] *1. Department of Control Science & Engineering, Institute of Measurement-Control Techniques and Systems, Wuhan, Hubei, China*

AV-10. Facile Synthesis of Water-soluble Superparamagnetic Iron Oxide Using Vitamine E TPGS Formulation for Magnetic Resonance Imaging. *J. Lai*[1], H. Yen[1], C. Hsu[1] and P. Lai[1] *1. National Chung Hsing University, Taichung, Taiwan*

AV-11. Poly(caprolactone) based magnetic scaffolds for bone tissue engineering. *M. Bañobre-López*[1], Y. Piñeiro-Redondo[1], R. De Santis[2], A. Gloria[2], L. Ambrosio[2], A. Tampieri[3], A. Dediu[4] and J. Rivas[1] *1. Applied Physics department, University of Santiago de Compostela, Santiago de Compostela, Spain; 2. IMCB-CNR Institute of Composite and Biomedical Materials, Naples, Italy; 3. ISTEC-CNR Institute of Bioceramics and Bio-hybrid Composites, Bologna, Italy; 4. ISMN-CNR Institute of Nanostructured Materials, Bologna, Italy*

AV-12. Development of Speculate Heater Utilizing Thermosensitive Magnetic Powder Coated with Ag-paste for Hyperthermia Cancer Therapy. *T. Takura*[1], F. Sato[1,2], H. Matsuki[2] and T. Sato[2] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Graduate School of Biomedical Engineering, Tohoku University, Sendai, Japan*

AV-13. Changes in the bioluminescence of firefly under pulsed and static magnetic fields. *M. Iwasaka*[1], Y. Miyashita[1], A. Gohain Barua[2], S. Kurita[3] and N. Owada[3] *1. Graduate School of Engineering, Chiba University, Chiba, Japan; 2. Department of Physics, Gauhati University, Guwahati, Assam, India; 3. ABI Co., Ltd., Abiko, Japan*

AV-14. FePt-loaded FITC-labeled Silica Nanoparticles for Fluorescence imaging/hyperthermia. H. Yen[1], M. Tsai[2], J. Tsai[2], M. Liao[1] and *P. Lai*[1] *1. Chemistry, National Chung Hsing University, Taichung, Taiwan; 2. Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

AV-15. Estimated Blood Pressure Algorithm of Wearable Wrist Pulsimeter Using by Hall Device. S. Lee[1,2], J. Choi[2], D. Hwang[1,2], *I. Son*[1], D. Nam[3] and J. Rhee[4] *1. Oriental Biomedical Engineering, Sangji University, Wonju, Gangwon-do, Korea, Republic of; 2. Oriental-Western Biomedical Engineering, Sangji University, Wonju, Gangwon-do, Korea, Republic of; 3. Oriental Medicine, Sangji University, Wonju, Gangwon-do, Korea, Republic of; 4. Physics, Sookmyung Women's University, Seoul, Seoul, Korea, Republic of*

MONDAY MORNING 10:00 GRAND HALL EAST

Session AW
SPIN GLASSES, LOW DIMENSIONAL MAGNETS, AND HALF METALS (POSTER SESSION)

Deepak Singh, Chair

AW-01. Structural and magnetic properties on F-doped LiVO2 with two-dimensional triangular lattice. *Y. Li*[1], X. Li[2], L. Liu[2], N. Chen[3], X. Ma[2] and G. Cao[2] *1. Department of General Engineering, University of Puerto Rico, Mayaguez Campus, Mayaguez; 2. Department of Physics, University of Science and Technology Beijing, Beijing, China; 3. School of materials science and engineering, University of Science and Technology Beijing, Beijing, China*

AW-02. First-principles study of S=1/2 Kagome antiferromagnet. *C. Ren*[1] *1. National Kaohsiung Normal U., Kaohsiung, Taiwan*

AW-03. Investigation of electrical properties on triangular antiferromagnets. *B. Myoung*[1], S. Kim[1], T. Kouh[1], Y. Hirose[2], T. Hasegawa[2] and C. Kim[1] *1. Physics, Kookmin University, Seoul, Korea, Republic of; 2. Chemistry, University of Tokyo, Tokyo, Japan*

AW-04. Magnetic behaviors of classical spin models on Shastry-Sutherland lattice: Monte Carlo simulation. M. Qin[1], *K. Wang*[1] and J. Liu[1] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China*

AW-05. Magnetic properties in polycrystalline and single crystal La0.7Ca0.3CoO3. *R. Zeng*[1], J. Debnath[1], D. Chen[1], J. Wamg[1,3], S. Kennedy[3], S. Campbell[2] and S. Dou[3] *1. University of Wollongong, Wollongong, NSW, Australia; 2. The University of New South, Canberra, ACT, Australia; 3. Bragg Institute, ANSTO, Lucas Heights, NSW, Australia*

AW-06. Training effect in spin glass FeAu and FeAu/NiFe bilayer films. *F. Yuan*[1], Y. Yao[2] and S. Lee[1] *1. Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Applied Science and Engineering, Fu Jen Catholic University, Taipei, Taiwan*

AW-07. Neutron Powder Diffraction Studies in Nd1-xKxMnO3 (x=0.15 and 0.20) compounds. *B. Samantaray*[1], S. Ravi[1], I. Dhiman[2] and A. Das[2] *1. Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India; 2. Solid State Physics Division, Bhabha Atomic Research Centre, Mumbai, 400 085, India*

AW-08. Effect of external magnetic field on magnetic properties of Co-Pt and Co-Pd nanotubes/nanowires. *J. Chen*[1], H. Liu[1], N. Ahmad[1], Y. Li[2], Z. Chen[2] and X. Han[1] *1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics,Chinese Academy of Sciences, Beijing, China; 2. Department of Physics, Beijing University of Aeronautics and Astronautics, Beijing, China*

AW-09. Magnetic-flux-induced Persistent Currents in Nonlinear Mesoscopic Rings. *R. Zhang*[1], D. Qi[1], R. Peng[1], J. Li[1], R. Huang[1] and M. Wang[1] *1. National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, China*

AW-10. New investigation of the magnetic structure of $CoNb_2O_6$ columbite. *P.W. Sarvezuk*[1,2], E.J. Kinast[3], C.V. Colin[2], M.A. Gusmão[1] and J.M. da Cunha[1] *1. Federal University of the Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil; 2. SPMCE, Institute Néel - CNRS - University jouseph Fourrier, Grenoble, Isére, France; 3. State University of the Rio Grande do Sul, Novo Hamburgo, Rio Grande do Sul, Brazil*

AW-11. Inversion of spin dependent photocurrent at Fe_3O_4/modulation doped GaAs heterointerfaces. *Y. Shirahata*[1], E. Wada[1], M. Itoh[1] and T. Taniyama[1,2] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan*

AW-12. Growth and Magnetic Properties of Epitaxial Fe4N Thin Film on Si (001) Substrate. *H. Xiang*[1], F. Shi[1], M.S. Rzchowski[2], P.M. Voyles[1] and A.Y. Chang[1] *1. Department of Materials Science and Engineering, University of Wisconsin Madison, Madison, WI; 2. Department of Physics, University of Wisconsin Madison, Madison, WI*

AW-13. Effect of CoFe interlayers in CPP-GMR with $Co_2MnGa_{0.5}Sn_{0.5}$/Ag interface. *N. Hase*[1,2], T.M. Nakatani[1,2], S. Kasai[2], Y.K. Takahashi[2] and K. Hono[2,1] *1. University of Tsukuba, Tsukuba, Japan; 2. National Institute for Materials Science, Tsukuba, Japan*

AW-14. Electronic structure and magnetism of spinel ferrite $Fe_{3-x}O_4$ *H. Itoh*[1], S. Honda[1], N. Suzuki[1], J. Inoue[2], H. Yanagihara[3] and E. Kita[3] *1. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 2. Department of Applid Physics, Nagoya University, Nagoya, Japan; 3. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan*

AW-15. Magnetic Correlations in Graphene with Vacancies. *Y. Semenov*[1], J.M. Zavada[1] and K.W. Kim[1] *1. North Carolina State University, Raleigh, NC*

AW-16. High Frequency-Electron Spin Resonance study on a quasi one-dimensional spin gap compound, Pb2V3O9. *C. Koo*[1], S. Ghosh[2], M. Muhandis[2], B.S. Conner[2], H. Zhou[3] and S. Hill[2,3] *1. Physics, University of Florida, Gainesville, FL; 2. Physics, Florida State University, Tallahassee, FL; 3. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL*

MONDAY AFTERNOON 1:30 CENTENNIAL I

Session BA
SYMPOSIUM ON MAGNETIC PROPERTIES OF IRON-BASED SUPERCONDUCTORS
Jeff Lynn, Chair

1:30

BA-01. SDW Antiferromagnetism and Unconventional Superconductivity in the Fe-based Superconductors. ***(Invited)*** *D. Scalapino*[1] *1. Physics Department, UCSB, Santa Barbara, CA*

2:06

BA-02. Substitutional Doping on the Iron Site: The Super-surprise. ***(Invited)*** *A. Sefat*[1] *1. Materials Science & Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN*

2:42

BA-03. Phase diagrams and physical properties of $Ba(Fe_{1-x}TM_x)_2As_2$ (TM = Co, Ni, Cu, Ru, Rh, Pd). ***(Invited)*** *S.L. Bud'ko*[1] *1. Ames Laboratory, Iowa State University, Ames, IA*

3:18

BA-04. Spin excitations as a probe of superconducting electronic gap in hole-doped Ba0.6Ka0.4Fe2As2 superconductor. ***(Invited)*** *P. Dai*[1] *1. Physics and Astronomy, University of Tennessee, Knoxville, TN*

3:54

BA-05. Optical spectroscopy study on Fe-pnictides. ***(Invited)*** *N. Wang*[1] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

MONDAY AFTERNOON 1:30 CENTENNIAL II

Session BB
BULK COMPLEX OXIDES AND MULTIFERROICS
Jaime Fernandez-Baca, Chair

1:30

BB-01. 'Griffiths phase' versus chemical disorder in doped manganites: $La_{0.9}Sr_{0.1}MnO_3$ crystal revisited. *E. Rozenberg*[1], A.I. Shames[1], D. Mogilyansky[1], M.I. Auslender[2], I. Felner[3] and Y.M. Mukovskii[4] *1. Dept. of Physics, BGU of the Negev, Beer-Sheva, Israel; 2. Electrical Engineering and Computers, BGU of the Negev, Beer-Sheva, Israel; 3. Racah Institute of Physics, Hebrew University, Jerusalem, Israel; 4. Physics, Moscow Steel and Alloys Institute, Moscow, Russian Federation*

1:42

BB-02. Softening of Magnons in Ferromagnetic Quasi-Cubic Manganites. *P.U. Schlottmann*[1] *1. Department of Physics, Florida State University, Tallahassee, FL*

1:54

BB-03. Unusual Magnetic Relaxation Dynamics in Doped Manganites. *K.O. Khutsishvili*[1], N.P. Fokina[2] and A.I. Ugulava[3] *1. Physics, Tbilisi State University, Tbilisi, Georgia; 2. Physics, Tbilisi State University, Tbilisi, Georgia; 3. Physics, Tbilisi State University, Tbilisi, Georgia*

2:06

BB-04. Muon spin relaxation measurements of LaCoO3 at above room temperature. *I. Terry*[1], S. Giblin[3], A. Boothroyd[4] and C. Leighton[2] *1. Physics, Durham University, Durham, United Kingdom; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN; 3. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom; 4. Physics, Oxford University, Oxford, United Kingdom*

2:18

BB-05. Influence of the coupled structural/magnetocrystalline anisotropy transition on magnetic entropy change in $Pr_{1-x}Sr_xCoO_3$ (x = 0.3, 0.35, 0.4, 0.5). *N.S. Bingham*[1], M.H. Phan[1], M.A. Torija[2], C. Leighton[2] and H. Srikanth[1] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN*

2:30

BB-06. The prominent role of orbital moment in LaMn0.5Co0.5O3: An evaluation by x-ray magnetic circular dichroism spectroscopy. M. Viswanathan[1], H. Hsieh[2], H.J. Lin[3], C. Chen[3] and *A. Kumar*[1] *1. Department of Physics, Indian Institute of Science, Bangalore, Karnataka, India; 2. Chung Cheng Institute of Technology, National Defense University, Taoyuan 335, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu 30076, Taiwan*

2:42

BB-07. Magnetic-field induced electric polarization and magnetic structure in hexaferrites. ***(Invited)*** *Y. Taguchi*[1], S. Ishiwata[1,2], D. Okuyama[1], Y. Tokunaga[3], Y. Kaneko[3], K. Kakurai[4], M. Nishi[5] and Y. Tokura[1,2] *1. Cross-correlated Materials Research Group (CMRG) and Correlated Electron Research Group (CERG), RIKEN, Wako, Japan; 2. Department of Applied Physics, University of Tokyo, Tokyo, Japan; 3. Multiferroics Project, ERATO-JST, Wako, Japan; 4. Quantum Beam Science Directorate, Japan Atomic Energy Agency, Tokai, Japan; 5. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

3:18

BB-08. Phase Diagram and Dynamics in $Er_{1-x}Y_xMnO_3$ *O. Vajk*[1], T. Heitmann[2], J. Gunasekera[1] and Y. Wang[1] *1. Physics and Astronomy, University of Missouri, Columbia, MO; 2. Missouri University Research Reactor, University of Missouri, Columbia, MO*

3:30

BB-09. Experimental evidences for multiferroics in the half-doped manganite La0.5Ca0.5MnO3. T. Zou[1], F. Wang[1], Y. Liu[1], L. Yan[1] and *Y. Sun*[1] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

3:42

BB-10. Measurements and study of slow relaxation of magnetization in K3Fe5F15 multiferroic family. *Z. Trontelj*[1], D. Pajic[1], Z. Jaglicic[1], M. Jagodic[1], B. Zemva[2] and R. Blinc[2] *1. IMFM, Ljubljana, Slovenia; 2. Josef Stefan Institute, Ljubljana, Slovenia*

3:54

BB-11. Study of the Anomalous 2D ferromagnetic phase in Ho1-xLaxMn2O5 multiferroics by Neutron Diffraction Spectrums. *H. Chou*[1], C. Wu[1], S. Yeh[1], W. Li[2], J. Lee[3], K. Yang[1] and Y. Lin[1] *1. Physics, National Sun Yat-sen University, Kaohsiung, Taiwan; 2. Physics, National Central University, Jhongli, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

4:06

BB-12. Investigation of magnetic ordering in Aurivillius $Bi_4Ti_3O_{12}$-n $BiFeO_3$ solid solutions. *P.K. Srinivasan*[1] and K. Varma[1] *1. Materials Research Centre, Indian Institute of Science Bangalore, Bengalooru, Karnataka, India*

4:18

BB-13. Electron-doped Sr2IrO4-δ(0 < δ < 0.04): Evolution of a disordered Jeff = 1/2 Mott insulator into an exotic metallic state. *O.B. Korneta*[1], T. Qi[1], G. Cao[1], L.E. DeLong[1] and P. Schlottmann[2] *1. Department of Physics and Astronomy, University of Kentucky, Lexington, KY; 2. Department of Physics, Florida State University, Tallahassee, FL*

MONDAY AFTERNOON 1:30 — CENTENNIAL III

Session BC
MAGNETIZATION DYNAMICS III: ULTRAFAST SWITCHING

Mingzhong Wu, Chair

1:30

BC-01. Nonlocal Ultrafast Magnetization Dynamics in the High Fluence Limit. *K. Kuiper*[1], G. Malinowski[1], S. Schellekens[1], B. Koopmans[1], T. Roth[2], S. Alebrand[2], D. Steil[2], M. Cinchetti[2] and M. Aeschlimann[2] *1. Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands; 2. Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany*

1:42

BC-02. Ultrafast demagnetization in ferromagnets and magnetic switching in nanoclusters when the number of photons is kept fixed. *G. Zhang*[1], G. Lefkidis[2] and W. Hübner[2] *1. Department of Physics, Indiana State University, Terre Haute, IN; 2. Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany*

1:54

BC-03. Precessional switching by ultra-short pulse laser: beyond room temperature FMR limit. *A. Tsukamoto*[1,2], T. Sato[3], S. Toriumi[3] and A. Itoh[1] *1. Dept. of Electronics & Computer Science, College of Science and Technology Nihon University, Funabashi, Chiba, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Dept. of Electronics Engineering, Graduate School of Science and Technology, Nihon University, Funabashi, Chiba, Japan*

2:06

BC-04. Computational Study of Opto-magnetic Reversal using an Atomistic Spin Model. T.A. Ostler[1], R. Evans[1], *R.W. Chantrell*[1], D. Hinzke[2], U. Nowak[2] and S. Gerlach[2] *1. Physics, University of York, York, North Yorkshire, United Kingdom; 2. Physik, Universitat Konstanz, Konstanz, Germany*

2:18

BC-05. Analysis of current-driven nonlinear and chaotic magnetization dynamics in microwave assisted switching of spin-valve elements. *M. d'Aquino*[1], G. Di Fratta[1], C. Serpico[2], G. Bertotti[3], R. Bonin[4] and I.D. Mayergoyz[5] *1. Department of Technology, University of Napoli "Parthenope", Napoli, Italy; 2. Department of Electrical Engineering, University of Napoli "Federico II", Napoli, Italy; 3. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 4. Politecnico di Torino - sede di Verres, Aosta, Italy; 5. ECE Department and UMIACS, University of Maryland, College Park, MD*

2:30

BC-06. Phase resolved X-ray Ferromagnetic Resonance (XFMR) measurements of a ferromagnetic bilayer with a rare earth cap. *M. Marcham*[1], P.S. Keatley[1], A. Neudert[2], R.J. Hicken[1], S.A. Cavill[3], L.R. Shelford[3], G. van der Laan[3], N.D. Telling[4], J.R. Childress[6], J.A. Katine[6], P. Shafer[5] and E. Arenholz[5] *1. University of Exeter, Exeter, United Kingdom; 2. Forschungszentrum Dresden-Rossendorf e. V., Institute of Ion Beam Physics and Materials Research, Dresden, Germany; 3. Diamond Light Source, Oxford, United Kingdom; 4. Keele University, Stoke-on-Trent, United Kingdom; 5. Advanced Light Source, Berkeley, CA; 6. Hitachi Global Storage Technologies, San Jose, CA*

2:42

BC-07. Optimal field sweep time for magnetic switching. *Y.B. Bazaliy*[1,2], A. Stankiewicz[3] and S. Yan[1] *1. Physics and Astronomy, University of South Carolina, Columbia, SC; 2. Institue of Magnetism, Kyiv, Ukraine; 3. NVE Corporation, Eden Prairie, MN*

2:54

BC-08. Large amplitude magnetization dynamics and the suppression of edge modes in an individual nanomagnet. *P.S. Keatley*[1], P. Gangmei[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*

3:06

BC-09. Dynamical response of bubble domains in perpendicular anisotropy dots. *C. Moutafis*[1,2], A. Bisig[1,2], J. Rhensius[1,2], F. Büttner[1,6], M. Kläui[2,1], C. Barton[4], C. Morrison[4], T. Thomson[4], G. Heldt[3], L.J. Heyderman[3] and T. Valet[5] *1. SwissFEL, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Laboratory for Nanomagnetism and Spin Dynamics, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; 3. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. School of Computer Science, University of Manchester, Manchester, United Kingdom; 5. In Silicio, Aix En Provence, France; 6. Institut für Optik und Atomare Physik, Technische Universität Berlin, Berlin, Germany*

3:18

BC-10. Magneto-dynamic properties of CoFeB thin film elements with modified magnetic microstructure. *C. Patschureck*[1], J. McCord[2], R. Schäfer[1], R. Mattheis[3], I. Mönch[1] and L. Schultz[1,4] *1. Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Germany; 2. Insitute of Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf, Dresden, Germany; 3. IPHT Jena, Jena, Germany; 4. Dresden University of Technology, Dresden, Germany*

3:30

BC-11. Ultrafast demagnetization dynamics in ferromagnets and Heusler alloys. *M. Aeschlimann*[1], D. Steil[1], S. Alebrand[1], S. Essert[1], M. Krauss[1], T. Roth[1], T. Kubota[2], M. Oogane[2], Y. Ando[2], M. Cinchetti[1] and H. Schneider[1] *1. Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan*

3:42

BC-12. Spatially resolved magnetization dynamics of individual layers in interlayer exchange coupled trilayer systems. *A. Kaiser*[1], C. Wiemann[1], S. Cramm[1], C. Tieg[2,3] and C.M. Schneider[1] *1. Institut für Festkörperforschung IFF-9, Forschungszentrum Jülich GmbH, Jülich, Germany; 2. ESRF, Grenoble, France; 3. Helmholtz-Zentrum für Materialien und Energie, Berlin, Germany*

3:54

BC-13. Nanoscale scanning probe ferromagnetic resonance imaging using localized modes. ***(Invited)*** *P. Hammel*[1], I. Lee[1], Y. Obukhov[1], A. Hauser[1], F. Yang[1], P. Banerjee[1] and D.V. Pelehov[1] *1. Department of Physics, Ohio State University, Columbus, OH*

MONDAY AFTERNOON 1:30 CENTENNIAL IV

Session BD
SPIN INJECTION INTO SEMICONDUCTORS
Tanaka Masaaki, Chair

1:30

BD-01. Quantifying Electron Spin Polarization from Polarized Electroluminescence in Si spin-LEDs. *G. Kioseoglou*[1,2], P. Li[3], H. Dery[3], A.T. Hanbicki[1], C.H. Li[1], O.M. van 't Erve*[1], P.E. Thompson[1] and B.T. Jonker[1] *1. Naval Research Lab, Washington, DC; 2. University of Crete, Heraklion, Greece; 3. University of Rochester, Rochester, NY*

1:42

BD-02. Scaling of electrically-induced room-temperature spin polarization in silicon with tunnel interface characteristics. *S. Sharma*[1,2], S.P. Dash[1], J. Le Breton[1] and R. Jansen[1,2] *1. University of Twente, Enschede, Netherlands; 2. Spintronics Research Center, AIST, Tsukuba, Japan*

1:54

BD-03. Electrical detection of spin accumulation at 500K at $CoFe/SiO_2/Si(001)$ contacts via the Hanle effect. *C.H. Li*[1], O. van 't Erve[1], P.E. Thompson[1] and B.T. Jonker[1] *1. Code 6361, Naval Research Laboratory, Washington, DC*

2:06

BD-04. Electric field control of spin precession in InAs 2DEG using Rashba effect. ***(Invited)*** *J. Chang*[1], H. Koo[1], J. Eom[1,2], S. Han[1] and M. Johnson[3] *1. Korea Institute of Science and Technology (KIST), Seoul, Korea, Republic of; 2. Sejong University, Seoul, Korea, Republic of; 3. Naval Research Lab., Washington, DC*

2:42

BD-05. DC-biased measurements on cascaded InAs spin-filters. *H. Lehmann*[1], J. Jacob[1], G. Meier[1] and U. Merkt[1] *1. Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Jungiusstrasse 11, 20355 Hamburg, Germany*

2:54

BD-06. Electrical detection of spin transport in lateral Fe-GaAs devices. L.R. Fleet[1], *A. Hirohata*[2,3], K. O'Grady[1], H. Kobayashi[4] and Y. Ohno[4] *1. Department of Physics, University of York, York, United Kingdom; 2. Department of Electronics, University of York, York, United Kingdom; 3. PRESTO, JST, Kawaguchi, Japan; 4. RIEC, Tohoku University, Sendai, Japan*

3:06

BD-07. The bias dependence of spin injection into GaAs from Fe, FeCo and (Ga,Mn)As contacts. B. Endres[1], C. Wolf[1], A. Einwanger[1], M. Ciorga[1], F. Hoffmann[1], M. Utz[1], D. Schuh[1], G. Woltersdorf[1], D. Weiss[1] and *G. Bayreuther*[1] *1. Exp. und Angew. Physik, Universität Regensburg, Regensburg, Germany*

3:18

BD-08. Electrical detection of spin polarized electrons in n-GaAs/MgO/CoFe junctions. *H. Kobayashi*[1], S. Ikeda[1], Y. Ohno[1] and H. Ohno[1] *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku university, Sendai, Japan*

3:30

BD-09. Temperature dependence of the spin injection efficiency in highly doped Si. *T. Sasaki*[1], T. Oikawa[1], M. Shiraishi[2], Y. Suzuki[2] and K. Noguchi[1] *1. SQ Research Center, TDK corporation, Saku, Japan; 2. Graduate School of Engineering Science, Osaka University, Osaka, Japan*

3:42

BD-10. Spin accumulation in Fe/MgO/Si heterostructures. *A.T. Hanbicki*[1], O.J. van 't Erve*[1], S. Cheng[1], C.H. Li[1], G. Kioseoglou[1,2], P.E. Thompson[1] and B.T. Jonker[1] *1. Naval Research Laboratory, Washington, DC; 2. University of Crete, Heraklion, Greece*

3:54

BD-11. Spin Valve Effects in Silicon Nanowires. *J.L. Tarun*[1,2], S. Huang[1], Y. Fukuma[1], H. Idzuchi[1], Y. Otani[1], N. Fukata[4], K. Ishibashi[1,3] and S. Oda[2] *1. The Institute of Physical and Chemical Research (RIKEN), Wako, Saitama, Japan; 2. Quantum Nanoelectronics Research Center and Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 3. Interdisciplinary Graduate School of Science and Technology, Tokyo Institute of Technology, Yokohama, Japan; 4. International Center for Materials Nanoarchitectonics, National Institute for Materials Science, Tsukuba, Japan*

4:06

BD-12. Spin transport in Ge at room temperature. C. Shen[1], *T. Trypiniotis*[1], K. Lee[1], S.N. Holmes[4], R. Mansell[1], M.K. Husain[2], V. Shah[3], H. Kurebayashi[1], I. Farrer[1], K. de Groot[2], D.R. Leadley[3], G. Bell[3], E.H. Parker[3], T.E. Whall[3], D.A. Ritchie[1] and C.H. Barnes[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom; 3. Department of Physics, University of Warwick, Coventry, United Kingdom; 4. Cambridge Research Laboratory, Toshiba Research Europe Ltd, Cambridge, United Kingdom*

4:18

BD-13. Magnetoresistance effect in organic magnetic junctions using spin filters. *K.V. Raman*[1], J.Y. Chang[2] and J.S. Moodera[1] *1. MIT, Cambridge, MA; 2. Korea Institute of Science and Technology, Seoul, Korea, Republic of*

MONDAY AFTERNOON 1:30

REGENCY V

Session BE
MAGNETOELECTRIC MATERIALS I

Christian Binek, Chair

1:30

BE-01. Cross-tuning of magnetic and electric responses in magneto-electric heterostructures. *J. Das*[1], M. Li[1], S. Kalarickal[2], S. Altmannshofer[2], K.S. Buchanan[2], J. Li[1] and D. Viehland[1] *1. Department of Materials Science and Engineering, Virginia Tech, Blacksburg, VA; 2. Department of Physics, Colorado State University, Fort Collins, CO*

1:42

BE-02. Magnetism in ferroelectric-piezomagnetic heterostructures. *P. Lukashev*[1] and R. Sabirianov[2] *1. Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE; 2. Physics, University of Nebraska at Omaha, Omaha, NE*

1:54

BE-03. Demagnetizing Factors for Two Parallel Ferromagnetic Plates and their Applications in Magneto-Electric Laminated Sensors. *E. Liverts*[1], A. Grosz[1], B. Zadov[1], M.I. Bichurin[2], Y.J. Pukinskiy[2], S. Priya[3], D. Viehland[3] and E. Paperno[1] *1. Ben-Gurion University of the Negev, Beersheva, Israel; 2. Novgorod State University, Veliky Novgorod, Russian Federation; 3. Virginia Tech, Blacksburg, VA*

2:06

BE-04. Electric field effect on magnetism of the Fe/MgO(001) Interface. *M.K. Niranjan*[1], C. Duan[2], S.S. Jaswal[1] and E. Tsymbal[1] *1. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Key Laboratory of Polar Materials and Devices, East China Normal University, Shanghai, China*

2:18

BE-05. Magnetic reconstruction at the manganite/ferroelectric interface induced by polarization switching. *J.D. Burton*[1] and E.Y. Tsymbal[1] *1. Physics and Astronomy, University of Nebraska Lincoln, Lincoln, NE*

2:30

BE-06. Electric modulation of magnetization in ferroelectric-ferromagnetic heterojunctions. H. Lu[1], *T. George*[1], A. Stamm[1], I. Ketsman[1], A. Sokolov[1], C.W. Bark[2], C.B. Eom[2], P.A. Dowben[1], D.J. Sellmyer[1], E.Y. Tsymbal[1] and A. Gruverman[1] *1. Physics & Astronomy, Univ of Nebraska Lincoln, Lincoln, NE; 2. Physics, University of Wisconsin, Madison, WI*

2:42

BE-07. Magnetism of Fe nanostructures on thin BaTiO3 films. J. Kim[2], X. Chen[1], S. Yang[2], G.A. Rojas[1], H. Lu[1], A. Bhattacharya[3], T. Santos[3], N. Guisinger[3], S. Hoffmann[4], H. Hoevel[4], R. Skomski[1], A. Gruverman[1], C. Binek[1], M. Bode[3], J.S. Kim[2] and *A. Enders*[1] *1. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Department of Physics, Sook-Myung Women's University, Seoul, Korea, Republic of; 3. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 4. Experimentelle Physik I, Universitaet Dortmund, Dortmund, Germany*

2:54

BE-08. Electric Tuning of Magnetic Properties in Ni/LiNbO3 Heterostructures using Converse Magnetoelectric Effect. *T. Wu*[1], A. Bur[1], K. Wong[2], K.L. Wang[2] and G.P. Carman[1] *1. Department of Mechanical and Aerospace Engineering, University of California, Los Angeles, Los Angeles, CA; 2. Electrical Engineering, University of California, Los Angeles, Los Angeles, CA*

3:06

BE-09. Equilibrium magnetization at the boundary of a magnetoelectric antiferromagnet. *K.D. Belashchenko*[1] *1. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE*

3:18

BE-10. Confirmation of Magneto-Electric Effect in the Ultra Thin Cr_2O_3 Oxide. *N. Shimomura*[1], K. Sawada[1], M. Doi[1] and M. Sahashi[1] *1. Tohoku University, Sendai, Miyagi, Japan*

3:30

BE-11. Magnetism and structural phase transitions at Cr_2O_3 (0001) surface: An *ab initio* study. *A.L. Wysocki*[1], S. Shi[2] and K.D. Belashchenko[1] *1. Univesity of Nebraska Lincoln, Lincoln, NE; 2. Zhejiang Sci-Tech University, Hangzhou, China*

3:42

BE-12. Magnetoelectric memory using perpendicular magnetization states and magnetoelastic switching. *T. Nicolas*[1], Y. Dusch[1], V.L. Preobrazhensky[1,2] and P. Pernod[1] *1. International Associated Laboratory LEMAC, IEMN UMR CNRS 8520, PRES Lille Nord de France, ECLille, Villeneuve d'Ascq, France; 2. International Associated Laboratory LEMAC, Wave Research Center, General Physics Institute, Moscow, Russian Federation*

3:54

BE-13. Composite nano-structure with tunable and spatially localized electro-opto-magnetic coupling. *O.N. Mryasov*[1,2] and K. Sendur[3] *1. Physics and Astronomy, University of Alabama, Tuscaloosa, AL; 2. MINT Center, University of Alabama, Tuscaloosa, AL; 3. Sabanci University, Istanbul, Turkey*

4:06

BE-14. Magnetocapacitance in Ca3CoMnO6. *S.D. Kaushik*[1], S. Rayaprol[1], J. Saha[2], N. Mohapatra[3], V. Siruguri[1], P.D. Babu[1], S. Patnaik[2] and E.V. Sampathkumaran[4] *1. UGC-DAE Consortium for Scientific Research Mumbai Centre, Mumbai, Maharashtra, India; 2. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, Delhi, India; 3. School of Basic Sciences, Indian Institute of Technology, Bhubaneshware, India; 4. DCMP&MS, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India*

MONDAY AFTERNOON 1:30 REGENCY VI

Session BF
MAGNETIC IMAGING AND MICROSCOPY
Yasushi Endo, Chair

1:30

BF-01. Time-Resolved X-Ray Imaging of Antivortex-Core Reversal by Spin Currents. *(Invited)* *G. Meier*[1] *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

2:06

BF-02. Magnetic soft X-ray microscopy at 10nm spatial resolution. W. Chao[1], M. Im[1], S.B. Rekawa[1], E. Anderson[1] and *P. Fischer*[1] *1. CXRO, LBNL, Berkeley, CA*

2:18

BF-03. X-ray imaging of magnetic vortices in confined magnetic struc. *P. Fischer*[1], M. Im[1], S. Kasai[2] and A. Thiaville[3] *1. CXRO, LBNL, Berkeley, CA; 2. Spintronics Group, Magnetic Materials Center, National Institute for Materials Science (NIMS), Sengen, Tsukuba, Ibaraki, Japan; 3. Laboratoire de physique des solides, Université Paris-sud, CNRS, Orsay, France*

2:30

BF-04. Dipolar-induced vortex gyrations in coupled vortex oscillators studied by a time-resolved soft x-ray microscope. *H. Jung*[1], S. Kim[1], Y. Yu[1], K. Lee[1], A. Vogel[2], L. Bocklage[2], M. Bolte[2], G. Meier[2], M. Im[3] and P. Fischer[3] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of; 2. Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Hamburg, Germany; 3. Center for X-ray Optics,, Lawrence Berkeley National Laboratory, Berkeley, CA*

2:42

BF-05. Exploring the limits of soft x-ray magnetic holography: Imaging magnetization reversal of buried interfaces. ***(Invited)*** *J. Camarero*[1,2], E. Jiménez[1], C. Tieg[3,4], J. Vogel[5], C. Arm[6], P. Perna[2], F. Yakhou-Harris[3], E. Gautier[6], S. Auffret[6], B. Delaup[6], G. Gaudin[6], B. Rodmacq[6], B. Dieny[6] and R. Miranda[1,2] *1. Universidad Autónoma de Madrid and Instituto Nicolás Cabrera, Madrid, Spain; 2. IMDEA-Nanoscience, Madrid, Spain; 3. ESRF, Grenoble, France; 4. Laboratory Helmholtz-Zentrum Berlin, Berlin, Germany; 5. Institut Néel-CNRS and UJF, Grenoble, France; 6. SPINTEC (UMR 8191 CEA-CNRS-UJF), CEA/INAC, Grenoble, France*

3:18

BF-06. Magnetic Force Microscopy of magnetite thin films through the Verwey Transition. A. Lee[1], P. Jayathilaka[1], C. Bauer[1], M. Monti[2], J.T. Markert[2], A. de Lozanne[2] and *C.W. Miller*[1] *1. Physics Department, University of South Florida, Tampa, FL; 2. Physics Department, Univeristy of Texas at Austin, Austin, TX*

3:30

BF-07. Mapping pinned uncompensated spins in exchange-biased systems by quantitative magnetic force microscopy. *H.J. Hug*[1,2], M.A. Marioni[1], N. Joshi[2], S. Oezer[2] and S. Romer[1] *1. NanoScale Materials Science, Empa, Swiss Federal Laboratories for Materials Science and Technology, Duebendorf, Switzerland; 2. Department of Physics, University of Basel, Basel, Switzerland*

3:42

BF-08. Atomic site sensitivity of the energy loss magnetic chiral dichroic (EMCD) spectra of complex oxides. *L. Calmels*[1] and J. Rusz[2] *1. CEMES-CNRS, Toulouse Cedex 4, France; 2. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

3:54

BF-09. Spin transmission of hot electrons in metallic spin valves using epitaxial metal-semiconductor interfaces. *S. Parui*[1], B. Wit[1], L. Bignardi[2], P. Rudolf[2], B. Kooi[3], B.J. van Wees[1] and T. Banerjee[1] *1. Physics of Nanodevices Group,, University of Groningen, Groningen, Netherlands; 2. Surfaces and Thin Films, University of Groningen, Groningen, Netherlands; 3. Nanostructured Materials and Interfaces, University of Groningen, Groningen, Netherlands*

4:06

BF-10. Repeatability of magnetic-field driven self-assembly of magnetic nanoparticles. *J.R. Henderson*[1] and T.M. Crawford[1] *1. Physics, University of South Carolina, Columbia, SC*

4:18

BF-11. Influence of magnetostatic interactions on the magnetization reversal of patterned magnetic elements. *X. Yin*[1], S. Liou[1], A.O. Adeyeye[2] and B. Han[3] *1. Physics and Astronomy, University of Nebraska- Lincoln, Lincoln, NE; 2. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

MONDAY AFTERNOON 1:30

REGENCY VII

Session BG
SENSORS FOR MOLECULAR IMAGING AND BIOMEDICAL APPLICATIONS

Stephan von Molnar, Chair

1:30

BG-01. Nanoscale Magnetic Resonance Imaging Based on Ultrasensitive Force Detection. ***(Invited)*** *J. Mamin*[1] *1. IBM Almaden Research Center, San Jose, CA*

2:06

BG-02. A competition-based nanomagnetic bioassays using high-magnetic-moment nanoparticle and new GMR sensor. *Y. Li*[1], Y. Jing[1], B. Srinivasan[2], X. Yao[1], M. Hugger[2], C. Xing[2] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Department of Medicinal Chemistry, University of Minnesota, Minneapolis, MN*

2:18

BG-03. Spintronic chip cytometer. *J.F. Loureiro*[1,2], S. Cardoso[1,2], C.L. da Silva[3], P.Z. Andrade[3], J.M. Cabral[3] and P.P. Freitas[1,2] *1. Instituto de Engenharia de Sistemas e Computadores - Microsistemas e Nanotecnologias and Institute for Nanosciences and Nanotechnologies, Lisbon, Portugal; 2. Instituto Superior Técnico (IST), Lisbon, Portugal; 3. IBB- Institute for Biotechnology and Bioengineering, Centre for Biological and Chemical Engineering, Instituto Superior Tecnico, Lisbon, Portugal*

2:30

BG-04. Magnetoresistance biosensor based on vortex state. G. Finocchio[1], *N. Donato*[1], L. Torres[2], M. Latino[3,1] and B. Azzerboni[1] *1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Universidad de Salamanca, Salamanca, Spain; 3. University of Roma "Torvergata", Roma, Italy*

2:42

BG-05. Towards a system to measure action potential currents on a mouse brain slice with local magneto resistive probes. *J.P. Amaral*[1,2], A.M. Sebastião[3], S.S. Cardoso[1,2] and P.P. Freitas[1,2] *1. INESC-MN/Institute for Nanosciences and Nanotechnologies, Lisboa, Portugal; 2. Instituto Superior Técnico - UTL, Lisboa, Portugal; 3. Laboratory of Neurosciences, Faculty of Medicine, University of Lisbon, Lisboa, Portugal*

2:54

BG-06. Effect of magnetostatic fields from magnetoresistive sensors on the position of superparamagnetic particles. *F.A. Cardoso*[1,2] and P.P. Freitas[1,2] *1. INESC-MN, Lisboa, Portugal; 2. IST, Lisboa, Portugal*

3:06

BG-07. Single particle detection: phase control in submicron Hall sensors. *O. Kazakova*[1], L. Di Michele[1], C. Shelly[1] and J. Gallop[1] *1. NPL, Teddington, United Kingdom*

3:18

BG-08. On-Chip Pathogen Detection utilizing the Velocity of Magnetic Microparticles. *I. Giouroudi*[1], S. van den Driesche[1], J. Kosel[2] and R. Groessinger[3] *1. Institute of Sensor and Actuator Systems, Vienna University of Technology, Vienna, Austria; 2. Division of Physical Sciences and Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 3. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

3:30

BG-09. Magneto-optical biosensor using self-assembled magnetic chain for the diagnosis of cardiovascular disease. *S. Park*[1], S. Sakamoto[2], H. Handa[2] and A. Sandhu[1] *1. Electronis-Inspired Interdisciplinary Research Institute, Toyohashi University of Technology, Toyohashi, Japan; 2. Department of Biological Information, Tokyo Institute of Technology, Yokohama, Japan*

3:42

BG-10. Fast transport of superparamagnetic particles by field-driven magnetic domain walls. *E. Rapoport*[1] and G. Beach[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

3:54

BG-11. A highly efficient integrated lab-on-chip microfluidic device for sorting magnetic particles. T. Kong[1], *W. Lew*[1], N. Nguyen[1] and Y. Chen[2] *1. Nanyang Technological University, Singapore, Singapore; 2. Ecole Normale Supérieure, Ecole Normale Supérieure, Paris, France*

4:06

BG-12. Precise Manipulation of a Micro-Robot in Magnetic Navigation System Considering the Pulsatile Flow in Human Blood Vessels. S. Jeon[1], *G. Jang*[1], S. Park[2] and J. Park[2] *1. PREM Lab., Dept. of Mechanical Engineering, Hanyang University, Seoul, Korea, Republic of; 2. Dept. of Mechanical Engineering, Chonnam National University, Gwangju, Korea, Republic of*

4:18

BG-13. Self-organizing of magnetic beads for biomedical applications. *A. Kovacs*[1], M. Gusenbauer[1] and T. Schrefl[1] *1. St Poelten University of Applied Sciences, St. Poelten, Austria*

MONDAY AFTERNOON 1:30

LEARNING CENTER

Session BH
HALF METALS, MOLECULAR MAGNETS, AND LOW DIMENSIONAL SYSTEMS

Warren Wallace, Co-Chair
Sung Chang, Co-Chair

1:30

BH-01. Rare-earths based molecular magnets: functional building blocks for many needs. ***(Invited)*** *L. Bogani*[1] *1. 1. Physikalisches Institut, Universität Stuttgart, Stuttgart, Germany*

2:06

BH-02. Magnetic field dependent electronic transport of Mn4 single-molecule magnet. *F. Haque*[1], M. Langhirt[1], E. del Barco[1], T. Taguchi[2] and G. Christou[2] *1. Department of Physics, University of Central Florida, Orlando, FL; 2. Department of Chemistry, University of Florida, Gainesville, FL*

2:18

BH-03. Tailoring Magnetic Properties in Mn4 Molecules: A Way to Develop Single-Molecule Magnets. *N.A. Tuan*[1], N.H. Sinh[1] and D.H. Chi[1,2] *1. Faculty of Physics, Hanoi University of Science, Vietnam National University, Hanoi, Hanoi, Viet Nam; 2. School of Materials Science, Japan Advanced Institute of Science and Technology, Nomi, Ishikawa, Japan*

2:30

BH-04. Pronounced effects of additional resistance in Andreev reflection spectroscopy. *T. Chen*[1,2], S. Huang[1] and C. Chien[1] *1. Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, MD; 2. Department of Physics, Arizona State University, Tempe, AZ*

2:42

BH-05. Enhanced magnetization drift velocity and current polarization in $(CoFe)_{1-x}Ge_x$ alloys. *M. Zhu*[1,2], B.D. Soe[1,3], R.D. McMichael[1], M.J. Carey[4], S. Matt[4] and J.R. Childress[4] *1. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD; 2. Maryland Nanocenter, University of Maryland, College Park, MD; 3. Department of Engineering, Harvey Mudd College, Claremont, CA; 4. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

2:54

BH-06. A first-principles study on interfacial spin-flip scattering in magnetic tunnel junctions with half-metals. *Y. Miura*[1], K. Abe[1] and M. Shirai[1] *1. RIEC & CSIS, Tohoku University, Sendai, Japan*

3:06

BH-07. The effect of film and interface structure on transport properties of current-perpendicular-to-plane Heusler spin valves. *V.K. Lazarov*[1], J. Sato[2], M. Oogane[2], K. Yoshida[4], A. Hirohata[3] and Y. Ando[2] *1. Department of Physics, University of York, York, United Kingdom; 2. Department of Applied Physics, Tohoku University, Sendai, Japan; 3. Department of Electronics, University of York, York, United Kingdom; 4. Materials R&D Laboratory, Japan Fine Ceramics Center, Nagoya, Japan*

3:18

BH-08. Tailoring magnetic anisotropy in half-metallic epitaxial La0.7Sr0.3MnO3 thin films. *P. Perna*[1], J. Camarero[1,2], E. Jiménez[2], F.J. Teran[1], L. Mèchin[3], N. Mikuszeit[1] and R. Miranda[1,2] *1. IMDEA Nanociencia, Madrid, Madrid, Spain; 2. DFMC, Universidad Autónoma de Madrid, Madrid, Spain; 3. GREYC-ENSICAEN and Université de Caen-Basse Normandie, Caen, France*

3:30

BH-09. Epitaxial Co_2FeSi films on $SrTiO_3$ (100). *A. Anupam*[1], P.K. Rout[1], P.C. Joshi[1], Z. Hossain[1] and R.C. Budhani[1] *1. Physics, Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India*

3:42

BH-10. Giant tunnel magnetoresistance in half-metallic Co_2MnSi-based fully epitaxial magnetic tunnel junctions. *T. Taira*[1], H. Liu[1], S. Hirata[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Hokkaido, Japan*

3:54

BH-11. Spin transport in half-metallic ferromagnets at the nanoscale. *K. Rana*[1], H. Modarresi[1], V. Khikhlovskyi[1], B.J. van Wees[1] and T. Banerjee[1] *1. Physics of Nanodevices Group,, University of Groningen, Groningen, Netherlands*

4:06

BH-12. Magnetic properties of planer arrays of Fe-nanowires grown on oxidized vicinal silicon (111) templates. *S.K. Arora*[1], B.J. O'Dowd[1], P.C. McElligott[1], I.V. Shvets[1], P. Thakur[2] and N.B. Brookes[2] *1. Centre for Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Dublin, Ireland; 2. European Synchrotron Radiation Facility, Grenoble Cedex, France*

4:18

BH-13. Spin-polarized scanning tunneling microscopy of Co nano-islands on Cu(111): the use of bulk Cr tips. *S. Ouazi*[1], M. Corbetta[1], F. Donati[1,2], A. Li Bassi[2], M. Passoni[2], C.S. Casari[2], Y. Nahas[1], H. Oka[1], S. Wedekind[1], G. Rodary[1], D. Sander[1] and J. Kirschner[1] *1. Max-Planck-Institute of Microstructure Physics, Halle (Saale), Sachsen-Anhalt, Germany; 2. CNISM, NEMAS and Dipartimento di Energia, Politecnico di Milano, Milano, Italy*

MONDAY AFTERNOON 3:00 GRAND HALL EAST

Session BP
MICROMAGNETICS AND NUMERICAL MODELING II (POSTER SESSION)

Dieter Suess, Chair

BP-01. Parallelizing a Micromagnetic Program for Multi-Processor Non-Uniform Memory Access Computers. *M.J. Donahue*[1] *1. NIST, Gaithersburg, MD*

BP-02. Surface Roughness in Micromagnetic Simulations of Nanowires with Perpendicular Magnetic Anisotropy. *M. Albert*[1], M. Franchin[1], T. Fischbacher[1], G. Meier[2] and H. Fangohr[1] *1. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 2. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

BP-03. Large-Scale Analysis of Magnetic Particle Dynamics Taking into account Contact Force and Magnetic Interaction with Fast Multipole Method. T. Tatsuishi[1], *Y. Takahashi*[2], M. Miwa[1], S. Wakao[1], K. Fujiwara[2] and Y. Ishihara[2] *1. Department of Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan; 2. Department of Electrical Engineering, Doshisha University, Kyoto, Japan*

BP-04. An Evolutionary Computation Approach for Time-Harmonic Field Problems Involving Nonlinear Magnetic Media. *A. Adly*[1] and S. Abd-El-Hafiz[2] *1. Elect. Power & Machines Dept., Cairo University, Giza, Egypt; 2. Engineering Mathematics Dept., Cairo University, Giza, Egypt*

BP-05. Micromagnetics on multi-core processors. *A. Prabhakar*[1] *1. Electrical Engineering, Indian Institute of Technology, Chennai, India*

BP-06. Maximum Length Sequences for fast switching process in spin-valve nanopillars. *M. Carpentieri*[1], M. Ricci[2], P. Burrascano[2] and L. Torres[3] *1. Elettronica, Informatica e Sistemistica, University of Calabria, Cosenza, Cosenza, Italy; 2. Polo Scientifico Didattico di Terni, University of Perugia, Terni, Terni, Italy; 3. Fisica Aplicada, University of Salamanca, Salamanca, Salamanca, Spain*

BP-07. Switching of layered media as a 1D diffusion problem: generalized Kramers-Brown rate theory. *P.B. Visscher*[1] and R. Zhu[1] *1. Physics and MINT Center, University of Alabama, Tuscaloosa, AL*

BP-08. Micromagnetic simulations of magnetoelectric materials. *T. Fischbacher*[1], M. Franchin[1] and H. Fangohr[1] *1. University of Southampton, Southampton, Hampshire, United Kingdom*

BP-09. Spin-transfer-torque resonant switching and injection locking in presence of a weak external AC field for spin valves with perpendicular materials. *M. Carpentieri*[1], G. Finocchio[2], L. Torres[3] and B. Azzerboni[2] *1. Elettronica, Informatica e Sistemistica, University of Calabria, Cosenza, Cosenza, Italy; 2. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Messina, Italy; 3. Fisica Aplicada, University of Salamanca, Salamanca, Salamanca, Spain*

BP-10. The Role of Symmetry-Breaking-Induced Interface Anisotropy in $[Fe/Pt]_n$ multilayer films. *Z. Li*[1,2], H. Xie[1], X. Li[1], J. Bai[1], F. Wei[1], D. Wei[3], S. Yoshimura[2], H. Saito[2], X. Liu[5] and G. Wu[4] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Graduate School of Engineering & Resource Science, Akita University, Akita, Japan; 3. Magnetic Physics Laboratory, School of Materials Science and Engineering, Tsinghua University, Beijing, China; 4. Department of Physics, University of Virginia, Charlottesville, VA; 5. Department of Information Engineering, Faculty of Engineering, Shinshu University, Nagano, Japan*

BP-11. Effects of Co addition on magneto transport properties of magnetic tunnel junction consisting of CoFeSiB and CoFeB free layer. *S. Noh*[1], B. Chun[1], T. Wang[1] and Y. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, Korea, Republic of*

BP-12. Considerations in the Design of a Highly Scalable Magnetic Logic Channel. *Y. Tian*[1], N. Amos[1], B. Hu[1], D. Litvinov[2] and S. Khizroev[1] *1. Electrical Engineering, University of California at Riverside, Riverside, CA; 2. Center for Nanomagnetic Systems and Electrical and Computer Engineering, University of Houston, Houston, TX*

BP-13. Invasion percolation without trapping and magnetization reversal in FePt thin layers. *J. Attané*[1,2], M. Tissier[3], A. Marty[1,2] and L. Vila[1,2] *1. CEA, Inac, SP2M, 17 avenue des Martyrs, 38054 Grenoble, France; 2. Université Joseph Fourier, BP 53 - 38041 Grenoble, France; 3. Laboratoire de Physique Théorique de la Matière Condensée, Univ. Paris VI, France*

BP-14. Accurate calculation of the nucleation field and hysteresis loops in hard-soft multilayers. *G. Zhao*[1,3], Y. Deng[1] and H. Zhang[2] *1. Sichuan Normal University, Chengdu, Sichuan, China; 2. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 3. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiangsu, China*

BP-15. Micromagnetic analysis of the switching field distribution of the composite media and its effect on magnetization transitions. K. Tan[1], H. Wang[1], *Z. Liu*[1] and B. Chen[1] *1. Data Storage Institute, Singapore, Singapore*

MONDAY AFTERNOON 3:00

GRAND HALL EAST

Session BQ
MAGNETOCALORIC MATERIALS II (POSTER SESSION)

Arjun Pathak, Chair

BQ-01. Impact of post-deposition annealing on the magnetic entropy change in Gd thin films. *D.V. Williams*[1], C. Bauer[1], N.A. Bingham[1], H. Srikanth[1] and C.W. Miller[1] *1. Physics, University of South Florida, Tampa, FL*

BQ-02. Giant magnetocaloric effect of thin Ho films. *A.S. Carriço*[1], F.C. Medeiros[2,1], F.H. Sales[1,3], V.D. Mello[2,1] and A.L. Dantas[2] *1. Department of Physics, UFRN, Natal, RN, Brazil; 2. Department of Physics, UERN, Mossoró, RN, Brazil; 3. Department of Physics, UFMA, São Luís, MA, Brazil*

BQ-03. Effect of monovalent co-doped in magnetic, magntocaloric and magnetoresistive properties of nanocrystalline $Pr_{0.7}Sr_{0.3-x}Ag_xMnO_3$ (x=0, 0.10, 0.15, 0.20). *R.N. Mahato*[1], K. Sethupathi[1] and V. Sankaranarayanan[1] *1. Physics, IIT Madras, Chennai, India*

BQ-04. Magnetocaloric effect in RZn (R = Tb, Ho, Er) compounds. *V.R. de Sousa*[1,2], P.J. von Ranke[2] and F.G. Gandra[1] *1. Instituto de Física gleb Wataghin, Universidade Estadual de Campinas, Campinas, São Paulo, Brazil; 2. Instituto de Física Armando Dias Tavares, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil*

BQ-05. Crystal structure and magnetic properties of R_5Sn_4 alloys, where R is Tb, Dy, Ho, and Er. *X. Zhong*[1,2], M. Zou[2], H. Zhang[2,4], Z. Liu[1], D. Zeng[1], K. Gschneidner, Jr[2,3] and V. Pecharsky[2,3] *1. School of Materials Science and Engineering, South China University of Technology, Guangzhou, Guangdong, China; 2. The Ames Laboratory, Ames, IA; 3. Iowa State University, Ames, IA; 4. State Key Laboratory for Magnetism, Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, Beijing, Beijing, China*

BQ-06. Magnetic phase transitions and magnetocaloric properties of $(Gd_{12-x}Tb_x)Co_7$ alloys. Z. Zheng[1], X. Zhong[1], H. Yu[1], Z. Liu[1] and *D. Zeng*[1] *1. School of Materials Science & Engineering, South China University of Technology, Guangzhou, Guangdong, China*

BQ-07. Large magnetic entropy change and refrigerant capacity in rare-earth intermetallic RCuAl compounds. *Q. Dong*[1,2], B. Shen[2], J. Shen[2], J. Chen[2] and J. Sun[2] *1. Department of Physics, Capital Normal University, Beijing, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

BQ-08. Magnetic and transport studies of the TbAgAl compound at high fields. *R. Srinivasan*[1], A. Mohan[2] and A. Nigam[2] *1. Physics, University of Mumbai, Mumbai, India; 2. Tata Institute of Fundamental Research, Mumbai, India*

BQ-09. On the barocaloric effect in rare earth metals. *N.A. de Oliveira*[1] and R.P. Sanatana[1] *1. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil*

BQ-10. The hydrogen absorption properties and magnetocaloric effect of La0.8Ce0.2(Fe1-xMnx)11.5Si1.5Hy. C. Wang[1], *Y. Long*[1], T. Ma[1] and X. Li[1] *1. School of materials Science & Engineering, University of Science and Technology Beijing, Beijing, China*

BQ-11. The influence of Si addition on glass forming ability, magnetic and magnetocaloric properties of Gd-Fe-Al glassy ribbons. X.G. Zhao[1,2], C.H. Lai[1], *C.C. Hsieh*[1], Y.K. Fang[3], W.C. Chang[1] and Z.D. Zhang[2] *1. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Shenyang National Laboratory for Materials Science and International Center for Materials Physics, Institute of Metal Research, Chinese academy of Sciences, Shenyang, Liaoning, China; 3. Division of Functional Materials Research, Central Iron & Steel Research Institute, Beijing, China*

BQ-12. Structures and magnetocaloric effects of $Gd_{65-x}RE_xFe_{20}Al_{15}$ (*RE*=Tb, Dy, Ho, Er) ribbons. *Y. Fang*[1,2], H. Chen[1], C. Hsieh[1], H. Chang[3], X. Zhao[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, Central Iron and Steel Research Institute, Beijing, China; 3. Department of Physics, Tunghai University, Taichung, Taiwan*

BQ-13. Effect of Si and Ga substitutions on the magnetic and the magnetocaloric properties in NiCoMnSb quarternary Heusler alloys. *R. Sahoo*[1], K.G. Suresh[1] and A.K. Nigam[2] *1. Physics, IIT Bombay, Mumbai, Maharashtra, India; 2. TIFR, Mumbai, Maharashtra, India*

MONDAY AFTERNOON 3:00 GRAND HALL EAST

Session BR
SEMICONDUCTOR SPINTRONICS (POSTER SESSION)

Gunther Bayreuther, Chair

BR-01. Nonequilibrium Green's Function Analysis of Tunnel Magnetoresistance in a Diluted Magnetic Semiconductor Quantum Dot system. *M. Ma*[1,2], M. Jalil[1,3] and S. Tan[2,3] *1. Electrical and Computer Engineering, National University of Singapore, Information Storage Materials Laboratory, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore; 3. Electrical and Computer Engineering, National University of Singapore, Computational Nanoelectronics and Nano-device Laboratory, Singapore, Singapore*

BR-02. Spin lifetimes at FM metal/oxide/Si contacts for Al_2O_3, SiO_2 and MgO tunnel barriers. *O.J. van 't Erve**[1], C.H. Li[1], A.T. Hanbicki[1], G. Kioseoglou[1,2], P.E. Thompson[1] and B.T. Jonker[1] *1. Naval Research Laboratory, Washington, DC; 2. University of Crete, Heraklion, Greece*

BR-03. Reducing Schottky barrier height for Fe/n-GaAs junction by inserting thin GaOx layer. *H. Saito*[1], Y. Mineno[1,2], S. Yuasa[1] and K. Ando[1] *1. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan; 2. Toho Univ., Funabashi, Chiba, Japan*

BR-04. Efficient spin injection from Fe_3O_4 into GaAs triggered by Verwey transition. *E. Wada*[1], K. Watanabe[1], Y. Shirahata[1], M. Itoh[1], M. Yamaguchi[2] and T. Taniyama[1,3] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Graduate School of Engineering, Nagoya University, Nagoya, Japan; 3. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan*

BR-05. Spin Torque in Three-Terminal Quantum Dot Device with Ferromagnetic Contacts for Memory Applications. M. Xing[1,2], *M. Jalil*[2], S. Tan[3] and Y. Jiang[1] *1. Material Physics and Chemistry, University of Science and Technology Beijing, Beijing, China; 2. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, Singapore, Singapore*

BR-06. Magneto-optoelectronic properties of Fe/MgO/CuPC heterostructures. *N. Lee*[1], Y. Bae[1], J. Lee[2], H. Cho[3], C. Lee[3], A. Hirohata[4], L. Fleet[4] and T. Kim[1] *1. Department of Physics, Ewha Womans University, Seoul, Korea, Republic of; 2. Partron, Hwaseong, Korea, Republic of; 3. School of Electrical Engineering and Computer Science, Seoul National University, Seoul, Korea, Republic of; 4. Department of Electronics, The University of York, York, United Kingdom*

BR-07. Enhanced spin Hall accumulation accompanied by two charge current vortices in the Landauer setup. *C. Chen*[1], Y. Su[1] and C. Chang[1] *1. Physics, National Taiwan University, Taipei, Taiwan*

BR-08. Spin flip of a single magnetic impurity with anisotropic field in Rashba two-dimensional Landauer setup. *Y. Su*[1], S. Chen[1] and C. Chang[2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Quantum Science and Engineering (CQSE), Taipei, Taiwan*

BR-09. Spin polarized transport in NiFe/PTCTE/Co organic spin valves. *M. Palosse*[2,3], M. Fisichella[2,3], E. Bedel[2,3], C. Villeneuve[2,3], B. Warot-Fonrose[1,3], I. Séguy[2,3] and J. Bobo[1,3] *1. NMH-CEMES-CNRS-ONERA, Toulouse Cedex 4, France; 2. LAAS-CNRS, Toulouse, France; 3. Université de Toulouse : UPS, INSA, INP, ISAE, LAAS, CEMES, Toulouse, France*

BR-10. Magnetoresistance in phosphorous doped silicon. *N.A. Porter*[1] and C.H. Marrows[1] *1. Condensed Matter, University of Leeds, Leeds, West Yorkshire, United Kingdom*

MONDAY AFTERNOON 3:00 GRAND HALL EAST

Session BS
INTERMETALLIC HARD MAGNETIC MATERIALS (POSTER SESSION)

Julia Lyubina, Chair

BS-01. Study on Corrosion Behaviours of Sintered Nd-Fe-B Magnets in Different Environmental Conditions. J. Li[1], A. Li[1], *Y. Fang*[1], M. Zhu[1], W. Pan[1] and W. Li[1] *1. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China*

BS-02. Bulk nanocomposite $LaCo_5/LaCo_{13}$ magnets. Y. Shen[3], Z. Turgut[1], J.C. Horwath[2] and *M. Huang*[1]*1. Wright-Patterson Air Force Research Laboratory, UES Inc, Dayton, OH; 2. Wright-Patterson Air Force Research Laboratory, Dayton, OH; 3. Magnetic Laboratory, University of Dayton, Dayton, OH*

BS-03. Structure and magnetic properties of bulk isotropic and anisotropic SmCo5/α-Fe nanocomposite permanent magnets with different α-Fe content. W. Liu[1], Z. Cui[1], *M. Yue*[1], D. Zhang[1], J. Zhang[1], P. Zhang[2] and H. Ge[2]*1. College of Material Scicence and Engineering, Beijing University of Technology, Beijing, China; 2. Magnetism key laboratory of Zhejiang Province, China Jiliang University, Hangzhou, Zhejiang, China*

BS-04. Microstructure, phase evolution, and magnetic properties of $Sm_{0.76}Er_{0.14}Dy_{0.10}(Co,Fe, Cu,Zr)_{7.5}$ sintered magnets. *Z. Guo*[1], W. Li[1], Y. Fang[1], H. Feng[1], M. Zhu[1] and W. Pan[1]*1. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China*

BS-05. Effect of initial stress/strain state on formation of (001) preferred orientation in $L1_0$ FePt thin films. *J. Mei*[1,2], F. Yuan[3], W. Liao[5], Y. Yao[4], H. Lin[1] and H. Lee[5]*1. Materials Engineering Department, Tatung University, Taipei 104, Taiwan; 2. Department and Institute of Electrical Engineering, Minghsin University of Science and Technology, Xinfeng 30401, Taiwan; 3. Departments of Physics, National Taiwan University, Taipei 10617, Taiwan; 4. Graduate Institute of Applied Science and engineering, Fu Jen Catholic University, Taipei 24205, Taiwan; 5. National Synchrotron Radiation Research Center, HsinChu 30076, Taiwan*

BS-06. Preparation of anisotropic Nd(Fe,Mo)12NX magnetic materials by strip casting technique and direct nitrogenation for the strips. *J. Han*[1], S. Liu[1], X. Kong[1], Z. Lin[1], C. Wang[1], J. Yang[1], H. Du[1] and Y. Yang[1]*1. School of Physics, Peking University, Beijing, China*

BS-07. Magnetic properties of $Pr_2Fe_{12-x}Mn_{2+x}C$ (x=0, 0.2, 0.4) compounds. Z.H. Wang[1], D.Y. Geng[1], *D. Li*[1] and Z.D. Zhang[1]*1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, and International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*

BS-08. Effect of Ge on the magnetic properties and crystal structure of melt spun $SmCo_{7-x}Ge_x$ ribbons. *C. Hsieh*[1], H. Chang[2], X. Zhao[1], A. Sun[3], Y. Chen[4], H. Ouyang[4] and W. Chang[1]*1. Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Physics, Tunghai University, Tiachung, Taiwan; 3. Chemical Engineering and Material Science, Yuan Ze University, Taoyuan, Taiwan; 4. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

BS-09. Competing magnetic interactions in the intermetallic compound Pr_5Ge_3 R. Nirmala[2], A.V. Morozkin[3], A.K. Nigam[4], S. Quezado[1] and *S.K. Malik*[1]*1. International Institute of Physics (IIP)-UFRN, Natal, Brazil; 2. Indian Institute of Technology Madras, Chennai, India; 3. Moscow Lomonosov State University, Moscow, Russian Federation; 4. Tata Institute of Fundamental Research, Mumbai, India*

BS-10. Magnetic viscosity phenomena of exchange coupled Fe/FePt films with perpendicular magnetization. *J. Tsai*[1], H. Tzeng[1] and B. Liu[1]*1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

BS-11. Magnetic properties and magnetization behaviors of melt-spun $PrCo_{6.6}Ti_{0.4}B_x$ (x = 0 - 0.35) ribbons. *R. Chen*[1], S. Guo[1], D. Lee[1] and A. Yan[1]*1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology; Division of Magnetic Materials and Devices, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China*

BS-12. Controlled magnetic isolation and reversal characterizations of perpendicular FePt films capped with Cu (002) layer. *S. Fong*[1], D.H. Wei[2,1] and Y.D. Yao[3,1]*1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; 3. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan*

BS-13. The effect of doping element Zr on anisotropy and microstructure of SmCo7-xZrx. *Y. Chen*[1], C. Hsieh[2], S. Lo[3], W. Chang[2], H. Chang[4] and O. Hao[1]*1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Physics, National Chung Cheng University, Chia-Yi, Taiwan; 3. Material and Chemical Research Laboratories and Nanotechnology Research Center, Industrial Technology Research Institute, Hsinchu, Taiwan; 4. Physics, Tung Hai University, Taichung, Taiwan*

BS-14. Microstructural constituents in SmCoFeCuZr magnets. *F.J. Landgraf*[1,5], S.A. Romero[2,1], T. Yonamine[3], B.S. Archanjo[3] and M.F. De Campos[4]*1. Mat and Met Engineering, Universidade de Sao Paulo, Sao Paulo, Sao Paulo, Brazil; 2. Physics Institute, Universidade de Sao Paulo, Sao Paulo, Sao Paulo, Brazil; 3. Materials Metrology, Inmetro, Rio de janeiro, Rio de Janeiro, Brazil; 4. EEIMVR, UFF-Univ. Federal Fluminense, Rio de Janeiro, Rio de Janeiro, Brazil; 5. IPT, Sao Paulo, Sao Paulo, Brazil*

MONDAY AFTERNOON 3:00

GRAND HALL EAST

Session BT
RIBBONS AND NANOWIRES (POSTER SESSION)

Robert Usselmann, Chair

BT-01. Giant magnetoimpedance and field sensitivity in amorphous and nanocomposite $(Co_{1-x}Fe_x)_{89}Zr_7B_4$ (x =0, 0.025, 0.05, 0.075 and 0.1) ribbons. *A. Chaturvedi*[1], A. Leary[2], N. Laurita[1], M.H. Phan[1], M.E. McHenry[2] and H. Srikanth[1] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Materials Science and Engineering, Carnegie-Mellon University, Pittsburgh, PA*

BT-02. Structural and magnetic studies on the enhancement of the giant magnetoimpedance by ion irradiation. *H. Song*[1] and D. Park[1] *1. Korea Atomic Energy Research Institute, Daejeon, Korea, Republic of*

BT-03. Dependence of asymmetrical loops on magnetic training effect for Co-based amorphous ribbons. L. Zhou[1], J. He[1], X. Li[2], D. Zhao[1], B. Li[1] and *R. Cheng*[3] *1. Division of Functional Material Research, China Iron & Steel Research Institute Group, Beijing, China; 2. School for materials science& engineering, Beijing Institute of Technology, Beijing, China; 3. Physics Department, Indiana University Purdue University Indianapolis, Indianapolis, IN*

BT-04. Induced anisotropy in field annealed Co-rich amorphous and nanocrystalline ribbons. *J. Marcin*[1], P. Svec[2] and I. Skorvanek[1] *1. Institute of Experimental Physics, Kosice, Slovakia; 2. Institute of Physics, Bratislava, Slovakia*

BT-05. Study of the magnetic anisotropy of micron-sized FeCoSiB glass covered amorphous wires. *J. Fan*[1] and X. Li[1] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore*

BT-06. Magnetization process and domain structure in the near-surface region of conventional amorphous wires. *H. Chiriac*[1], M. Lostun[1] and T. Óvári[1] *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*

BT-07. Nucleation of single circular magnetic domain in amorphous microwire. *A. Chizhik*[1], A. Zhukov[1] and J. Gonzalez[1] *1. Dpto. Fisica de Materiales, Universidad del Pais Vasco, San Sebastian, Giupuzcoa, Spain*

BT-08. Comparative study of the magnetic properties of positive and nearly zero magnetostrictive submicron amorphous wires. *H. Chiriac*[1], M. Lostun[1], G. Ababei[1] and T. Óvári[1] *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*

BT-09. Modeling magnetostrictive material for high speed tracking. O. Bottauscio[1], *P.E. Roccato*[1] and M. Zucca[1] *1. Electromagnetic Division, INRIM, Torino, Torino, Italy*

BT-10. High Frequency Characteristics of FeCoAlO Thin Films Combined The Effects of Stress and Magnetic Field. F. Zheng[1], X. Wang[1], X. Li[1], J. Bai[1], D. Wei[2] and *F. Wei*[1] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Lab of Advanced Materials, Dept. of Materials Science and Engineering, Tsinghua University, Beijing, Beijing, China*

BT-11. Three-dimensional Magnetic Properties of Soft Magnetic Composite Material in a Wide Range of Frequencies. *Y. Li*[1,2], Z. Lin[2], J. Zhu[2], Y. Guo[2] and Q. Yang[1] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin, China; 2. Faculty of Engineering and Information Technology, University of Technology, Sydney, Sydney, NSW, Australia*

BT-12. Microwave Absorbing Properties of Iron Nanowires at X-band Frequencies. R. Yang[1], W. Liang[1], W. Lin[2], H. Lin[2], C. Tsay[3] and *C. Lin*[3] *1. Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Materials Engineering, Tatung University, Taipei, Taiwan; 3. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan*

BT-13. The effects of size and orientation on magnetic properties and exchange bias in Co3O4 Mesoporous Nanowires. *R. Zeng*[1], J. Wang[1,2], Z. Chen[1], W. Li[1] and S. Dou[1] *1. University of Wollongong, Wollongong, NSW, Australia; 2. University of Jinan, Jinan, China*

BT-14. Fabrication of magnetic nanowires for vertical racetrack memory. H. Liew[1] and *W. Lew*[1] *1. Division of physics and applied physics, Nanyang Technological University, Singapore, Singapore*

BT-15. A General Mechanism for Transition-Metal Nanowire Growth From Metal-Halide Precursors. *K. Chan*[1], J. Kan[1], E. Shipton[1], L. Ouyang[2], D.J. Smith[2] and E.E. Fullerton[1] *1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA; 2. Department of Physics and Astronomy, Arizona State University, Tempe, AZ*

MONDAY AFTERNOON 3:00

GRAND HALL EAST

Session BU
PATTERNED FILMS I: WIRES (POSTER SESSION)

Debashish Tripathy, Chair

BU-01. Formation and stability of 360° domain walls in a ferromagnetic nanowire. *Y. Jang*[1], C. Nam[1], M.D. Mascaro[1] and C.A. Ross[1] *1. Departement of Masterials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

BU-02. Competition of dipolar interactions and lateral exchange spring effect in NiFe elements. *N. Martin*[1,2], T. Strache[1], I. Mönch[2], L. Schultz[2,3], J. Fassbender[1] and J. McCord[1,2] *1. Nanomagnetism, Forschungszentrum Dresden-Rossendorf, Dresden, Germany; 2. Leibniz Institute for Solid State and Materials Research IFW Dresden, Dresden, Germany; 3. TU Dresden, Dresden, Germany*

BU-03. Spin Excitations in micrometric-sized NiFe slotted rings studied by micro-focused Brillouin light scattering. *M. Madami*[1], G. Carlotti[1], G. Gubbiotti[1], S. Tacchi[1], T. Ono[2] and K. Nakano[2] *1. Dipartimento di Fisica, CNISM, Perugia, Perugia, Italy; 2. Kyoto University, Institute for Chemical Research, Uji, Kyoto, Japan*

BU-04. Compositional control of FexPt(1-x) nanowires by pulse electrodeposition. J. Xu[1], Z. Zhang[1], B. Ma[1] and *Q. Jin*[1] *1. Optical Science and Engineering, Fudan University, Shanghai, China*

BU-05. Transport properties of Ni and NiFe nanowires grown by pulsed electrodeposition. *D.C. Leitão*[1,2], C.T. Sousa[1], J. Ventura[1], J.B. Sousa[1], M. Vazquez[2] and J.P. Araujo[1] *1. IFIMUP and IN, Porto, Portugal; 2. Instituto de Ciencia de Materiales de Madrid - CSIC, Madrid, Spain*

BU-06. Inhomogeneous magnetization distribution probed by AMR in Patterned Permalloy planar wires. B. Liao[1], H. Wang[1], T. Chung[1] and *S. Hsu*[1] *1. Electrophysics, National Chiao Tung University, Hsinchu, Taiwan*

BU-07. Magnetization processes of nanowires on a wave sheet. H. Huang[1], *Y. Lin*[1] and M. Lai[1] *1. National Tsing Hua University, Hsinchu, Taiwan*

BU-08. Nanowire-width-dependent transition of magnetic domain configuration in nanostructured CoFe/Pt multilayer film. S. Je[1], J. Lee[1,2], K. Kim[1], G. Gim[1], *J. Kim*[1], K. Shin[2], C. Lee[3], Y. Cho[3], S. Seo[3] and S. Choe[1] *1. Department of Physics, Seoul National University, Seoul, Korea, Republic of; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, Korea, Republic of; 3. Samsung Advanced Institute of Technology, Yongin, Korea, Republic of*

BU-09. Stray-field induced domain wall pinning in ferromagnetic nanowire. *K. Moon*[1], S. Ahn[1] and S. Choe[1] *1. Department of Physics, Seoul National University, Seoul 151-742, Korea, Republic of*

BU-10. Mediating the magnetization reversal via shape anisotropy in Fe wire arrays epitaxially grown on MgO(001). *W. Zhang*[1], Q. Zhan[1] and K.M. Krishnan[1] *1. Materials Science and Engineering, University of Washington, Seattle, WA*

BU-11. A novel non-liftoff approach to block copolymer patterning of magnetic metals. *A. Baruth*[1], M.D. Rodwogin[2], M.J. Erickson[3], A. Shankar[1], M.A. Hillmyer[2] and C. Leighton[1] *1. Chemical Engineering Material Science, University of Minnesota - Minneapolis, Minneapolis, MN; 2. Chemistry, University of Minnesota - Minneapolis, Minneapolis, MN; 3. Physics, University of Minnesota - Minneapolis, Minneapolis, MN*

BU-12. Magnetization reversal behaviors of pattered Fe-alloy/Fe:SiO2 multilayers. *X. Yin*[1], D. Le Roy[1], B. Gilg[1], R. Zhang[1], R. Skomski[1], S. Liou[1] and D.J. Sellmyer[1] *1. Physics and Astronomy, University of Nebraska- Lincoln, Lincoln, NE*

BU-13. Magnetic Patterning on Co/Pt Multilayer by using Ag capping layers. *K. Huang*[1], J. Liao[1], L. Wang[1] and C. Lai[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

BU-14. Study on nanoscale patterning using ferro-antiferromagnetic transition in [001]-oriented $L1_0$ FePtRh film. *T. Hasegawa*[1], T. Tomioka[1], Y. Kondo[2], H. Yamane[2] and S. Ishio[1] *1. Department of Materials Science and Engineering, Akita University, Akita City, Japan; 2. Akita Research Institute of Advanced Technology, Akita Prefectural R&D Center, Akita City, Japan*

BU-15. Direct Current Effect on the switching properties of elliptical spin valve devices with current-in-plane configuration. *C. Kuo*[1], C. Chao[1], L. Horng[1], T. Wu[2], M. Tsunoda[3], M. Takahashi[3] and J. Wu[1] *1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. Department of Humanities and Sciences, National Yunlin University of Science and Technology, Yunliu, Taiwan; 3. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

MONDAY AFTERNOON 3:00

GRAND HALL EAST

Session BV
SPIN TRANSPORT IN METALS (POSTER SESSION)

Xiufeng Han, Chair

BV-01. Dc voltage generated in metallic layers by spin pumping. *A. Azevedo*[1], L.H. Vilela-Leão[1], G.L. da Silva[1] and S.M. Rezende[1] *1. Physics, UFPE, Brazil, Recife, PE, Brazil*

BV-02. Extrinsic Spin Hall Effects in Cu induced by Ir impurity. *Y. Niimi*[1], M. Morota[1], D. Wei[1], C. Deranlot[2], M. Basletic[3], A. Hamzic[3], A. Fert[2] and Y. Otani[1,4] *1. ISSP, University of Tokyo, Chiba, Japan; 2. CNRS-Thales, Palaiseau, France; 3. University of Zagreb, Zagreb, Croatia; 4. RIKEN-ASI, Saitama, Japan*

BV-03. Microscopic theory of diffusive spin current caused by spin Hall effect. *K. Hosono*[1], A. Yamaguchi[1,2], Y. Nozaki[1,3] and G. Tatara[4] *1. Department of physics, Keio University, Kanagawa, Japan; 2. PRESTO JST, Saitama, Japan; 3. CRESTO JST, Tokyo, Japan; 4. Department of Physics, Tokyo Metropolitan University, Tokyo, Japan*

BV-04. Observation of local Hall Effect in all-metal lateral spin valve. D. Chen[1,2] and *Y. Yao*[2,1] *1. Department of Material Science and Engineering, National Chiao Tung University, Taipei, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

BV-05. Highly efficient spin-current assisted domain wall depinning. D. Ilgaz[1], J. Nievendick[1], L. Heyne[1], D. Backes[1,2], T.A. Moore[1], M.A. Nino[4], A. Locatelli[4], T.O. Mentes[4], A.v. Schmidsfeld[1], A.v. Bieren[1], J. Rhensius[1,2], S. Krzyk[1], J. Heidler[1], E. Tafra[3], L.J. Heyderman[2] and *M. Kläui*[1] *1. Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 2. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen PSI, Switzerland; 3. SwissFEL, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Sincrotrone Trieste S.C.p.A., Trieste, Italy*

BV-06. Large spin accumulation signal in half-metallic Co2MnSi-based lateral spin valve devices. *Y. Fujun*[1,2], S. Yuya[1] and T. Koki[1] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 2. Faculty of Physics and Electronic Technology, Hubei University, Wuhan, Hubei Province, China*

BV-07. Optimizing the spin signal of lateral spin valves. P. Laczkovski[1,2], *J. Attané*[1,2], A. Marty[1,2], C. Beigné[1,2], J. Pillet[1,2], S. Ferry[1,2], L. Notin[1,2] and L. Vila[1,2] *1. CEA, Inac, SP2M, 38054 Grenoble, France; 2. Université Joseph Fourier, BP 53 - 38041 Grenoble, France*

BV-08. The role of Peltier and Seebeck effects in nanoscale nonlocal spin valves. *J. Flipse*[1], F.L. Bakker[1], A. Slachter[1], J. Adam[1] and B.J. van Wees[1] *1. Physics of Nanodevices, University of Groningen, Zernike Institute for Advanced Materials, Groningen, Netherlands*

BV-09. Effect of spin polarized current on magnetic phase transition of ordered FeRh wires. *T. Naito*[1], I. Suzuki[1], M. Itoh[1] and T. Taniyama[1,2] *1. Materials and structures Laboratory, Tokyo Insitute of Technology, Yokohama, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan*

BV-10. Thermal effects on magnetic resonance in single crystal $Co_{1-x}Fe_xS_2$ *M. Pechan*[1], B. Kaster[1], M. Manno[2] and C. Leighton[2] *1. Physics, Miami University, Oxford, OH; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN*

BV-11. Transport spin polarization of Co_2FeSi fi[|#12#|]lms grown by molecular-beam epitaxy. *H. Lehmann*[1], J.M. Scholtyssek[1,2], J. Herfort[3], C. Herrmann[3], G. Meier[1] and U. Merkt[1] *1. Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Jungiusstrasse 11, 20355 Hamburg, Germany; 2. Institut für Elektrische Messtechnik und Grundlagen der Elektrotechnik, Technische Universität Braunschweig, Hans-Sommer-Strasse 66, 38106 Braunschweig, Germany; 3. Paul-Drude-Institut, Hausvogteiplatz 5-7, 10117 Berlin, Germany*

BV-12. Fabrication of Planar-Type Ni/Vacuum/Ni Tunnel Junctions Based on Ferromagnetic Nanogaps Using Field-Emission-Induced Electromigration. *K. Takiya*[1], T. Watanabe[1] and J. Shirakashi[1] *1. Department of Electrical and Electronic Engineering, Tokyo University of Agriculture & Technology, Tokyo, Japan*

BV-13. Novel approach towards full Heusler alloy based CPP-GMR: from Ag and non-magnetic Heusler to binary intermetallic spacers. *O.N. Mryasov*[1,2], S. Faleev[2] and S.V. Karthik[2] *1. Physics and Astronomy, University of Alabama, Tuscaloosa, AL; 2. MINT Center, University of Alabama, Tuscaloosa, AL*

BV-14. Spin-Flipping at Sputtered $Co_{90}Fe_{10}$/Cu Interfaces. *H.T. Nguyen*[1], R. Acharyya[1], W.P. Pratt Jr.[1] and J. Bass[1] *1. Physics and Astronomy, Michigan State University, East Lansing, MI*

BV-15. Strain driven variations in spin polarization of Fe/Cu/Fe/$BaTiO_3$ trilayered magnetic wire structures. *N. Tomoyuki*[1], M. Itoh[1] and T. Taniyama[1] *1. Materials and structures Laboratory, Tokyo Insitute of Technology, Yokohama, Japan*

MONDAY AFTERNOON 3:00

GRAND HALL EAST

Session BW
PERPENDICULAR RECORDING MEDIA II (POSTER SESSION)

Tofizur Rahma, Chair

BW-01. Oblique-incidence sputtering of Ru for reduction of the interlayer thickness of perpendicular recording media. S. Saito[1], *K. Inoue*[1] and M. Takahashi[1] *1. Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan*

BW-02. Correlation of microstructure, intrinsic magnetization switching properties and recording performance in exchange-coupled composite media. *K. Srinivasan*[1], E. Roddick[1], J. Mardinly[1] and B. Acharya[1] *1. Western Digital, San Jose, CA*

BW-03. Verification of the exchange coupling in two-phase composite media. *H. Hou*[1], B.J. Kirby[2] and C. Lai[1] *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD*

BW-04. A new method for measuring exchange stiffness in ferromagnetic films. *E. Girt*[1], O. Mryasov[2], E. Montoya[1], B. Kardas[1], B. Heinrich[1] and O. Karis[3] *1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Physics, University of Alabama, Tuscaloosa, AL; 3. Physics and Astronomy, Uppsala University, Uppsala, Sweden*

BW-05. Reduction of $L1_0$ FePt ordering temperature by decomposition of meta-stable AgPt alloy. *W. Wen*[1] and C. Lai[1] *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

BW-06. Neutron Measurements to Compare the Grain Size-Dependent Magnetic Reversal Field of Perpendicular Magnetic Recording Media with and without an Exchange Layer. *S. Lee*[1], S. Lister[1], T. Thomson[2], J. Kohlbrecher[3], K. Takano[4], V. Venkataramana[1], H. Do[4] and Y. Ikeda[4] *1. SUPA, School of Physics and Astronomy, University of St Andrews, St Andrews, Fife, United Kingdom; 2. School of Computer Science, University of Manchester, Manchester, Lancashire, United Kingdom; 3. Laboratory for Neutron Scattering, Paul Scherrer Institute, Villigen, Switzerland; 4. Hitachi San Jose Research Center, San Jose, CA*

BW-07. Microstructures and perpendicular magnetic properties of Co/Pd multilayers on various MgO/metallic seed-layers. *S. Kim*[1], S. Lee[1], J. Kang[1] and J. Hong[1] *1. Materials Science and Engineering Department, Yonsei University, Seoul, Korea, Republic of*

BW-08. Chemical Stability of Highly (0001) Textured $Sm(CoCu)_5$ Thin Films with a Thin Ta Capping Layer. *H. Zhao*[1], H. Wang[1], X. Liu[1], T. Zhang[2] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. RMO, Seagate Technology, Fremont, CA*

BW-09. Reducing Media Noise of Perpendicular Magnetic Recording Tape for Over-50TB Class Data Cartridge. *S. Matsunuma*[1], T. Inoue[1], T. Watanabe[1], T. Doi[1], S. Gomi[2], Y. Mashiko[2], K. Hirata[2] and S. Nakagawa[2] *1. R&D Division, Hitachi Maxell, Ibaraki, Osaka, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Ookayama, Tokyo, Japan*

BW-10. Magnetic properties of $L1_1$-type CoPt-X (X: C, SiO_2, MgO) ordered alloy perpendicular films. *H. Kataoka*[1,2], T. Shimatsu[1], Y. Inaba[1,2], S. Okamoto[3], O. Kitakami[3] and H. Aoi[3] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Fuji Electric Holdings Co., Ltd., Matsumoto, Nagano, Japan; 3. IMRAM, Tohoku University, Sendai, Miyagi, Japan*

BW-11. Magnetostriction of Co-Fe-Zr-Ta amorphous thin films for soft underlayers of recording media. *H. Nakata*[1,2], K. Komiyama[2] and T. Shimatsu[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Fujielectric Holdings Co., Ltd., Matsumoto, Nagano, Japan*

BW-12. Coercivity at a recording speed of CoPtCr-SiO_2 based granular media for thermally assisted recording. *D. Inoue*[1,2], Y. Inaba[1,2], K. Komiyama[2] and T. Shimatsu[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Fuji Electric Holdings Co., Ltd., Matsumoto, Ngano, Japan*

BW-13. Effect of the TiN Content in the Pd-TiN Seed Layer on the Microstructure and Magnetic Properties of Co/Pd Multilayered Media. *S. Kim*[1,2], D. Chun[1], J. Lee[2] and W. Jeung[3] *1. Division of Materials and Devices, Korea Institute of Science and Technology, Seoul, Korea, Republic of; 2. Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of; 3. Institute of Advanced Composite Materials, Korea Institute of Science and Technology Jeonbuk Institute, WanJu-Gun, Korea, Republic of*

BW-14. Magnetization reversal of L10 FePt/Co/Fe trilayers. J. Liao[1], X. Zhang[1], *B. Ma*[1], Z. Zhang[1] and Q. Jin[1] *1. Department of Optical Scince and Engineering, Fudan University, Shanghai, China*

BW-15. Micromagnetic Studies on Measurements of Crystalline Anisotropy and Magnetostriction in Disk Media. *H. Li*[1] and D. Wei[1] *1. Tsinghua University, Beijing, China*

BW-16. Design consideration of crystalline soft underlayer for noise reduction in epitaxial perpendicular recording media. *K. Shintaku*[1] *1. Akita Research Institute of Advanced Technology, Akita Research and Development Center, Akita, Japan*

MONDAY EVENING 7:30

CENTENNIAL II

Session BZ
TUTORIAL: APPLIED RESEARCH IN MAGNETISM
Olle Heinonen, Chair

7:30

BZ-01. Magnetic information technologies: Challenges and research opportunities. ***(Invited)*** *E. Fullerton[1] 1. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA*

8:10

BZ-02. Solid state energy efficient magnetic cooling. ***(Invited)*** *J. Lyubina[1,2] 1. Department of Materials, Imperial College London, London, United Kingdom; 2. Institute for Metallic Materials, IFW Dresden, Dresden, Germany*

8:50

BZ-03. Magnetic Tunnel Junction for Integrated Circuits: Scaling and Beyond. ***(Invited)*** *H. Ohno[1,2] 1. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 2. Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku University, Sendai, Japan*

9:06

CA-02. Manipulation of Spin Transport in Graphene by Surface Chemical Doping. ***(Invited)*** *K. Pi[1]*, W. Han[1], K. McCreary[1], Y. Li[1], A. Swartz[1] and R. Kawakami[1] *1. Department of Physics and Astronomy, University of California, Riverside, Riverside, CA*

9:42

CA-03. Electrical spin injection from an organic-based magnet in a hybrid organic/inorganic heterostructure. ***(Invited)*** *E. Johnston-Halperin[1,2] 1. Department of Physics, The Ohio State University, Columbus, OH; 2. Chemical Physics Program, The Ohio State University, Columbus, OH*

10:18

CA-04. Influence of Interface Magnetism on Spin Tunneling in Organic Semiconductors. ***(Invited)*** *J. Moodera[1] 1. MIT, Cambridge, MA*

10:54

CA-05. Determining and tailoring the spin functionality of hybrid organic-inorganic interfaces for spintronics. ***(Invited)*** *M. Aeschlimann[1]*, S. Neuschwander[1], T. Methfessel[2], N. Grossmann[1], K. Koffler[1], J. Wüstenberg[1], H. Elmers[2] and M. Cinchetti[1] *1. Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, University of Mainz, Mainz, Germany*

TUESDAY MORNING 8:30

CENTENNIAL I

Session CA
SYMPOSIUM ON SPINS IN CARBON-BASED MATERIALS
Roland Kawakami, Chair

8:30

CA-01. Gigahertz quantum control and nanoscale placement of single spins in diamond. ***(Invited)*** G.D. Fuchs[1], D.M. Toyli[1], C.D. Weis[2], T. Schenkel[2] and *D.D. Awschalom[1] 1. Department of Physics, University of California, Santa Barbara, CA; 2. Ion Beam Technology Group, Lawrence Berkeley National Laboratory, Berkeley, CA*

TUESDAY MORNING 8:30

CENTENNIAL II

Session CB
MAGNETIC TUNNEL JUNCTIONS I
Vincent Garcia, Chair

8:30

CB-01. Giant oscillations in spin-dependent tunneling resistances as a function of MgO barrier thickness in fully epitaxial magnetic tunnel junctions of $Co_2Cr_{0.6}Fe_{0.4}Al$/MgO/$Co_2Cr_{0.6}Fe_{0.4}Al$. *M. Yamamoto[1]*, T. Marukame[1], T. Ishikawa[1], T. Taira[1], K. Matsuda[1] and T. Uemura[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

8:42

CB-02. Structural and magnetic properties at Co_2MnSi/MgO(001) interfaces studied by x-ray magnetic circular dichroism and first-principles calculations. *Y. Miura*[1], M. Shirai[1], T. Saito[2], T. Katayama[2], T. Ishikawa[3], M. Yamamoto[3], D. Asakura[4] and T. Koide[4] *1. RIEC & CSIS, Tohoku University, Sendai, Japan; 2. Dept. of Physics, Toho University, Funabashi, Japan; 3. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan; 4. KEK-PF, Tsukuba, Japan*

8:54

CB-03. Depth Resolved Electronic Structure of an LSMO/STO/LSMO Magnetic Tunneling Junction via Standing-Wave Excited Angle-Resolved Photoemission. *A.X. Gray*[1,2], L. Plucinski[3], A. Bostwick[4], E. Rotenberg[4], C. Papp[2,5], S. Ueda[6], Y. Yamashita[6], K. Kobayashi[6], S. Yang[7], M. Huijben[8], D. Eiteneer[1,2], A. Rattanachata[1,2], A. Greer[1,2], E.M. Gullikson[4], F. De Groot[9], C.M. Schneider[3] and C.S. Fadley[1,2] *1. Department of Physics, University of California, Davis, Davis, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Institute for Solid State Research, Research Center Jülich, Jülich, Germany; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 5. Physical Chemistry II, University of Erlangen, Erlangen, Germany; 6. National Institute for Materials Science, SPring-8, Hyogo, Japan; 7. IBM Almaden Research Center, San Jose, CA; 8. MESA Institute for Nanotechnology, University of Twente, Enschede, Netherlands; 9. Department of Chemistry, Utrecht University, Utrecht, Netherlands*

9:06

CB-04. Observation of magnetoresistance and spin chemical potential shift in spin filter based tunnel junctions. ***(Invited)*** *G. Miao*[1] and J.S. Moodera[1] *1. Francis Bitter Magnetic Laboratory, MIT, Cambridge, MA*

9:42

CB-05. Bias voltage dependence of tunnel magnetoresistance for fully-epitaxial Fe/spinel $MgAl_2O_4$/Fe junctions. *H. Sukegawa*[1], H. Xiu[1], T. Ohkubo[1], T. Niizeki[1], S. Kasai[1], T. Furubayashi[1], S. Mitani[1], K. Inomata[1] and K. Hono[1] *1. Magnetic Material Center, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan*

9:54

CB-06. Magnetic state switching controlled by a voltage in $La_{0.7}Ca_{0.3}MnO_3$/(Ba, Sr)TiO_3/$La_{0.7}Ca_{0.3}MnO_3$ tunneling junctions. W. Hu[1], K. Chen[1,2], X. Xi[1,2], Z. Zhang[3] and *Q. Li*[1] *1. Department of Physics, Pennsylvania State University, University Park, PA; 2. Department of Physics, Temple University, Philadelphia, PA; 3. Shenyang National Laboratory for Materials Science and International Centre for Materials Physics, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, Liaoning, China*

10:06

CB-07. Giant tunnel electroresistance and electrical control of spin polarization with ferroelectric tunnel barriers. *V. Garcia*[1], M. Bibes[1], K. Bouzehouane[1], S. Fusil[1], L. Bocher[3], A. Crassous[1], S. Valencia[5], F. Kronast[5], C. Deranlot[1], S. Enouz-Vedrenne[4], A. Gloter[3], D. Imhoff[3], X. Moya[2], N.D. Mathur[2] and A. Barthelemy[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. University of Cambridge, Cambridge, United Kingdom; 3. Laboratoire de Physique du Solide, Orsay, France; 4. Thales Research and Technology, Palaiseau, France; 5. Helmholtz-zentrum-Berlin, BESSY, Berlin, Germany*

10:18

CB-08. Effect of occupation numbers on Interlayer Exchange Coupling. D. Terrade[1], A. Kalitsov[1], H. Yang[1], *M. Chshiev*[1], X. Waintal[2], C. Baraduc[1] and B. Dieny[1] *1. SPINTEC, UMR 8191 CEA-INAC/CNRS/UJF-Grenoble 1, Grenoble, France; 2. SPSMS, CEA-INAC, Grenoble, France*

10:30

CB-09. Oscillatory interlayer exchange coupling in Fe|GaAs|Fe and Fe|ZnSe|Fe tunnel junctions from first-principles calculations. *H. Yang*[1], M. Chshiev[1], A. Kalitsov[1], A. Schuhl[1] and B. Dieny[1] *1. SPINTEC,UMR-8191,CEA-INAC/CNRS/UJF—Grenoble1/Grenoble-INP, Grenoble, France*

10:42

CB-10. Noise Measurements on Magnetic Tunnel Junction Nanopillars using Conductive Atomic Force Microscopy. *E.R. Evarts*[1], T.T. Farkas[2], B. Tsukerman[3], L. Cao[2], D.S. Ricketts[2], G. Markovich[3], J.A. Bain[2] and S.A. Majetich[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Chemistry, Tel Aviv University, Tel Aviv, Israel*

10:54

CB-11. In-Situ Electron Holography studies of Tunnel Barriers in Magnetic Tunnel Junctions. *Y. Liu*[1] and A.K. Petford-Long[1,2] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL*

11:06

CB-12. Magnetic Tunneling Junction Based Sensors for Bio-detection Applications: Role of Shape Anisotropy versus Free Layer Thickness. *L.R. Shah*[1,2], N. Bhargav[3], S. Kim[3], R. Stearret[2], X. Kou[2], X. Sun[4], S. Sun[4], J. Kolodzey[3], E. Nowak[2] and J.Q. Xiao[2] *1. Physics, Carnegie Mellon University, Pittsbrugh, PA; 2. Physics and Astronomy, University of Delaware, Newark, DE; 3. Electrical and Computer Engineering, University of Delaware, Newark, DE; 4. Chemistry, Brown University, Providence, RI*

11:18

CB-13. Asymmetric Hysteresis Loop Expansion in Strained Magnetic Tunnel Junctions. *J.E. Davies*[1], A. Stankiewicz[1] and J.G. Deak[2] *1. Advanced Technology, NVE Corp., Eden Prairie, MN; 2. Multidimensional Technology, Inc, Minnetonka, MN*

TUESDAY MORNING 8:30

CENTENNIAL III

Session CC
DOMAIN WALL MOTION AND DYNAMICS I

Hermann Stoll, Chair

8:30

CC-01. Current-induced domain wall motion in ultrathin Pt/Co/AlO_x wires. ***(Invited)*** T.A. Moore[1,4], M. Miron[1,3], H. Szambolics[1], D. Heese[1], H. Ouslimani[1], G. Gaudin[1], S. Auffret[1], B. Rodmacq[1], *A. Schuhl*[1], S. Pizzini[2] and J. Vogel[2] *1. SPINTEC, UMR 8191 CEA/CNRS/UJF, INAC, Grenoble, France; 2. Nanosciences, CNRS, Institut Néel, Grenoble, France; 3. Centre d'Investigació en Nanociència i Nanotecnologia (ICN-CSIC), Barcelona, Spain; 4. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

9:06

CC-02. Stochastic Domain-Wall Motion in Ferromagnetic Nanowire with Perpendicular Magnetic Anisotropy. *J. Kim*[1], S. Je[1], J. Lee[1,2], K. Kim[1], C. Lee[3], Y. Cho[3], S. Seo[3], K. Shin[2], H. Lee[4] and S. Choe[1] *1. Department of Physics, Seoul National University, Seoul 151-742, Korea, Republic of; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul 136-791, Korea, Republic of; 3. Samsung Advanced Institute of Technology, Yongin 449-712, Korea, Republic of; 4. PCTP and Department of Physics, Pohang University of Science and Technology, Pohang 790-784, Korea, Republic of*

9:18

CC-03. Time-resolved imaging of subnanosecond magnetization dynamics in magnetic nanowires induced by current pulses. V. Uhlír[1,2], S. Pizzini[1], N. Rougemaille[1], Z. Ishaque[1], O. Fruchart[1], V. Cros[3], E. Jiménez[4], J. Camarero[4], G. Gaudin[5], F. Sirotti[6], J. Criginski Cezar[7] and *J. Vogel*[1] *1. Nanosciences, CNRS, Institut Néel, Grenoble, France; 2. Institute of Physical Engineering, Brno University of Technology, Brno, Czech Republic; 3. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 4. Dpto. Física de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Spain; 5. SPINTEC, CEA/CNRS/UJF/GINP, INAC, Grenoble, France; 6. Synchrotron SOLEIL, Saint Aubin, France; 7. ESRF, Grenoble, France*

9:30

CC-04. Modeling thermally activated domain wall dynamics in a disordered magnetic nanostrip. *L. Laurson*[1], C. Serpico[2,1], G. Durin[3,1] and S. Zapperi[4,1] *1. ISI Foundation, Torino, Italy; 2. Universita di Napoli "Federico II", Napoli, Italy; 3. INRIM, Torino, Italy; 4. IENI-CNR, Milano, Italy*

9:42

CC-05. Simulation of AC and DC Current-Driven Behavior of 360 Degree Domain Walls. *M. Mascaro*[1], C. Nam[1], Y. Jang[1] and C.A. Ross[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

9:54

CC-06. Fast domain wall motion in magnetic comb structures. E.R. Lewis[1], *D. Petit*[2], L. O'Brien[2], A. Fernandez-Pacheco[2], J. Sampaio[1], A. Jausovec[1], H.T. Zeng[1], D. Read[1] and R. Cowburn[2] *1. Physics, Imperial College London, London, United Kingdom; 2. Physics, University of Cambridge, Cambridge, United Kingdom*

10:06

CC-07. The magnonic limit of domain wall propagation in ferromagnetic nanotubes. *M. Yan*[1], C. Andreas[1], A. Kakay[1], F. Garcia-Sanchez[1] and R. Hertel[1] *1. Institute of Solid State Research, Research Centre Jülich, Jülich, Germany*

10:18

CC-08. Analysis of stochastic resonance in a bistable system based on a domain wall. *E. Martinez*[1], G. Finocchio[2] and M. Carpentieri[3] *1. Applied Phytsics, Universidad de Salamanca, Salamanca, Salamanca, Spain; 2. Department of Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 3. 1Dipartimento di Elettronica, Informatica e Sistemistica, University of Calabria, Rende, Italy*

10:30

CC-09. Analytical Investigation of the Interaction of Transverse Domain Walls. *B. Krueger*[1], A. Drews[2,3] and D. Pfannkuche[1] *1. I. Institute of Theoretical Physics, University of Hamburg, Hamburg, Germany; 2. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 3. Research Group Computer Engineering, University of Hamburg, Hamburg, Germany*

10:42

CC-10. Domain walls violating spin-transfer torque? *R. Lavrijsen*[1], J.K. Kohlhepp[1], H.M. Swagten[1] and B. Koopmans[1] *1. Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

10:54

CC-11. Controllable Chirality Switching of a Moving Domain Wall by Oblique Magnetic Field. *S. Seo*[1], S. Jung[2], H. Lee[2] and K. Lee[1] *1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, Korea, Republic of; 2. Dept. of Phys., Pohang Univ. of Sci. & Technol., Pohang, Korea, Republic of*

11:06

CC-12. Effect of external magnetic field on threshold current density for current-induced domain wall motion. *T. Koyama*[1], K. Ueda[1], D. Chiba[1], H. Tanigawa[2], S. Fukami[2], T. Suzuki[2], N. Ohshima[2], N. Ishiwata[2], Y. Nakatani[3] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Kyoto, Japan; 2. NEC corporation, Kanagawa, Japan; 3. University of Electro-communications, Tokyo, Japan*

11:18

CC-13. Magnetic domain self-organization in the ferromagnetic semiconductor (Ga,Mn)(As,P). *S. Haghgoo*[1], L. Thevenard[1], M. Cubukcu[1], J. von Bardeleben[1], A. Lemaître[2] and C. Gourdon[1] *1. Pierre and Marie Curie University, Nanoscience institute of Paris, Paris, France; 2. CNRS, Laboratoire de Photonique et Nanostructures, Paris, France*

TUESDAY MORNING 8:30 — CENTENNIAL IV

Session CD
MAGNETIZATION DYNAMICS IV: DAMPING
Radek Lopusnik, Chair

8:30

CD-01. Extraction of Critical Parameters by FMR in Ultra-thin Films. *D. Abraham*[1], J.L. Beaujour[2] and A.D. Kent[2] *1. IBM T.J. Watson Research Center, Yorktown Heights, NY; 2. Physics Department, New York University, New York, NY*

8:42

CD-02. Dispersion of collective spin waves in stacks of ferromagnetic elements. *M. Dvornik*[1] and V.V. Kruglyak[1] *1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom*

8:54

CD-03. Spin dynamics and magnetic anisotropies at the Fe/GaAs(001) interface. *B. Kardasz*[1], E.A. Montoya[1], E. Girt[1] and B. Heinrich[1] *1. Physics, Simon Fraser University, Burnaby, BC, Canada*

9:06

CD-04. Landau-Lifshitz Magnetization Dynamics Driven by Random Jump-Noise Process. ***(Invited)*** *I.D. Mayergoyz*[1], G. Bertotti[2] and C. Serpico[3] *1. Department of Electrical and Computer Engineering, University of Maryland College Park, College Park, MD; 2. Instituto Nazionale di Ricerca Metrologica (INRiM), Torino, Italy; 3. Dipartimento di Ingegneria Elettrica, Università di Napoli "Federico II", Napoli, Italy*

9:42

CD-05. Nonlinear hybridization of the fundamental eigenmodes of microscopic ferromagnetic ellipses. *V.E. Demidov*[1], M. Buchmeier[1], K. Rott[2], P. Krzysteczko[2], J. Münchenberger[2], G. Reiss[2] and S.O. Demokritov[1] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Department of Physics, Bielefeld University, Bielefeld, Germany*

9:54

CD-06. Magnetization dynamics of single FePt alloy caps on isolated spherical particles. *R. Brandt*[1], C. Brombacher[2], P. Krone[2], Y. Yahagi[1], D. Makarov[2], M. Albrecht[2] and H. Schmidt[1] *1. School of Engineering, UC Santa Cruz, Santa Cruz, CA; 2. Institute of Physics, Chemnitz University of Technology, Chemnitz, Germany*

10:06

CD-07. Effects of shape distortions and imperfections on mode frequencies in magnetic nanostructures. *H.T. Nembach*[1], J.M. Shaw[1], W. Johnson[2], S. Kim[2], R.D. McMichael[3], P. Kabos[1] and T.J. Silva[1] *1. Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO; 2. Materials Reliability Division, National Institute of Standards and Technology, Boulder, CO; 3. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD*

10:18

CD-08. Direct Brillouin Light Scattering Observation of Dark Spin-Wave Envelope Solitons Travelling in Yttrium Iron Garnet Films. *C.L. Ordóñez-Romero*[1,2], M.A. Cherkasskii[3], B.A. Kalinikos[3,2], C.E. Patton[2] and M. Wu[2] *1. Solid State, IFUNAM, Mexico City, D.F, Mexico; 2. Physics, Colorado State University, Fort Collins, CO; 3. St. Petersburg Electro Technical University, St. Petersburg, Russian Federation*

10:30

CD-09. Spin wave resonance excitation in ferromagnetic films using planar waveguide structures. *Y.V. Khivintsev*[1,2], Z. Celinski[1], L. Reisman[1], R. Adam[3], C.M. Schneider[3], R.E. Camley[1] and Z. Celinski[1] *1. Physics, UCCS, Colorado Springs, CO; 2. Kotel'nikov Institute of Radio-engineering and Electronics of Russian Academy of Sciences, Saratov Branch, Saratov, Russian Federation; 3. Institute of Solid State Research IFF-9, Research Center Jülich, Jülich, Germany*

10:42

CD-10. Evidence of slow relaxing impurity damping in Co_2MnGe thin films. *T. Silva*[1], H.T. Nembach[1], M.L. Schneider[2], J.M. Shaw[1], M.J. Carey[3], S. Maat[3] and J.R. Childress[3] *1. Div. 818.03, NIST, Boulder, CO; 2. Department of Physics and Astronomy, University of Montana, Boulder, CO; 3. Hitachi Global Storage Technologies, San Jose, CO*

10:54

CD-11. Static and dynamic magnetic properties of epitaxial Co_2FeAl Heusler alloy thin films. *G. Ortiz*[1], M. Gabor[3], T. Petrisor Jr.[3], C. Tiusan[3,4], F. Issac[2], F. Boust[2] and J. Bobo[1] *1. NMH-CEMES, CNRS, Toulouse, France; 2. DEMR, ONERA, Toulouse, France; 3. Technical University Cluj Napoca, Material Science Laboratory, Cluj, Romania; 4. Institut Jean Lamour, P2M, CNRS- Nancy Université, Nancy, France*

11:06

CD-12. Dependence of nonlocal damping on the ferromagnetic layer type in FM / NM_1 / NM_2 heterostructures. *A. Ghosh*[1], J.F. Sierra[1], S. Auffret[1], U. Ebels[1] and W.E. Bailey[1,2] *1. SPINTEC, CEA, CNRS,UJF, INPG, CEA/INAC, Grenoble, France; 2. Department of Applied Physics and Applied Mathematics and Materials Science and Engineering, Columbia University, New York, NY*

11:18

CD-13. Influence of capping layers on damping. *N. Pachauri*[1], T. Mewes[1], C. Park[2], S. Maat[2] and Z. Gao[2] *1. Physics & Astronomy/MINT Center, The University of Alabama, Tuscaloosa, AL; 2. Hitachi Global Storage Technologies, San Jose, CA*

TUESDAY MORNING 8:30 — REGENCY V

Session CE
ULTRA-THIN FILMS AND SURFACE EFFECTS
Yizheng Wu, Chair

8:30

CE-01. Imaging Effects of Confinement and Proximity In-Situ by Spin-Polarized Low-Energy Electron Microscopy. ***(Invited)*** *A.K. Schmid*[1] *1. NCEM, LBNL, Berkeley, CA*

9:06

CE-02. On the origin of the in-plane uniaxial magnetic anisotropy in Fe(001) films on GaAs(001). *G. Bayreuther*[1,2], M. Sperl[1], J. Premper[2], D. Sander[2] and J. Kirschner[2]*1. Exp. und Angew. Physik, Universität Regensburg, Regensburg, Germany; 2. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany*

9:18

CE-03. Enhancement of the uniaxial magnetic anisotropy in Fe thin films grown on GaAs(001) with an MgO underlayer. *S. Sakshath*[1], S. Bhat[1], A. Kumar[1], D. Sander[2] and J. Kirschner[2]*1. Physics, Indian Institute of Science, Bangalore, India; 2. Max Planck Institute for Microstructure Physics, Halle, Germany*

9:30

CE-04. Variations of magneto crystalline anisotropy and moment with in-plane axis in MnAs thin films. *M. Wikberg*[1], R. Knut[2], S. Bhandary[3], M. Ottoson[4], J. Sadowski[5], B. Sanyal[3], O. Eriksson[3], O. Karis[2] and P. Svedlindh[1]*1. Engineering Sciences, Uppsala University, Uppsala, Sweden; 2. Physics and Materials Science, Uppsala University, Uppsala, Sweden; 3. Physics and Astronomy,, Uppsala University, Uppsala, Sweden; 4. Materials Chemistry, Uppsala University, Uppsala, Sweden; 5. MAX-lab, Lund University, Lund, Sweden*

9:42

CE-05. Perpendicular magnetic anisotropy of ultrathin epitaxial cobalt fi[|#28#|]lms on graphene. C. Vo-Van[1], Z. Kassir-Bodon[1], H. Yang[2], C. Johann[1], *J. Vogel*[1], S. Pizzini[1], P. Bayle-Guillemaud[3], M. Chsiev[2], L. Ranno[1], V. Santonacci[1], P. David[1], V. Salvador[3] and O. Fruchart[1]*1. Nanosciences, CNRS, Institut Néel, Grenoble, France; 2. SPINTEC, CEA/CNRS/UJF/GINP, INAC, Grenoble, France; 3. LEMMA, CEA, INAC, Grenoble, France*

9:54

CE-06. Preparation and characterization of Co single-crystal thin films with hcp, fcc, and bcc structures. *O. Yabuhara*[1], M. Ohtake[1], J. Higuchi[1] and M. Futamoto[1]*1. Faculty of Science and Engineering, Chuo University, Tokyo, Japan*

10:06

CE-07. Structural and magnetic properties of cobalt atomic clusters on (110) surface of tungsten. *P. Lukashev*[1] and R. Sabirianov[2]*1. Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE; 2. Physics, University of Nebraska at Omaha, Omaha, NE*

10:18

CE-08. Effect of an electric field on the magnetic anisotropy of epitaxial FePd ultrathin films. *F. Bonell*[1], S. Murakami[1,2], Y. Shiota[1,2], T. Nozaki[1,2], T. Shinjo[1] and Y. Suzuki[1,2]*1. Graduate School of Engineering Science, Osaka University, Osaka, Japan; 2. CREST, JST, Kawaguchi, Saitama, Japan*

10:30

CE-09. Electric Field Effects of Magnetic Anisotropy in MgO/Pt/Fe/Pt(001): a Density Functional Study. *M. Tsujikawa*[1], M. Yoshio[2,3], M. Shirai[2,3] and T. Oda[4]*1. Graduate School of Natural Scinece and Technology, Kanazawa University, Kanazawa, Japan; 2. Reserch Institute of Electrical Communication (RIEC), Tohoku University, Sendai, Japan; 3. Center for Spintronics Integrated Systems (CSIS), Tohoku University, Sendai, Japan; 4. Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan*

10:42

CE-10. Gaining control over the magnetostructural transition in FeRh films. M.A. de Vries[1], *M. Loving*[2], S. Langridge[3], D. Arena[4], M. Ali[1], C.J. Kinane[3], R. Fan[3], D. Heiman[2], C.H. Marrows[1] and L.H. Lewis[2]*1. School of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom; 2. Chemical Engineering, North Eastern University, Boston, MA; 3. Science and Technology Facilities Council, Harwell Science and Innovation Campus, Didcot OX11 0QX, Oxfordshire, United Kingdom; 4. National Synchrotron Light Source, Brookhaven National Laboratory, Upton 11973, NY*

10:54

CE-11. Depth-dependent spin structure in epitaxial $Fe_{0.5}Co_{0.5}$ films on Rh(001) determined by conversion electron Mössbauer spectroscopy. P.L. Gastelois[1], A.M. Silva[1], *W.A. Macedo*[1], B. Krumme[2], W. Keune[2,3], H. Wende[2], M. Przybylski[3] and J. Kirschner[3]*1. Serviço de Nanotecnologia, Centro de Desenvolvimento da Tecnologia Nuclear (CDTN), Belo Horizonte, MG, Brazil; 2. Faculty of Physics and Center for Nanointegration Duisburg-Essen (CeNIDE), University of Duisburg-Essen, Duisburg, Germany; 3. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany*

11:06

CE-12. Investigation of local atomic environment of SmCoCu films using extended x-ray absorption fine structure spectroscopy (EXAFS). *C. Sun*[1], H. Zhao[2], H. Wang[2], X. Liu[2] and J. Wang[2]*1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 2. MINT center, Dept. of Electrical and Computer Engineering,, University of Minnesota, Minneapolis, MN*

11:18

CE-13. The contribution of X-reflectivity and X-ray absorption spectroscopy to the oxygen-induced magnetic properties in Pt/Co/AlOx. *H.M. Garad*[1], F. Fettar[1], L. Ortega[1], A. Ramos[1], B. Diény[2], B. Rodmacq[2], J. Marcus[1] and F. Gay[1] *1. Institut Neel, CNRS/UJF, Cnrs, Grenoble, France; 2. Spintec, URA 2512 CEA/CNRS, Grenoble, France*

TUESDAY MORNING 8:30 REGENCY VI

Session CF
PATTERNED MEDIA II
Thomas Thomson, Chair

8:30

CF-01. Switching Field Distribution of Bit Patterned Media with Directed Self-assembled 17nm-pitch CoPt Dots. *A. Kikitsu*[1], Y. Isowaki[1], K. Kimura[1], A. Watanabe[1] and Y. Kamata[1] *1. Toshiba Corp. R&D Center, Kawasaki, Japan*

8:42

CF-02. Effect of antiferromagnetically coupling configurations on switching field distribution of bit patterned media. M. Ranjbar[1,2], A. Tavakkoli K.G.[1,2], *S.N. Piramanayagam*[1], R. Sbiaa[1] and T. Chong[1,2] *1. A*STAR (Agency for Science, Technology and Research), Data Storage Institute, Singapore, Singapore; 2. ECE Department, National University of Singapore, Singapore, Singapore*

8:54

CF-03. Magnetic properties and recording performances of patterned media fabricated by nitrogen ion implantation. *T. Hinoue*[1], T. Ono[3], H. Inaba[2], K. Ito[1] and Y. Hirayama[1] *1. Central Research Laboratory, Hitachi Ltd., Odawara, Japan; 2. Production Engineering Research Laboratory, Hitachi Ltd., Yokohama, Japan; 3. Hitachi Global Storage Technologies Japan, Ltd., Fujisawa, Japan*

9:06

CF-04. The nature of intrinsic defects in perpendicularly magnetized thin films and nanostructures. *J. Shaw*[1], M. Olsen[1,2], J.W. Lau[3], M.L. Schneider[2], T.J. Silva[1], O. Hellwig[4], E. Dobisz[4] and B.D. Terris[4] *1. NIST, Boulder, CO; 2. University of Montana, Missoula, MT; 3. NIST, Gaithersburg, MD; 4. Hitachi GST, San Jose, CA*

9:18

CF-05. Methanol Based Reactive Ion Etching for the Fabrication of Ultra-High Density Bit Patterned Media. *M.T. Moneck*[1] and J. Zhu[1] *1. Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:30

CF-06. Effects of thermal fluctuation on switching probability distribution (SPD) in bit patterned media (BPM). *T. Huang*[1], Y. Chen[1], S. Leong[1], J. Ding[2], W. Li[2] and J. Deng[3] *1. Data Storage Institute, Singapore, Singapore; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. Institute of Materials Research and Engineering, Singapore, Singapore*

9:42

CF-07. Probing the time-dependent switching probability of individual bits in bit patterned media. *F. Springer*[1,2], O. Hellwig[3], E. Dobisz[3], M. Albrecht[2] and M. Grobis[3] *1. Department of Physics, University of Konstanz, Konstanz, Germany; 2. Department of Physics, Chemnitz University of Technology, Chemnitz, Germany; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

9:54

CF-08. Engineering Heterogeneous Bit Patterned Media for Enhanced Storage and Recording Performance. *M.V. Lubarda*[1], S. Li[1], R. Chang[1], B. Livshitz[1], E.E. Fullerton[1] and V. Lomakin[1] *1. Center for Magnetic Recording Research, UCSD, San Diego, CA*

10:06

CF-09. Write margins in bit patterned media. *M. Bashir*[1], T. Schrefl[2,1], J. Dean[1], A. Goncharov[1], G. Hrkac[1], D.A. Allwood[1] and D. Suess[3] *1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. St. Poelten University of Applied Sciences, St. Poelten, United Kingdom; 3. Institute of Solid State Physics, Technical University of Vienna, Vienna, Austria*

10:18

CF-10. Holographic imaging of magnetic stray field from bit-patterned media. C. Arm[1], P. Bayle-Guillemaud[1], A. Marty[1], E. Gauthier[2], J. Moritz[2], *V. Baltz*[2], B. Rodmacq[2] and B. Dieny[2] *1. INAC/SP2M, CEA/Grenoble, Grenoble, France; 2. SPINTEC UMR CEA/CNRS/UJF/G-INP, CEA/Grenoble, INAC, Grenoble, France*

10:30

CF-11. An antidot route to bit-patterned media from nanoparticle arrays. *C.R. Hogg*[1], L.R. Shah[1], Y. Picard[2], J.A. Bain[3] and S.A. Majetich[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA; 2. Materials Science, Carnegie Mellon University, Pittsburgh, PA; 3. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

10:42

CF-12. L10 FePt(111)/glassy CoFeTaB bilayered structure for patterned media. *P. Sharma*[1], N. Kaushik[2], A. Makino[1], M. Esashi[2] and A. Inoue[3] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 2. World Premier Initiative (WPI) Center, Advanced Institute for Materials Research (AIMR), Tohoku University, Sendai, Miyagi, Japan; 3. Tohoku University, Sendai, Miyagi, Japan*

10:54

CF-13. Nano convex pattern substrate prepared by self-assembled silica particles and dry etching process for high-density magnetic recording media. *A. Itoh*[1], J. Yeh[1] and A. Tsukamoto[1] *1. Electronics and Computer Science, Nihon University, Funabashi, Japan*

11:06

CF-14. Magnetic nanopattering challenges and approaches towards 2-10 Tb/in^2 bit-patterned media (BPM). *Y. Chen*[1], T. Huang[1], S. Leong[1], V. Ng[2] and J. Yang[3] *1. SMI, Data Storage Institute (A*STAR), Singapre, Singapore; 2. ECE, National University of Singapore, Singapore, Singapore; 3. Institute of Materials Research and Engineering (A*STAR), Singapore, Singapore*

11:18

CF-15. Mechanism of low temperature ordering of $L1_0$ FePt films by ZnO addition and rapid thermal annealing. *S. Ishio*[1], X. Liu[1], T. Narisawa[1], T. Hasegawa[1] and H. Yamane[2] *1. Akita University, Akita, Japan; 2. Research Institue of Advanced Technology, Akita, Japan*

TUESDAY MORNING 8:30 REGENCY VII

Session CG
MAGNETIC MATERIALS AND SENSORS FOR BIOMEDICAL APPLICATIONS

Jianping Wang, Chair

8:30

CG-01. Low frequency field-induced drug release using ferromagnetic disks. *D. Kim*[1], E.A. Rozhkova[2], J. Pearson[1], V. Yefremenko[1], S.D. Bader[1,2] and V. Novosad[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL*

8:42

CG-02. FePt-nanoparticles/polycation magnetic capsules designed for magnetically guided drug delivery system. *T. Fuchigami*[1], R. Kawamura[1], Y. Kitamoto[1], M. Nakagawa[2] and Y. Namiki[3] *1. Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 3. Institute of Clinical Medicine and Research, The Jikei University School of Medicine, Chiba, Japan*

8:54

CG-03. Novel Ferrofluid Based Control Release Drug Delivery System for Cancer Therapy. *S.H. Naik*[1] and E.E. Carpenter[1] *1. Chemistry, VCU, Richmond, VA*

9:06

CG-04. Complexes of Cobalt nanoparticles and polyfunctional Curcumin as antimicrobial agents. *S. Kale*[1], S. Hatamie[2] and S.K. Karandikar[3] *1. Applied Physics, Defence Institute of Advanced Technology, Pune, MH, India; 2. Electronic Science, Fergusson College, Pune, India; 3. Microbiology, Abasaheb Garware College, Pune, India*

9:18

CG-05. Micromagnetic Simulation of Ferromagnetic Nanoparticles to Induce Magnetic Hyperthermia for Therapeutic Cancer Treatment. *S.M. Morgan*[1], H. Sohn[1] and R.H. Victora[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

9:30

CG-06. Monodispersed Magnetite Nanoparticles Optimized for Magnetic Fluid Hyperthermia: Implications in Biological Systems. *A. Khandhar*[1], M. Ferguson[1] and K.M. Krishnan[1]*1. Materials Science & Engineering, University of Washington, Seattle, WA*

9:42

CG-07. Nanotoxicity investigation of magnetohyperthermia systems. *Z.G. Lacava*[1]*1. Instituto de Ciencias Biologicas, Universidade de Brasilia, Brasilia, DF, Brazil*

9:54

CG-08. Induction heating properties of Fe3O4 nanoparticles for in vitro hyperthermia of 786-O renal cell carcinoma cells. *C. Fu*[1], C. Lee[1], F. Lu[2], H. Wang[2] and F. Chang[3]*1. Physics Department, National Taiwan University, Taipei, Taiwan; 2. Department of Biotechnology, National Kaohsiung Normal University, Kaoshiung, Taiwan; 3. The Institute of Biochemistry and Molecular Biology, National Taiwan University, Taipei, Taiwan*

10:06

CG-09. Feasibility of Engineered Superparamagnetic $Mn_{0.5}Zn_{0.5}Fe_2O_4$ Nanoparticles to a Localized Heat Shock Protein Agent for Ocular Neuroprotection in Glaucoma. *M. Jeun*[1], J. Jeong[2], S. Moon[1], Y. Kim[2], H. Shin[3], S. Lee[1], S. Paek[3], K. Chung[4], K. Park[2] and S. Bae[1]*1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Ophthalmology, Seoul National University College of Medicine, Seoul, Korea, Republic of; 3. Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, Republic of; 4. Daion Co. Ltd., Incheon, Korea, Republic of*

10:18

CG-10. A new class of multifunctional magnetic nanoconstructs for biomedical imaging and thermal ablation. R. Sethi[1], J. Ananta[1], Z. Chikani[2], L. Wilson[1], A. Brazdeikis[2], J. Wosik[2] and *P. Decuzzi*[3]*1. Rice University, Houston, TX; 2. University of Houston, Houston, TX; 3. Nanomedicine and Biomedical Engineering, The University of Texas Health Science Center Houston, Houston, TX*

10:30

CG-11. Dynamics of non-local cellular traction force response to locally applied magnetic stimulation. *Y. Lin*[1], A.S. Liu[1], C.M. Kramer[1], C.S. Chen[2] and D.H. Reich[1]*1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD; 2. Bioengineering, University of Pennsylvania, Philadelphia, PA*

10:42

CG-12. Transcranial Magnetic Stimulation: Improved Coil Design for Deep Brain Investigation. P. Marketos[1], P.I. Williams[1], *D.C. Jiles*[1] and J. Starzewski[2]*1. School of Engineering, Cardiff University, Cardiff, United Kingdom; 2. The Magstim Company Ltd, Whitland, United Kingdom*

10:54

CG-13. Three-sided magnets for MRI. *F.E. Bertora*[1], P. Fabbricatore[2], A. Viale[1] and A. Borceto[1]*1. Robotics, Brain and Cognitive Sciences, Italian Institute of Technology, Genova, GE, Italy; 2. Sezione di Genova, Istituto Nazionale Fisica Nucleare, Genova, GE, Italy*

11:06

CG-14. Dosimetric Evaluation for Exposure of Patient to a Z-Gradient Coil in MRI. M. Lu[1] and *S. Ueno*[2]*1. Institute of Biophysics and Biomedical Engineering, Faculty of Sciences, University of Lisbon, Lisbon, Portugal; 2. Department of Applied Quantum Physics,Graduate School of Engineering, Kyushu University, Fukuoka, Japan*

TUESDAY MORNING 8:30 LEARNING CENTER

Session CH
ADVANCES IN INSTRUMENTATION
Brian Maranville, Chair

8:30

CH-01. Experimental mapping of the spatial sensitivity of Hall crosses using pattered nanostructures. *M. Alexandrou*[1], M. Delalande[2], P.W. Nutter[1], E.W. Hill[1], F. Schedin[1], L. Abelmann[2] and T. Thomson[1]*1. School Of Computer Science, The University Of Manchester, Manchester, United Kingdom; 2. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

8:42

CH-02. Probing the Interdependance between Irreversible Magnetization Reversal Processes by First-Order Reversal Curves. *F. Béron*[1], K.R. Pirota[1] and M. Knobel[1] *1. Instituto de Fisíca Gleb Wataghin, Universidade Estadual de Campinas, Campinas, São Paulo, Brazil*

8:54

CH-03. Simple, high-sensitivity magnetostriction measurement using strain gages. *M.A. Willard*[1], H.M. Fonda[1] and M. Daniil[1,2] *1. U. S. Naval Research Laboratory, Washington, DC; 2. Physics Department, George Washington University, Washington, DC*

9:06

CH-04. Characterization of thermal magnetic properties of HD media with laser self-heating. *C. An*[1], K. Ye[1], Q. Xie[1] and B. Xu[1] *1. Data storage Institute, Agency for Science, Technology and Research, Singapore, Singapore*

9:18

CH-05. Determination of the average domain state in patterned magnetic thin films with off-specular neutron reflectometry. *B.B. Maranville*[1], K. Krycka[1], J. Borchers[1], C.A. Ross[2], C. Nam[2], A. Adeyeye[3], N. Wright[4] and C. Metting[1,4] *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 3. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 4. Materials Science and Engineering, University of Maryland, College Park, MD*

9:30

CH-06. Direction detectable static magnetic field imaging by frequency modulated magnetic force microscopy with an AC magnetic field driven soft magnetic tip. *H. Saito*[1], R. Ito[1], G. Egawa[1], Z. Li[1] and S. Yoshimura[1] *1. Center for Geo-environmental Science, Graduate School of Engineering and Resource Science, Akita University, Akita, Japan*

9:42

CH-07. Enhanced Resolution in Magnetic Force Microscropy using Tips with Perpendicular Magnetic Anisotropy. *S.N. Piramanayagam*[1], M. Ranjbar[1,2], E. Tan[1], R. Sbiaa[1] and T. Chong[1,2] *1. A*STAR (Agency for Science Technology and Research), Data Storage Institute, Singapore, Singapore; 2. ECE Department, National University of Singapore, Singapore, Singapore*

9:54

CH-08. A new concept for quantitative nanoscale imaging with magnetic contrast: Synchrotron x-ray enhanced scanning tunneling microscopy. *V. Rose*[1], T. Chien[1], M.L. Cummings[2,3], V. Madhavan[2,4], M. Bode[2] and J.W. Freeland[1] *1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 3. Mechanical Engineering & Materials Science Department, Rice University, Houston, TX; 4. Department of Physics, Boston College, Chestnut Hill, MD*

10:06

CH-09. Features of the Remagnetization Process of an Exchange-Biased Ferromagnet/Patterned Antiferromagnet Bilayer. Y.P. Kabanov[1], V.S. Gornakov[1], V.I. Nikitenko[1,2], W.E. Egelhoff[2] and *R.D. Shull*[2] *1. Institute of Solid State Physics, Russian Academy of Sciences, Chernogolovka, Russian Federation; 2. Magnetic Materials Group, National Institute of Standards & Technology, Gaithersburg, MD*

10:18

CH-10. Metalized carbon nanotubes (Fe-CNT) based gas sensor. *S. Ramaswamy*[1] and C. Gopalakrishnan[1] *1. Nanotechnology Research Center, SRM University, Chennai, Tamil Nadu, India*

10:30

CH-11. Single molecule actuation and detection based on a lab-on-a-chip magnetoresistive platform with magnetically cladded tapered current lines. *R.C. Chaves*[1,2], R. Ferreira[1,2] and P.P. Freitas[1,2] *1. INESC-MN/Institute for Nanosciences and Nanotechnologies, Lisboa, Portugal; 2. Physics Department, IST-UTL, Lisboa, Portugal*

10:42

CH-12. Magnetic pulse generation for high speed, magneto-optic switching. *S. Kemmet*[1], M. Mina[1] and R.J. Weber[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA*

10:54

CH-13. $CoFe_2O_4$-Fe_3O_4 magnetic nanocomposites as catalysts for pollution control application. D. Mishra[1], K.K. Senapati[2], C. Borgohain[2] and *P. Alagarsamy*[1] *1. Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India; 2. Central Instruments Facility, Indian Institute of Technology Guwahati, Guwahati, Assam, India*

11:06

CH-14. Magnetically Programmable Surface Acoustic Wave Radio Frequency Identification (RFID) Tags. M. Chin[1], B. Buford[1] and *P. Dhagat[1] 1. School of EECS, Oregon State University, Corvallis, OR*

11:18

CH-15. Robust Hysteresis Control of Magnetic Shape Memory (MSM) Actuated Motion. *M. Ruderman*[1] and T. Bertram[1] *1. RST, TU-Dortmund, Dortmund, Germany*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CP
HEUSLER ALLOYS AND MOLECULAR MAGNETS (POSTER SESSION)

Lapo Bogani, Chair

CP-01. Static and Dynamic Magnetic Properties of a Trinuclear Magnetic Molecular Cluster {Mn_3O}. *J. Park*[1], K. Son[1], S. Yoon[2], Z. Jang[1], B. Suh[2], K. Choi[3], H. Nojiri[4] and A.N. Ponomaryov[3] *1. Physics, Kookmin univ., Seoul, Korea, Republic of; 2. Physics, The Catholic University of Korea, Bucheon, Gyeonggi-do, Korea, Republic of; 3. Physics, Chungang Univ., Seoul, Korea, Republic of; 4. IMR, Dohoku Univ., Sendai, Japan*

CP-02. Magnetocaloric features of molecular nanomagnets: The role of entanglement in systems of coupled Cr7Ni rings. J.M. Florez[1], *C. Garcia*[2], A.S. Nunez[3] and P. Vargas[1] *1. Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Departamento de Física, Universidad Técnica Federico Santa María,, Valparaiso, Chile; 3. Departamento de Física, Facultad de Ciencias Físicas y Matemáticas, Santiago, Chile*

CP-03. Ground state of the magnetic molecule V6 determined by broadband electron spin resonance at low frequency. *M. Corti*[1], L. Cattaneo[1], Z. Jang[2] and F. Borsa[1] *1. Department of Physics A.Volta, CNISM Unit and INSTM Unit, University of Pavia, I-27100 Pavia, Italy; 2. Department of Physics, Kookmin University, Seoul 136-702, Korea, Republic of*

CP-04. Impurities effects on spin crossover molecular magnets analyzed in the framework of a new elastic model. *C. Enachescu*[1], L. Stoleriu[1] and A. Stancu[1] *1. Al. I. Cuza University Iasi, Iasi, Romania*

CP-05. Phase diagram of 2D spin crossover systems using the atom – phonon coupling model. M. Paez Espejo[1], A. Gindulescu[2,3], *J. Linares*[2], J. Nasser[4] and M. Dimian[3] *1. Département de Physique, Université de Versailles St. Quentin en Yvelines, Versailles, France; 2. GEMAC, Université de Versailles St. Quentin en Yvelines, Versailles, France; 3. Electrical Engineering and Computer Science, Stefan cel Mare University, Suceava, Romania; 4. LISV, Université de Versailles St. Quentin en Yvelines, Versailles, France*

CP-06. Spin transition in Gd3N@C80, detected by low temperature on-chip SQUID technique. *L. Chen*[1], E.E. Carpenter[2], S. Hellberg[3], W. Wernsdorfer[4] and I. Chiorescu[1] *1. Department of Physics, National High Magnetic Field Laboratory, Tallahassee, FL; 2. Department of Chemistry, Virginia Commonwealth University, Richmond, VA; 3. 3 Code 6390, Center for Computational Materials Science, Naval Research Laboratory, Washington, DC; 4. Institut Neel, associe a l'UJF, CNRS, Grenoble, France*

CP-07. Monte Carlo Simulation of Step Effect of Molecule-based Magnets. *W. Wang*[1], W. Jiang[1], H. Guan[1], D. Lv[1] and F. Zhang[1] *1. School of Science, Shenyang University of Technology, Shenyang, Liaoning province, China*

CP-08. Exchange Biased Heusler Alloy for Spin Injection. *H. Endo*[1], A. Hirohata[2,3], T. Nakayama[4], B. Kaeswurm[2] and K. O' Grady[2] *1. Nihon University, Koriyama, Fukushima, Japan; 2. The University of York, York, United Kingdom; 3. PRESTO, JST, Kawaguchi, Japan; 4. Nagaoka University of Technology, Nagaoka, Japan*

CP-09. Volume dependence of the exchange interaction and Curie temperature in Co_2XGa (X=Ti and Fe) : A first-principles study. *X. Liu*[1] and Z. Altounian[1] *1. physics department, McGill University, Montreal, QC, Canada*

CP-10. High-quality quaternary Heusler-compound $Co_2Mn_{1-x}Fe_xSi$ films grown by low-temperature molecular beam epitaxy. *S. Yamada*[1], K. Hamaya[1,2], T. Murakami[1], B. Varaprasad[3], Y.K. Takahashi[3,2], A. Rajanikanth[3], K. Hono[3] and M. Miyao[1,4] *1. Department of Electronics, Kyushu University, Fukuoka, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan; 3. National Institute for Materials Science, Tsukuba, Japan; 4. CREST, Japan Science and Technology Agency, Kawaguchi, Japan*

CP-11. Magneto-optical properties of full Heusler Co2MnX alloys where X = Ge, Sn and Pb: a first-principles investigation in LDA+U approach. *M. Kim*[1], T. Quang[1], H. Lim[1] and J. Lee[2] *1. Energy System Research, Ajou University, Suwon, Korea, Republic of; 2. Physics, Inha University, Incheon, Korea, Republic of*

CP-12. Half-metallic Fe2CrSi and non-magnetic Cu2CrAl for Heusler alloys CPP GMR: first principle and experimental study. *V. Ko*[1], J. Qiu[1], G. Han[1], C. Koong[1], P. Luo[1] and Y. Feng[2] *1. Data Storage Institute, A*STAR Data Storage Institute, Singapore, Singapore; 2. Department of Physics, National University of Singapore, Singapore, Singapore*

CP-13. Growth of Half-Metallic Co2FeAl Nanostructures. *A.W. Forbes*[1,2], B. Paterson[1,3], S. Kang[1,3], S. Luck[1,3], I.L. Pegg[1,3] and J. Philip[1,3] *1. The Vitreous State Laboratory, Washington D.C., DC; 2. College of Science, Virginia Polytechnic Institute and Sate University, Blacksburg, VA; 3. Physics, Catholic University of America, Washington D.C., DC*

CP-14. Magnetization Reversal Mechanisms in Heusler Alloy Spin Valves. *T.P. Ginley*[1], J.A. Borchers[2], B.J. Kirby[2], C.L. Dennis[3] and M.J. Carey[4] *1. Physics Department, Juniata College, Huntingdon, PA; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD; 3. Metallurgy Division, NIST, Gaithersburg, MD; 4. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

CP-15. Ni substitution effects in Co on the magnetic properties for Co_2MnAl alloys. *A. Okubo*[1], X. Xu[1], R.Y. Umetsu[2], K. Ishida[1], T. Kanomata[3] and R. Kainuma[1] *1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 3. Faculty of Engineering, Tohoku Gakuin University, Tagajo, Miyagi, Japan*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CQ
BULK MULTIFERROICS (POSTER SESSION)

Owen Vajk, Chair

CQ-01. Structural and magnetic studies on Zn doped multiferroic TbMnO3. *H.S. Nair*[1], N. Hariharan[1], S. Adiga[2], H.L. Bhat[1,3] and S. Elizabeth[1] *1. Department of Physics, Indian Institute of Science, Bangalore, India; 2. Institut fuer Festkoerperforschung, Forschungszentrum Juelich, Juelich, Germany; 3. Centre for Liquid Crystal Research, Bangalore, India*

CQ-02. Effect of Cr deficiency on physical properties of triangular-lattice antiferromagnets CuCr1-xO2 (0≦x≦0.10). *D. Ling*[1], C. Chiang[1], Y. Wang[1] and W. Pong[1] *1. Department of Physics, Tamkang University, Tamsui, Taiwan*

CQ-03. An Investigation of the Effect of Ca-doping on the Properties of $YbMnO_3$ Multiferroic Single Crystals. *S.E. Lofland*[1], N. Abramov[2], V. Chichkov[2] and Y.M. Mukovskii[2] *1. Rowan University, Glassboro, NJ; 2. MISIS, State Technological University, Moscow, Russian Federation*

CQ-04. Effects of Fe2+ substitution on magnetic and dielectric properties of CdCr2S4. L. Yan[1], C. Li[1], Y. Ren[2], F. Wang[1], F. Wang[1], T. Zou[1], Y. Liu[1], *Y. Sun*[1] and L. He[1] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Advanced Photon Source, Argonne National Laboratory, Argonne 60439, USA, Illinois, IL*

CQ-05. Magnetoelectric Effect in Neodymium-Doped BiFeO3 Multiferroic Ceramics. *C. Tu*[1,2], Y. Ding[1,3], T. Wang[1], P. Chen[2] and H. Chen[2] *1. Graduate Institute of Applied Science and Engineering, Fu Jen Catholic University, Taipei, Taiwan; 2. Physics, Fu Jen Catholic University, Taipei, Taiwan; 3. Teaching Center of Natural Sciences, Minghsin University of Science and Technology, Taipei, Taiwan*

CQ-06. Evidence of Interplay between Magnetic and Ferroelectric Orders in Multiferroic Pb(Fe1/2Nb1/2)O3 by Raman spectroscopy. *A.F. García-Flores*[1,3], D.A. Tenne[2], X.X. Xi[1] and S.W. Cheong[4] *1. Tthe Pennsylvania State University, State College, PA; 2. Boise State University, Boise, ID; 3. Universidade Estadual de Campinas, Campinas, SP, Brazil; 4. Rutgers University, Piscataway, NJ*

CQ-07. Structure, Magnetoelectric, and Dielectric Properties of $xBiFeO_3$-(1-x)$BaTiO_3$ Ceramics. *T. Wang*[1], Y. Ding[1,3], C. Tu[1,2], Y. Yao[1] and K. Wu[1,2] *1. Graduate Institute of Applied Science and Engineering, Fu Jen Catholic University, Taipei, Taiwan; 2. Physics, Fu Jen Catholic University, Taipei, Taiwan; 3. Teaching Center of Natural Sciences, Minghsin University of Science and Technology, Hsinchu, Taiwan*

CQ-08. Anisotropic magnetic property of $YMnO_3$ single crystals grown under different atmospheres. *D. Chen*[1] and X. Wang[1] *1. University of Wollongong, Wollongong, NSW, Australia*

CQ-09. Effect of A-site doping on magnetic characteristics of $BiFeO_3$ Ceramics. S. Layek[1], *A. Garg*[2], Z. Hossain[1] and H.C. Verma[1] *1. Physics, Indian Institute of Technology Kanpur, Kanpur, India; 2. Materials Science and Engineering, Indian Institute of Technology Kanpur, Kanpur, India*

CQ-10. Enhanced multiferroicity in $Gd_{1-x}Ho_xMnO_3$ G. Zhang[1], S. Luo[1], S. Dong[2], Y. Gao[3], *K. Wang*[1] and J. Liu[1] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics, Southeast University, Nanjing, China; 3. Department of Physics, Jiangsu Institute of Education, Nanjing, China*

CQ-11. Electric field tunable magnetic properties of lead-free $Na_{0.5}Bi_{0.5}TiO_3$ /$CoFe_2O_4$ multiferroic composites. *N.B. Simhachalam*[1], S. Min[1] and L. Malkinski[1] *1. Advanced Materials Research Institute, New Orleans, LA*

CQ-12. Magnetoelectric response in novel lead-free multiferroic NiFe2O4-Na0.5Bi0.5TiO3 composites. *J. Hsu*[1], S. Babu[1], Y. Chen[2] and J. Lin[2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Condense Matter Sciences, National Taiwan University, Taipei, Taiwan*

CQ-13. Room temperature magnetic and optical properties of Nd doped BiFeO3 nanoparticles. Y. Zhao[1], X. Zhang[1], J. Miao[1], X. Xu[1] and *Y. Jiang[1] 1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China*

CQ-14. Mössbauer spectroscopy study of FeV_2O_4 exhibiting successive structural transitions. *W. Kim*[1], H. Kim[2], B. Lee[3] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of; 2. Nanomedical Graduate Program, Yonsei University, Seoul, Korea, Republic of; 3. Department of Physics, Hankuk University of Foreign Studies, Yongin, Korea, Republic of*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CR
SUPERCONDUCTIVITY (POSTER SESSION)
Pengcheng Dai, Chair

CR-01. Effect of thickness on performance of YBCO-based step-edge Josephson junctions. *O. Shcherbakova*[1], A.V. Pan[1], S. Fedoseev[1], D. Attard[1], S.X. Dou[1], S.K. Lam[2], J. Du[2] and C.P. Foley[2] *1. ISEM, University of Wollongong, Wollongong, NSW, Australia; 2. CSIRO, Materials Science and Engineering, Lindfield, NSW, Australia*

CR-02. Effect of thermal strain on J_c and T_c in high density nano SiC doped MgB_2 *W. Li*[1], R. Zeng[1], L. Lu[1], R. Zheng[2] and S. Dou[1] *1. Institute fro superconducting and electronic materials, University of Wollongong, Wollongong, NSW, Australia; 2. Australian Centre for Microscopy and Microanalysis, University of Sydney, Sydney, NSW, Australia*

CR-03. Periodic resistance peaks in Bi-2212 stacks depends on incident magnetic fields. *S. Kim*[1] *1. Jeju National University, Jeju, Korea, Republic of*

CR-04. Suppression of superconductivity by interparticle interactions in Al nanoparticle assembly. *S. Liu*[1], C. Chen[1], C. Wu[1], C. Wang[1], C. Li[1], C. Hsu[1], S.K. Karna[1], C. Hung[1], D. Hsu[1], C. Lee[1] and W. Li[1] *1. Physics, National Central University, Jhongli City, Taoyuan County, Taiwan*

CR-05. Structural evolution study of $Ce_{1-x}Gd_xFeAsO_{0.84}F_{0.16}$ superconductors. J.L. Yang[1], *W.J. Ren*[1], D. Li[1] and Z.D. Zhang[1] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*

CR-06. Magneto- resistance, critical current density and magnetic flux pinning mechanism in nickel doped BaFe2As2 single crystals. *M. Shahbazi*[1], X. Wang[1], Z. Lin[2], K. Choi[3] and S. Dou[1] *1. Institute for Superconducting and Electronic Materials, Wollongong, NSW, Australia; 2. Engineering and Information Technology, Sydney, NSW, Australia; 3. Department of Physics, Seoul, Korea, Republic of*

CR-07. Upper critical field, flux pinning mechanism and thermally activated flux flow in LaO1-xFxFeAs compounds. *M. Shahbazi*[1], X. Wang[1], C. Shekhar[2], O. Srivastava[2] and S. Dou[1] *1. Institute for Superconducting and Electronic Materials, Wollongong, NSW, Australia; 2. School of Physical Sciences, New Delhi, India*

CR-08. Hall Effect and Heat Capacity Studies in Superconducting Single Crystalline $SrPd_2Ge_2$ *N. Sung*[1], J. Rhyee[3] and B.K. Cho[1,2] *1. Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju, Korea, Republic of; 2. Nanobio Materials and Electronics, Gwangju Institute of Science and Technology, Gwangju, Korea, Republic of; 3. Materials Research Laboratory, Samsung Advanced Institute of Technology, Yongin, Korea, Republic of*

CR-09. Superconducting properties and two-gap feature in single crystals $Li_{1-\delta}FeAs$. *Y. Song*[1], J. Ghim[1], K. Lee[2], M. Jung[2] and Y. Kwon[1] *1. Department of Physics, Sungkyunkwan University, Suwon, Korea, Republic of; 2. Department of Physics, Sogang University, Seoul, Korea, Republic of*

CR-10. Transport and magnetic properties and the phase diagram of CaFeAsF system: A comparison between Ni and Co doped CaFeAsF. *C. Zhang*[1], S. Tan[2] and Y. Zhang[2] *1. High Magnetic Field Laboratory, Chinese Academy of Sciences, Hefei, Anhui, China; 2. High Magnetic Field Laboratory, University of Science and Technology of China, Hefei, Anhui, China*

CR-11. Anomalous heat capacity and X-ray photo electron spectroscopy of Superconducting FeSe1-xTex. *V.S. Awana*[1], A. Pal[1,2], G. Gupta[1], G.S. Okram[3] and H. Kishan[1] *1. Superconductivity and Cryogenics, National Physical Laboratory, New Delhi, India; 2. Department of Physics, Jamia Millia Islamia, New Delhi, New Delhi, India; 3. UGC-DAE Consortium for Scientific Research, Indore, India*

CR-12. Substitution Effect on Magnetism and Superconductivity in MxFe1-xTe1-ySey (M = Cr, Mn, Co, Ni, Cu, Zn) Single Crystals. *Z. Zhang*[1], Z. Yang[2], L. Li[1], C. Zhang[3], L. Pi[1], S. Tan[1,3] and Y. Zhang[1,3] *1. High Magnetic Field Laboratory, University of Science and Technology of China, Hefei, China; 2. Key Laboratory of Materials Physics, Institute of Solid State Physics, Hefei, China; 3. High Magnetic Field Laboratory, Chinese Academy of Sciences, Hefei, China*

CR-13. Surface transformation and superconductivity of stressed FeSe0.5Te0.5 thin films. *S. Huang*[1] and C. Chien[1] *1. Physics & Astronomy, The Johns Hopkins Univeristy, Baltimore, MD*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CS
RARE-EARTH HARD MAGNETIC MATERIALS (POSTER SESSION)
Zhidong Zhang, Chair

CS-01. Magnetization reversal mechanism of a sintered Nd-Fe-B magnet with Dy segregation. *H. Suzuki*[1], Y. Satsu[1], T. Kohashi[2], K. Motai[2] and M. Komuro[1] *1. Advanced research laboratory, Hitachi, Ltd., Hitachi, Ibaraki, Japan; 2. Central research laboratory, Hitachi, Ltd., Hatoyama, Saitama, Japan*

CS-02. Magnetic Domain Observation of Nd-Fe-B Magnets with Submicron-Sized Grains by High-Resolution Kerr Microscopy. *M. Takezawa*[1], N. Tani[1], Y. Nagashima[1], Y. Morimoto[1], J. Yamasaki[1], N. Nozawa[2], T. Nishiuchi[2] and S. Hirosawa[2] *1. Dept. of Appl. Sci. for Integ. Syst. Engin., Kyushu Institute of Technology, Kitakyushu, Japan; 2. Magnetic Materials Research Laboratory, NEOMAX Company, Hitachi Metals, Ltd., Osaka, Japan*

CS-03. Indirect and long-range exchange coupling in hard/soft-magnetic multilayer films with non-magnetic spacer layers. W. Cui[1], W. Liu[1], F. Yang[1], *D. Li*[1], W. Gong[1], X. Liu[1], X. Lv[1], S. Guo[1] and Z. Zhang[1] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research and International Center for Materials Physics, Chinese Academy of Sciences, Shenyang, Liaoning, China*

CS-04. Pr nanoparticles doped sintered Nd-Fe-B permanent magnet with enhanced coercivity. H. Sun[1], W. Liu[1], X. Zhang[1], *M. Yue*[1], D. Zhang[1] and J. Zhang[1] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China*

CS-05. Theoretical Analysis of Magnetic properties of $R_2Fe_{14}B$. *I. Kitagawa*[1] and Y. Asari[1] *1. Advanced Research Laboratory, Hitachi, Hatoyama, Saitama, Japan*

CS-06. Magnetic properties and thermal stability of Mn-Bi/Nd-Fe-B hybrid bonded magnets. S. Cao[1], *M. Yue*[1], Y. Yang[1], D. Zhang[1], W. Liu[1] and J. Zhang[1] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China*

CS-07. Intergranular exchange interaction in nano-crystalline Nd13.34Fe74.74-xCo5.5Ga0.42B6Nbx ribbons prepared from melt spun. *P. Yi*[1], D. Lee[1] and A. Yan[1] *1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology; Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology & Engineering, Chinese Academy of Science, Ningbo, Zhejiang, China*

CS-08. Plastic deformation modeling of backward extrusion ring magnets. *H. Wang*[1], M. Lin[2], Z. Guo[1], M. Zhu[1], A. Li[1] and W. Li[1] *1. Central Iron & Steel Research Institute, Beijing, China; 2. Ningbo Institute of Material Technology & Engineering Chinese Academy of Science, Ningbo, China*

CS-09. Magnetic properties and microstructure of bulk Nd-Fe-B magnets solidified in magnetic field. C. Wang[1,2], Y.S. Lai[1], *C.C. Hsieh*[1] and W.C. Chang[1] *1. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. College of Materials Science and Engineering, Fuzhou University, Fuzhou, Fujian, China*

CS-10. Fabrication and characterization of parylene-coated Nd–Fe–B powder micromagnets. *T. Yang*[1], N. Wang[1,2] and D.P. Arnold[1] *1. Electrical and Computer Engineering, University of Florida, Gainesville, FL; 2. Materials Science and Engineering, University of Florida, Gainesville, FL*

CS-11. Grain alignment and microstructure of the rapidly solidified strips of $RE_{13.45}(Fe,M)_{80.47}B_{6.08}$ (RE=Pr, Nd, Dy, Tb and M=Co, Al, Cu, Nb, Zr, Ga). *S. Guo*[1], R. Chen[1], B. Zheng[2], G. Yan[1], D. Lee[1] and A. Yan[1] *1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology; Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Materials Technology and Engineering, Chiense Academy of Sciences, Ningbo, Zhejiang, China; 2. Ningbo Yunsheng High-Tech Magnetics CO., LTD, Ningbo, Zhejiang, China*

CS-12. Microstructure and magnetic properties of sintered Nd-Fe-B magnets with high hydrogen content. *S. Guo*[1], Q. Zhou[1], R. Chen[1], D. Lee[1] and A. Yan[1] *1. Zhejiang province Key Laboratory of Magnetic Materials and Application Technology; Key Laboratory of Magnetic materials and Devices, Ningbo Institute of Materials Technology & Engineering, Chiense Academy of Sciences, Ningbo, Zhejiang, China*

CS-13. Effect of dual-alloy method on coercive force temperature coefficient for sintered NdFeB permanent magnets. *B. Chen*[1], X. Liu[1], M. Ding[1] and A. Yan[1] *1. Division of Magnetic Materials and Advanced Devices, Ningbo Institute of Material Technology and Engineering, Ningbo, Zhejiang, China*

CS-14. Coercivity enhancement of Nd-Fe-B flakes with Dy-coating by their crystallization. H. Fukunaga[1], *Y. Sugimoto*[1], T. Yanai[1] and M. Nakano[1] *1. Electrical and Electronic Engineering, Nagasaki University, Nagasaki, Japan*

CS-15. Fractal dimension anisotropy for the fractured surface of Nd-Fe-B permanent magnets. *M. Zhu*[1], W. Li[1], Y. Fang[1], D. Zhou[1], W. Zhang[1], R. Zhao[1], J. Wang[1], A. Li[1], H. Feng[1] and Z. Guo[1] *1. Division of Functional Materials,Central Iron & Steel Research Institute, Beijing, China*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CT
MULTI-LAYERED FILMS AND SUPERLATTICES I (POSTER SESSION)

Randy Dumas, Chair

CT-01. Revealing the Magnetization Reversal of ECC Media by XMCD. *H. Hou*[1], J. Liao[1], C. Lai[1], H. Lin[2] and F. Chang[2]*1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

CT-02. Magnetic behavior of CoPt-AlN granular structure laminated with AlN layers. *Y. Yu*[1], J. Shi[1] and Y. Nakamura[1]*1. Department of Metallurgy and Ceramics Science, Tokyo Institute of Technology, Tokyo, Japan*

CT-03. Influence of Film Orientation and Layer Thickness on the Microstructure and the Magnetic Properties of Co/Pd Epitaxial Multilayer Films. *K. Tobari*[1], M. Ohtake[1], K. Nagano[1], F. Kirino[2] and M. Futamoto[1]*1. 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*

CT-04. Perpendicular Anisotropy and Exchange Bias in [Pd/Co] Nanoscale Antidot Arrays. *D. Tripathy*[1] and A. Adeyeye[1]*1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

CT-05. Fabrication and Magnetic Properties of Fe/GaAs(100)/Fe Vertical Spin-Valves. J. Wong[1,2], W. Zhang[1], W. Jing[3], I. Will[1], *Y. Xu*[1], I. Farrer[4] and D. Ritchie[4]*1. Spintronics and Nanodevice Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands; 3. Department of Physics, University of York, York, United Kingdom; 4. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

CT-06. Magnetic anisotropy of epitaxially grown Fe/Mn/Fe trilayers. M.S. Pessoa[1], *F. Pelegrini*[1], B. Segatto[2] and E. Passamani[2]*1. Universidade Federal de Goiás, Goiânia, Brazil; 2. Universidade Federal do Espírito Santo, Vitória, Brazil*

CT-07. Magnetic and transport properties of Pr0.7Sr0.3MnO3/ La0.5Ca0.5MnO3/Pr0.7Sr0.3MnO3 trilayers. H. Wang[1], J. Ge[2], W. Tan[1], H. Wu[1], J. Du[2], *X. Wu*[2], Q. Jia[3], J. Gao[4] and G. Hu[5]*1. Department of Applied Physics, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 2. Department of Physics, Nanjing University, Nanjing, China; 3. Institute of High Energy Physics, Beijing, China; 4. Department of Physics, The University of Hong Kong, Hong Kong, China; 5. National Laboratory for Infrared Physics, Shanghai Institute of Technical Physics, Shang Hai, China*

CT-08. Evolution of balanced synthetic anti-ferromagnet (SAF) phase diagram with increasing exchange coupling in an angular space. *H. Fujiwara*[1]*1. Department of Physics and MINT, University of Alabama, Tuscaloosda, AL*

CT-09. Inverse giant magnetoresistance in (CoFe/Tb) multilayers with perpendicular magnetic anisotropy perpendicular magnetic anisotropy using CoFe/Tb bilayers. *Y. Son*[1], S. Lee[1], K. Lee[1] and B. Cho[1]*1. Graduate Program of Photonics and Applied Physics and School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju, Korea, Republic of*

CT-10. Oscillatory giant magnetoresistance depending on Tb thickness in a Tb/CoFe/Cu/CoFe pseudo spin-valve. *M. Park*[1], K. Lee[1], S. Yoon[1,2] and B. Cho[1,2]*1. Research center for Oceanographic Nano-Photonics sensor, Gwangju Institute of Science and Technology, Gwangju, Korea, Republic of; 2. School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju, Korea, Republic of*

CT-11. The Magnetization Reversal and Low Field Compensation in a Fe3O4/Mn3O4/Fe3O4 Trilayer. S.C. Lin[1], *K. Kuo*[1] and G. Chern[1]*1. SPIN Research Center and Physics Department, National Chung Cheng University, Chia-Yi, Taiwan*

CT-12. Anomalous enhancement in magnetization of $BiFeO_3$/ $CoFe_2O_4$ heterostructured thin films deposited on (001), (101) and (111) oriented SrTiO3 substrates. *M.K. Singh*[1], S. Dussan[2] and R.S. Katiyar[2]*1. Centre of Material Sciences, University of Allahabad, Allahabad, India; 2. Department of Physics and Institute of Functional Nano Materials, University of Puerto Rico, San Juan*

CT-13. Experimental Measurement of the Critical Curve of Coupled Magnetic Systems. A. Diaconu[1,2], S. Adhikari[1], A. van Iterson[1], D. Cimpoesu[3], A. Stancu[3], X. Zhu[4], G. Ju[4] and *L. Spinu*[1,2]*1. AMRI, University of New Orleans, New Orleans, LA; 2. Physics, University of New Orleans, New Orleans, LA; 3. Faculty of Physics, Iasi University, Iasi, Romania; 4. Seagate Technology, Fremont, CA*

CT-14. A method to study the magnetic coupling at the Fe/Gd interface using a doble spin valve. *M.A. Romera*[1], M. Muñoz[2], J. Michalik[3], J.M. De Teresa[4] and J.L. Prieto[1] *1. ISOM, Universidad Politecnica de Madrid, Madrid, Spain; 2. Instituto de Física Aplicada, Centro Superior de Investigaciones Científicas, Madrid, Spain; 3. Instituto de Nanociencia de Aragón, Universidad de Zaragoza, Zaragoza, Spain; 4. Instituto de Ciencia de Materiales de Aragón, CSIC-Universidad de Zaragoza, Zaragoza, Spain*

CT-15. Magnetization reversal behavior in FePt/FeRh exchange-spring bilayer films. *W. Lu*[1], B. Yan[1] and T. Suzuki[2] *1. School of Materials Science and Engineering, Tongji University, Shanghai, China; 2. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CU
SOFT MAGNETIC MATERIALS AND APPLICATIONS (POSTER SESSION)

Adam Wise, Chair

CU-01. Loss separation in soft magnetic composites. *d. Olivier*[1], M. LoBue[1], C. Ragusa[2], C. Appino[3], F. Fiorillo[3], F. Mazaleyrat[1], H. Ben Ahmed[1] and M. Gabsi[1] *1. satie, ens cachan, Cachan, France; 2. DELET, Politecnico di Torino, Torino, Italy; 3. INRIM, Torino, Italy*

CU-02. Microwave response of FeCo/carbon nanotubes composite. Z. Han[1], *D. Li*[1], X.W. Wang[1] and Z.D. Zhang[1] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, and International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*

CU-03. Magnetic properties of Fe/MgO multilayers sputtered onto GaAs(100) substrates. *K. Noda*[1], M. Higuchi[1], T. Tanaka[1] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan*

CU-04. Local structure and magnetic properties of $Fe_{50}Mn_{50}$ metastable alloys. K. Tarigan[1], D. Yang[1], T. Phan[1], *S. Oh*[1] and S. Yu[1] *1. Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of*

CU-05. Microwave Properties of High-Aspect-Ratio Carbonyl Iron/Epoxy Absorbers. R. Yang[1] and *W. Liang*[2] *1. Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Department of Aeronautics and Astronautics, National Cheng Kung University, Tainan, Taiwan*

CU-06. Synthesis of air stable FeCo nanoparticles. *V. Tzitzios*[1,2], G. Basina[1,2], D. Niarchos[2], W. Li[1] and G. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. IMS, N.C.S.R. "Demokritos, Athens, Greece*

CU-07. Development of strong {001}<210> texture and magnetic properties in Fe–6.5wt.%Si thin sheet produced by rolling method. *J. Liu*[1], Y. Sha[1], F. Zhang[1], Z. Liu[1] and L. Zuo[1] *1. Northeastern University, Shenyang, China*

CU-08. Evolution of magnetic properties and crystallographic texture in electrical steel with large plastic deformation. *M. Fukuhara*[1], T. Yonamine[1], F.G. Landgraf[2] and F.P. Missell[3] *1. Divisão de Metrologia de Materiais, Inmetro, Duque de Caxias, Rio de Janeiro, Brazil; 2. Diretoria de Inovação, IPT, São Paulo, São Paulo, Brazil; 3. Centro de Ciências Exatas e Tecnologia, UCS, Caxias do Sul, Rio Grande do Sul, Brazil*

CU-09. Behavior of Iron Loss of Non-oriented Electrical Steel Sheet under PWM Inverter Excitation. *N. Takahashi*[1], D. Miyagi[1], D. Otome[1], Y. Ozeki[1], M. Nakano[1], K. Akatsu[2], A. Shiozaki[3] and M. Kawabe[3] *1. Dert.Electrical & Electronic Eng., Okayama University, Okayama, Japan; 2. Sibaura Institute of Technology, Tokyo, Japan; 3. Sinfonia Technology Co., Ltd., Ise, Japan*

CU-10. Novel Measurement Method of DC Magnetic Properties of Specimen Having Wider Freedom of Shape. *N. Takahashi*[1], D. Miyagi[1], F. Inoue[1] and M. Nakano[1] *1. Dert.Electrical & Electronic Eng., Okayama University, Okayama, Japan*

CU-11. Reconfigurable Composite Right/Left-Handed Magnetic-Metamaterial Waveguide at Sub-Wavelength Scale. *F. Meng*[1,2], F. Zhang[1], J. Fu[2], Q. Wu[2] and J. Lee[1] *1. Department of Wireless Communications Engineering, KwangWoon University, Seoul, Korea, Republic of; 2. Department of Microwave Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

CU-12. Magnetically tuned High Frequency Phase Shifter using Fe as active element. B.K. Kuanr[1], *V. Venugopal*[1], Y. Khivintsev[1], R.E. Camley[1] and Z. Celinski[1] *1. Center for Magnetism and Magnetic Nanostructures, Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO*

CU-13. A dual-mode broadband transmission in a subwavelength waveguide by using magnetic metamaterials. Q. Tang[1], F. Meng[1], K. Zhang[1], J. Fu[1] and *Q. Wu*[1] *1. School of Electronic and Information Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

CU-14. Effective Electromagnetic parameters of Left-Handed Coplanar waveguide transmission Lines. *J. Fu*[1], Q. Wu[1] and G. Yang[1] *1. harbin institute of technology, Harbin, China*

CU-15. Tunable Microwave Multiband Filters Based on a Waveguide with Antiferromagnetic and Dielectric Sandwiches. J. Zhang[1], Q. Hu[1], R. Fan[1], R. Zhang[1] and *R. Peng*[1] *1. National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, China*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CV
ORDERED ALLOYS I (POSTER SESSION)
Tim Klemmer, Chair

CV-01. Preparation and magnetic properties of hard-magnetic (CoPt)/soft-magnetic (FeCo) composite nanocable array. D. Zhou[1], M. Zhu[1], M. Zhou[1], *Z. Guo*[1] and W. Li[1] *1. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China*

CV-02. Comparative study of full-Heusler Co_2FeSi and Co_2FeGe alloy thin films formed by rapid thermal annealing. *Y. Takamura*[1], T. Sakurai[1], R. Nakane[2], Y. Shuto[1] 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*

CV-03. Exchange interaction in $L1_0$-ordered FePt and CoPt from first-principles. *X. Liu*[1] and Z. Altounian[1] *1. physics department, McGill University, Montreal, QC, Canada*

CV-04. Effects of Exchange Constants on Micromagnetic Modeling of FePt and FeRh Nanodots. *Z. Jia*[1] and D. Misra[1] *1. University of Louisiana -Lafayette, Lafayette, LA*

CV-05. Spin correlations and electron transport in MnBi:Au films. *P. Kharel*[1], R. Skomski[1] and D.J. Sellmyer[1] *1. Nebraska Center for Materials and Nanosciences and Department of Physics and Astronomy, University of Nebraska, Lincoln, NE*

CV-06. Annealing effects on the metamagnetic phase transition behavior of Fe-Rh-Pd thin films. H. Sato[1], *H. Lee*[2], P. LeClair[1,2], G.J. Mankey[1,2] and O. Mryasov[1,2] *1. MINT center, University of Alabama, Tuscaloosa, AL; 2. Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL*

CV-07. Acceleration of $L2_1$-ordering transformation of a new Fe_2(Mn,Cr)Si Heusler alloy film by VHF plasma irradiation process during RF sputter deposition. *S. Yoshimura*[1], H. Kobayashi[1], G. Egawa[1] and H. Saito[1] *1. Center for Geo-environmental Science, Graduate School of Engineering & Resource Science, Akita University, Akita, Japan*

CV-08. Study on ion irradiation induced ferromagnetism in FeRh intermetallic compound by means of magnetic Compton scattering. *S. Kosugi*[1], K. Aikoh[1], Y. Tahara[1], N. Ishikawa[2], M. Itou[3], Y. Sakurai[3], F. Hori[1], T. Matsui[1] and A. Iwase[1] *1. Department of Materials Science, Osaka Prefecture University, Sakai Osaka, Japan; 2. Japan Atomic Energy Agency, Tokai Naka-gun, Japan; 3. Japan Synchrotron Radiation Research Institute, Sayo Hyogo, Japan*

CV-09. Metastable structure of tetragonal FePt induced by rapid thermal process. *J. Mei*[1,3], F. Yuan[2], W. Liao[4], Y. Yao[5], H. Lin[1] and H. Lee[4] *1. Materials Engineerig, Tatung University, Taipei, Taiwan; 2. Physics, National Taiwan University, Taipei, Taiwan; 3. Electrical Engineering, Minghsin University of Science and Technology, Hsinchu, Taiwan; 4. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 5. Applied Science and Engineering, Fu Jen Catholic University, Taipei, Taiwan*

CV-10. 2nm-thick FePt films with (001) preferential orientation on MgO underlayer. *M. Tanaka*[1], Y. Ogata[1] and S. Nakagawa[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

CV-11. Perpendicular magnetic anisotropy and spin reorientation transition in $L1_0$ FePt films. *J. Ahn*[1], N. Lee[1], T. Kim[1], J. Lee[2], A. Michel[3] and D. Eyidi[3] *1. Physics, Ewha Womans University, Seoul, Korea, Republic of; 2. Memory Division, Samsung electronics, Yongin, Korea, Republic of; 3. PHYMAT, Université de Poitiers, Futuroscope-Chasseneuil, France*

CV-12. Microstructure and magnetic properties in granular-type FePt-MgO nanocomposite thin films. *W. Lu*[1], Z. Li[2], J. Fan[1] and B. Yan[1] *1. School of Materials Science and Engineering, Tongji University, Shanghai, China; 2. Faculty of Engineering & Resource Science, Akita University, Akita, Akita, Japan*

CV-13. Magnetic anisotropies of Fe-Pt intermetallic phase on the Pt (100) surface: an ab initio study. *E. Lee*[1], H. Choi[1] and Y. Chung[1] *1. MSE, Hanyang University, Seoul, Korea, Republic of*

CV-14. Granular FePt thin films with (001) preferential orientation fabricated from Fe/Pt/*X* trilayers. *Y. Ogata*[1] and S. Nakagawa[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

CV-15. Effects of Rh elements addition on the microstructures and magnetic properties of ferromagnetic shape memory Fe-Pd alloys. *C. Lin*[1] and J. Yang[1] *1. Department of Mechanical and Automatic Engineering, National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan*

TUESDAY MORNING 10:00

GRAND HALL EAST

Session CW
MAGNETIZATION DYNAMICS V (POSTER SESSION)

Gianluca Gubbiotti, Chair

CW-01. Optimum design consideration for interferometric spin wave logic operation. *Y. Nakashima*[1], K. Nagai[1], T. Tanaka[1] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan*

CW-02. Ferromagnetic resonance of a single magnetic nanowire measured with an on-chip microwave interferometer. *H. Zhang*[1], Y. Yang[1,2], R. Divan[3] and P. Wang[1] *1. ECE Department, Clemson University, Clemson, SC; 2. School of Electronics and Information Engineering, Sichuan University, Chengdu, Sichuan, China; 3. CNM, Argonne National Lab, Chicago, IL*

CW-03. Broad-band FMR characterization of lossy ferromagnetic metallic elements. V.V. Zagorodnii[1,2], A.J. Hutchison[1], S. Hansen[3], J. Chen[3], *Z. Celinski*[1] and H.H. Gatzen[3] *1. Center for Magnetism and Magnetic Nanostructures, UCCS, Colorado Springs, CO; 2. Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; 3. Institute for Microtechnology, Leibniz Universitaet Hannover, Garbsen, Germany*

CW-04. Magnetic properties of doped Permalloy for current induced domain wall motion. *R.L. Thomas*[1], J.C. Read[2], R.D. McMichael[3] and V. Misra[1] *1. Electrical and Computer Engineering, North Carolina State University, Raleigh, NC; 2. Metallurgy Division, NIST, Gaithersburg, MD; 3. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD*

CW-05. Observation of Site Specific Precession of Cation Moments in Mn-Ferrites. *P. Warnicke*[1], A.F. Yang[2], Z. Chen[2], V.G. Harris[2], S. Zohar[3], W.E. Bailey[3] and D.A. Arena[1] *1. NSLS, Brookhaven National Lab, Upton, NY; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA; 3. Materials Science Program, Department of Applied Physics,, Columbia University, New York, NY*

CW-06. Study of Structure and Magnetic Properties of Template Grown Two Dimensional Arrays of Cobalt Nanowires. *B. Das*[1], A. Bakshi[2], P. Sen[3], A. Trunova[4], C. Hassel[4], M. Farle[4] and K. Mandal[1] *1. Material Science, S. N. Bose National Centre for Basic Sciences, Kolkata, India; 2. 30 Lotus Park, Kolkata, India; 3. Variable Energy Cyclotron Centre, Kolkata, India; 4. Universität Duisburg-Essen, Duisburg, Germany*

CW-07. Effect of Antidot Diameter on the Dynamic Response of Nanoscale Permalloy Antidot Arrays. *J. Ding*[1], D. Tripathy[1] and A. Adeyeye[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

CW-08. Damping Constant Influence on Edge Mode dynamics in FexCo1-x Nano-Sized Magnet Dot Arrays for STO of MAMR Writing Head. *S. Noh*[1], D. Monma[1], K. Miyake[1], M. Doi[1] and M. Sahashi[1] *1. Electronic Engineering, TOHOKU University, Sendai, Japan*

CW-09. Ferromagnetic relaxation in Ho-doped single crystal Fe thin films. *S.S. Kalarickal*[1,2], A. Polemi[1], M. Betz[1], P. Krivosik[2], K.S. Buchanan[1] and T. Ambrose[3] *1. Department of Physics, Colorado State University, Fort Collins, CO, CO; 2. Department of Physics and Energy Science, University of Colorado at Colorado Springs, Colorado Springs, CO; 3. Seagate Research, Pittsburg, PA*

CW-10. Influence of Magnetostriction on Damping Constant of Ni_xFe_{1-x} Films with Various Ni Concentrations (x). *Y. Endo*[1], Y. Mitsuzuka[1], Y. Shimada[1] and M. Yamaguchi[1] *1. Department of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

CW-11. Extrinsic Damping Contribution in Soft Magnetic Thin Films Detected by Permeability Spectra. *F. Xu*[1], S. Li[2,3] and C. Ong[4] *1. Department of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 2. Department of Physics, Fujian Normal Unviersity, Fuzhou, Fujian, China; 3. Electrical and Computer Engineering Department, Northeastern University, Boston, MA; 4. Physics Department, National University of Singapore, Singapore, Singapore*

CW-12. Ferromagnetic resonance study of damping in permalloy thin films sandwiched by insulator. *S. Min*[1], L. Malkinski[1] and K. Kim[2] *1. Advanced Materials Research Insitute(AMRI), The University of New Orleans, New Orleans, LA; 2. Department of Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of*

CW-13. Resonance frequency in ferromagnetic superlattices with a period of multilayer. *Q. Rongke*[1], H. Andong[1] and Z. Zhidong[2] *1. Physics, Shenyang University of Technology, Chian, Shenyang, China; 2. Shenyang National Laboratory for Materials Science, Institute of Metal Research and International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*

CW-14. Ultrafast laser-induced magnetization precession of FePt/CoFe exchange-coupled composite films. B. Cui[1], *Z. Zhang*[1], B. Ma[1] and Q. Jin[1] *1. Department of Optical Science and Engineering, Fudan University, Shanghai, China*

CW-15. Ferromagnetic resonance and damping propertis of CoFeB free layer. *X. Liu*[1], J. Lau[1], W. Zhang[2], M. Carter[3] and G. Xiao[2,3] *1. NIST, Gaithersburg, MD; 2. Brown University, Providence, RI; 3. Micro Magnetics Inc, Fall River, MA*

CW-16. Interface Dependence of Damping in Picosecond Magnetization Dynamics of Single-Crystal Fe3O4 Thin Films. *X. Zou*[1], J. Wu[1], P.J. Wong[2], C. Bunce[1], Y.B. Xu[2], Y. Zhai[3], R. Zhang[4] and R. Chantrell[1] *1. Physics, University of York, York, United Kingdom; 2. Electronics, University of York, York, United Kingdom; 3. Physics, Southern East University, Nanjing, China; 4. Physics, Nanjing University, Nanjing, China*

TUESDAY AFTERNOON 1:30 — CENTENNIAL I

Session DA
SYMPOSIUM ON MAGNETIC NANOMECHANICAL SYSTEMS
John Moreland, Chair

1:30

DA-01. Magneto-Mechanical Oscillations of High-Spin Molecules. ***(Invited)*** *E.M. Chudnovsky*[1] *1. Physics, CUNY Lehman College, Bronx, NY*

2:06

DA-02. Nanotorsional Resonator Torque Magnetometry. ***(Invited)*** *M.R. Freeman*[1,2], J.P. Davis[1], D. Vick[2], J.A. Burgess[1], A.E. Fraser[1], J. Losby[1], P. Li[2] and W.K. Hiebert[2] *1. Physics, University of Alberta, Edmonton, AB, Canada; 2. National Institute for Nanotechnology, Edmonton, AB, Canada*

2:42

DA-03. STUDY OF SPIN DYNAMICS USING NANOMECHANICS. ***(Invited)*** *P. Mohanty*[1] *1. Boston University, Boston, MA*

3:18

DA-04. Magneto-mechanical actuation triggers cancer cells programmed death. ***(Invited)*** D. Kim[1], E.A. Rozhkova[2], I.V. Ulasov[3], S.D. Bader[1,2], T. Rajh[2], M.S. Lesniak[3] and *V. Novosad*[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 3. The Brain Tumor Center, University of Chicago Pritzker School of Medicine, Chicago, IL*

3:54

DA-05. Magnetomechanical effects in magnetic clusters and molecules. ***(Invited)*** *A. Kovalev*[1], G. Bauer[2] and Y. Tserkovnyak[1] *1. Physics and Astronomy, UCLA, Los Angeles, CA; 2. Kavli Institute of NanoScience, Delft University of Technology, Delft, Netherlands*

TUESDAY AFTERNOON 1:30 — CENTENNIAL II

Session DB
MULTIFERROICS: $BiFeO_3$ AND THIN FILMS
Hans Christen, Chair

1:30

DB-01. Electric-field effects in single-crystal multiferroic $BiFeO_3$ ***(Invited)*** *V. Kiryukhin*[1], S. Lee[1], T. Choi[1], W. Ratcliff[2], R. Erwin[2] and S.W. Cheong[1] *1. Physics and Astronomy, Rutgers University, Piscataway, NJ; 2. NIST, Gaithersburg, MD*

2:06

DB-02. Multiferroic Composites Probed with Soft X-ray Techniques. *R.V. Chopdekar*[1], V.K. Malik[2], A. Fraile Rodríguez[1], A. Scholl[3], Y. Suzuki[3,4], F. Nolting[1], C. Bernhard[2] and L.J. Heyderman[1] *1. Paul Scherrer Institute, Villigen PSI, Switzerland; 2. Department of Physics, University of Fribourg, Fribourg, Switzerland; 3. Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Department of Materials Science and Engineering, University of California, Berkeley, CA*

2:18

DB-03. Four resistance states in $La_{0.7}Sr_{0.3}MnO_3$/(Ba, Sr)TiO_3/$La_{0.7}Sr_{0.3}MnO_3$ multiferroic tunnel junction at room temperature. Y. Yin[1], M. Raju[1], W. Hu[1], X. Li[2] and *Q. Li*[1] *1. Department of physics, Pennsylvania State University, University Park, PA; 2. Hefei National Laboratory for Physical Sciences at Microscale, Department of Physics, University of Science and Technology of China, Hefei, Anhui, China*

2:30

DB-04. Multi-band Tunable Magnetoresistive Devices Based on Multiferroic Heterostructures. *M. Liu*[1], J. Lou[1], M. Li[1], O. Obi[1], X. Xing[1] and N.X. Sun[1] *1. Electrical and Computer engineering, Northeastern University, Bosotn, MA*

2:42

DB-05. Magnetic and structural properties of relaxed and highly-strained (nearly tetragonal) $BiFeO_3$ and $Bi_{1-x}Ba_xFeO_{3-y}$. ***(Invited)*** C. Bennett[1], H. Kim[1], M. Varela[1], M.D. Biegalski[1], D. Kim[2,1], D.P. Norton[3] and *H.M. Christen*[1] *1. Oak Ridge National Laboratory, Oak Ridge, TN; 2. Tulane University, New Orleans, LA; 3. University of Florida, Gainsville, FL*

3:18

DB-06. Nanoscale switching characteristics of nearly tetragonal BiFeO3 thin films. *D. Mazumdar*[1], V. Shelke[1], M. Iliev[2], S. Jesse[3], A. Kumar[3], S.V. Kalinin[3], A.P. Baddorf[3] and A. Gupta[1] *1. MINT center, MINT Center University of Alabama, Tuscaloosa, AL; 2. Texas Center for Superconductivity, University of Houston, Houston, TX; 3. Center for Nanophase Material Sciences, Oak Ridge National Laboratory, Oak Ridge, TN*

3:30

DB-07. Monoclinic structure and functional properties of Ba-substituted, nearly-tetragonal $BiFeO_3$ films*. *J. Nam*[1,2], H. Kim[1] and H.M. Christen[1] *1. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN; 2. Optic & Electronic Ceramics Division, Korea Institute of Ceramic Engineering and Technology, Seoul, Korea, Republic of*

3:42

DB-08. The Role of SrRuO3 Bottom Layer in Strain Relaxation of BiFeO3 Thin Films Deposited on Lattice Mismatched Substrates. *V. Shelke*[1,2], D. Mazumdar[2], G. Srinivasan[3] and A. Gupta[2] *1. Physics, Barkatullah University, Bhopal, M.P., India; 2. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL; 3. Physics, Oakland University,, Rochester, MI*

3:54

DB-09. Anomalies of phonon near the magnetic phase transitions in $BiFeO_3$ thin films. *M.K. Singh*[1] and R.S. Katiyar[2] *1. Centre of Material Sciences, University of Allahabad, Allahabad, India; 2. Department of Physics and Institute of Functional Nano Materials, University of Puerto Rico, Puerto Rico*

4:06

DB-10. Co substituted $BiFeO_3$ epitaxial films prepared by r.f. magnetron sputtering. *H.A. Begum*[1], H. Naganuma[1], M. Oogane[1] and Y. Ando[1] *1. Tohoku University, Sendai, Japan*

4:18

DB-11. A Structural and Magnetic Study of Interfacial Spin Coupling in Fe-MgO Ferromagnetic-Dielectric Thin Film Composites. *S.R. Spurgeon*[1], C.R. Winkler[1], B.J. Kirby[2], D.N. Seidman[3] and M.L. Taheri[1] *1. Materials Science and Engineering, Drexel University, Philadelphia, PA; 2. Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 3. Materials Science and Engineering, Northwestern University, Evanston, IL*

TUESDAY AFTERNOON 1:30 — CENTENNIAL III

Session DC
DOMAIN WALL DEVICES
Vitali Metlushko, Chair

1:30

DC-01. A Compact Model of Domain Wall propagation for logic and memory design. J. Duval[1,2], W. Zhao[1,2], *D. Ravelosona*[1,2], J. Klein[1,2], J. Kim[1,2] and C. Chappert[1,2] *1. IEF, Univ. Paris-Sud, Orsay, France; 2. CNRS, Orsay, France*

1:42

DC-02. Spin-transfer-torques-induced domain-wall motion in ferromagnetic Pt/Co/Pt nanowires with perpendicular magnetic anisotropy. *K. Kim*[1], J. Lee[1,2], J. Ryu[3], K. Moon[1], S. Yun[1], G. Gim[1], K. Lee[1], K. Shin[2], H. Lee[3] and S. Choe[1] *1. Department of Physics, Seoul National University, Seoul, Korea, Republic of; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, Korea, Republic of; 3. PCTP and Department of Physics, Pohang University of Science and Technology, Pohang, Kyungbuk, Korea, Republic of*

1:54

DC-03. Resonant domain wall depinning in a spin valve nanostrip: effect of simultaneously applied dc and rf currents. *P.J. Metaxas*[1], A. Anane[1], V. Cros[1], J. Grollier[1], C. Deranlot[1], A. Fert[1], C. Ulysse[2] and G. Faini[2] *1. Unité Mixte de Physique CNRS/Thales and Université Paris-Sud 11, Palaiseau, France; 2. CNRS PHYNANO team, Laboratoire de Photonique et de Nanostructures, Marcoussis, France*

2:06

DC-04. Spin-transfer effects in FePt nanowires with narrow magnetic domain walls. ***(Invited)*** *J. Attané*[1,2], V. Nguyen[1,2], C. Burrowes[3,4], A.P. Mihai[1,2], A. Marty[1,2], J. Kim[3,4], D. Ravelosona[3,4], F. Garcia-Sanchez[5], L.D. Buda-Prejbeanu[5] and L. Vila[1,2] *1. Université Joseph Fourier, 38054 Grenoble, France; 2. CEA, Inac, SP2M, 38057 Grenoble, France; 3. Institut d'Electronique Fondamentale, CNRS, UMR 8622, 91405 Orsay, France; 4. Université Paris-Sud, 91405 Orsay, France; 5. SPINTEC, UMR-8191, CEA-INAC/CNRS/UJF/Grenoble-INP, 17 Rue des Martyrs 38054 Grenoble Cedex 9, France*

2:42

DC-05. Tunable Domain Wall Injection and Pinning in Perpendicularly Magnetized Strips. *J. Franken*[1], R. Lavrijsen[1], J. Kohlhepp[1], H. Swagten[1] and B. Koopmans[1] *1. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

2:54

DC-06. Experimental Study of the Micromagnetic Structure of a Domain Wall Pinned in double notches of different shapes. *J. Akerman*[1], M. Muñoz[2], M. Maicas[1] and J.L. Prieto[1] *1. Instituto de Sistemas Optoelectrónicos y Microtecnología, Universidad Politécnica de Madrid, Madrid, Spain; 2. Instituto de Física Aplicada, CSIC, Madrid, Spain*

3:06

DC-07. Tuneable remote pinning of domain walls. *L.A. O'Brien*[1], D.E. Read[2], J. Sampaio[2], D. Petit[1], E.R. Lewis[2], H.T. Zeng[2], A.V. Jausovec[2] and R.P. Cowburn[1] *1. Physics, University of Cambridge, Cambridge, United Kingdom; 2. Physics, Imperial College, London, United Kingdom*

3:18

DC-08. Magnetic charge interactions between T-shaped gates and domain walls. *A. Jausovec*[1], A. Beguivin[2], D. Petit[2], L. O'Brien[2], E.R. Lewis[1], H.T. Zeng[1], J. Sampaio[1], D.E. Read[1] and R.P. Cowburn[2] *1. Department of Physics, Imperial College London, London, United Kingdom; 2. Department of Physics, University of Cambridge, Cambridge, United Kingdom*

3:30

DC-09. Scalable oscillator based on pinned domain walls driven by direct current. *E. Martinez*[1], L. Torres[1] and L. Lopez-Diaz[1] *1. Applied Physics, Universidad de Salamanca, Salamanca, Salamanca, Spain*

3:42

DC-10. Pushing Domain Walls with Spin Polarized Currents in Cylindrical Nanowires. *M. Franchin*[1], A. Knittel[1], T. Fischbacher[1] and H. Fangohr[1] *1. School of Engineering Sciences, University of Southampton, Southampton, Hampshire, United Kingdom*

3:54

DC-11. Domain wall resonance frequency enhancement using Gd doping of permalloy. S. Lepadatu[1], *J.S. Claydon*[1], D. Ciudad[1], C.J. Kinane[2], S. Langridge[2], S.S. Dhesi[3] and C.H. Marrows[3] *1. The University of Leeds, Leeds, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom; 3. Diamond Light Source, Didcot, United Kingdom*

4:06

DC-12. Joule heating in spin-torque transfer devices. *H. Fangohr*[1], D. Chernyshenko[1], T. Fischbacher[1] and G. Meier[2] *1. Engineering Sciences, University of Southampton, Southampton, United Kingdom; 2. Institute of Applied Physics, University of Hamburg, Hamburg, Hamburg, Germany*

4:18

DC-13. Minimization of Ohmic losses for domain wall motion in a ferromagnetic nanowire. *O. Tretiakov*[1], Y. Liu[1] and A. Abanov[1] *1. Physics, Texas A&M University, College Station, TX*

TUESDAY AFTERNOON 1:30 — CENTENNIAL IV

Session DD
SEMICONDUCTOR DEVICES
Olaf van t' Erve, Chair

1:30

DD-01. Simulating Realistic Implementations of SpinFET. *Y. Gao*[1], M.S. Lundstrom[1] and D.E. Nikonov[2,1] *1. Electrical and Computer Engineering, Purdue University, West Lafayette, IN; 2. Components Research, Intel, Santa Clara, CA*

1:42

DD-02. Scalability of Spin FPGA: A Reconfigurable Architecture Based on Spin MOSFET. *T. Tanamoto*[1], H. Sugiyama[1], T. Inokuchi[1], T. Marukame[1], M. Ishikawa[1], K. Ikegami[1] and Y. Saito[1] *1. Advanced LSI Technology Laboratory, Toshiba Corporation, Kawasaki, Kanagawa, Japan*

1:54

DD-03. Magnetoresistance Effects in Discrete Si Transistors. *S. Nishimura*[1], R. Zaharuddin[1], Y. Kuwabara[1] and J. Shirakashi[1] *1. Department of Electrical and Electronic Engineering, Tokyo University of Agriculture & Technology, Tokyo, Japan*

2:06

DD-04. Numerical simulation analysis of nonlocal multi-terminal devices for spin current detection in semiconductors. *Y. Shuto*[1,2], Y. Takamura[1] and S. Sugahara[1,2] *1. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan; 2. CREST, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan*

2:18

DD-05. Geometric enhancement of electrical spin injection and detection in semiconductors for high temperature operation. *R. Adari*[1], M. Murthy[1], T. Patil[1], R. Maheshwari[1], G. Vaidya[1], S. Ganguly[1] and D. Saha[1] *1. Department of Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India*

2:30

DD-06. Field-induced suppression of magnetic damping in Fe/(Ga,Mn)As junctions. *S. Kobayashi*[1], K. Suda[1] and H. Munekata[1] *1. Imaging Science and Engineering Laboratory, Tokyo Insutitute of Technology, Yokohama, Japan*

2:42

DD-07. Spin dependent resonant tunneling in III-V-based ferromagnetic-semiconductor heterostructures. ***(Invited)*** *M. Tanaka*[1] and S. Ohya[1] *1. Department of Electrical Engineering & Information Systems, University of Tokyo, Tokyo, Japan*

3:18

DD-08. Broadband rectification of ac currents in GaMnAs. *H. Kurebayashi*[1], D. Fang[1], J. Wunderlich[2], K. Olejnik[2], R.P. Campion[3], A.W. Rushforth[3], B.L. Gallagher[3] and A.J. Ferguson[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 3. University of Nottingham, Nottingham, United Kingdom*

3:30

DD-09. GaMnAs-based Core-Shell Nanowires Grown by Molecular Beam Epitaxy. *R. Pimpinella*[1], X. Liu[1], K. Tivakornsasithorn[1], J.K. Furdyna[1], M. Dobrowolska[1], T. Yoo[2], H. Lee[2], S. Lee[2] and T. Wojtowicz[3] *1. Physics, University of Notre Dame, Notre Dame, IN; 2. Physics, Korea University, Seoul, Korea, Republic of; 3. Institute of Physics, PAS, Warsaw, Poland*

3:42

DD-10. Magnetism and Spin Transport in Hybrid Semiconductor/Ferromagnet Nanowires. *J. Liang*[1], J. Wang[1], N.S. Dellas[2], B.J. Cooley[1], D. Rench[1], J. Cardellino[1], S.E. Mohney[2], M.H. Chan[1] and N. Samarth[1] *1. Physics, Penn State University, University Park, PA; 2. Materials Science and Engineering, Penn State University, University Park, PA*

3:54

DD-11. Modulation bandwidth of a spin-laser. *D. Banerjee*[1], R. Adari[1], M. Murthy[1], S. Ganguly[1] and D. Saha[1] *1. Department of Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India*

4:06

DD-12. Edge spin accumulation generated by a nonuniform electric field in a Rashba-type two-dimensional electron gas. *L. Wang*[1] and C. Chu[1] *1. Electrophysics, National Chiao-Tung University, Hsinchu, Taiwan*

4:18

DD-13. Detection of Rashba field using a rotational applied field. H. Jang[1,2], Y. Park[1], *H. Koo*[1,2], H. Kim[1,2], J. Chang[1,2] and H. Kim[1] *1. Korea Institute of Science and Technology, Seoul, Korea, Republic of; 2. University of Science and Technology, Daejeon, Korea, Republic of*

TUESDAY AFTERNOON 1:30

REGENCY V

Session DE
ELECTRONIC STRUCTURE AND CRITICAL PHENOMENA I

Renat Sabirianov, Chair

1:30

DE-01. Thermodynamic and Thermoelectric Properties of (Ga,Mn)As and related systems. *T. Dietl*[1,2] and C. Sliwa[1] *1. Laboratory for Cryogenic and Spintronic Research, Institute of Physics, Polish Academy of Sciences, Warszawa, Poland; 2. Institute of Theoretical Physics, University of Warsaw, Warszawa, Poland*

1:42

DE-02. Magnetic properties and spin polarization of MnBi: from first principles. *R. Sabirianov*[2] and P. Lukashev[1] *1. Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE; 2. Physics, University of Nebraska at Omaha, Omaha, NE*

1:54

DE-03. First Principles calculation of finite temperature magnetism in Fe and Fe_3C. *M. Eisenbach*[1], D.M. Nicholson[1], A. Rusanu[1] and G. Brown[2] *1. Oak Ridge National Laboratory, Oak Ridge, TN; 2. Department of Physics, Florida State University, Talahassee, FL*

2:06

DE-04. Generalization of the disordered local moment (DLM) method to include self-consistency for magnetically ordered systems at finite temperatures. *P Larson*[1] and K. Belashchenko[1] *1. Physics, University of Nebraska, Lincoln, NE*

2:18

DE-05. Effects of zero-point spin fluctuations on the ground state of itinerant magnets. *V. Antropov*[1] and A. Solontsov[1,2] *1. Ames Laboratory, Ames, IA; 2. State Center for Condensed Matter Physics, Moscow, Russian Federation*

2:30

DE-06. Is The Magnetic Anisotropy Proportional to the Orbital Moment? *R. Skomski*[1], A. Kashyap[2,1] and A. Enders[1] *1. Physics & Astronomy and NCMN, University of Nebraska, Lincoln, NE; 2. IIT Jaipur, Jaipur, Rajasthan, India*

2:42

DE-07. The making of ferromagnetically coupled rare-earth-metal and 3d ferromagnetic films. *B. Sanyal*[1], C. Antoniak[2], H. Wende[2] and O. Eriksson[1] *1. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 2. Faculty of Physics and Center for Nanointegration Duisburg-Essen, University of Duisburg-Essen, Duisburg, Germany*

2:54

DE-08. High-temperature magnetism of ordered and disordered Fe-Cr alloys, and Fe-Cr nanostructures. *M.Y. Lavrentiev*[1], S.L. Dudarev[1] and D. Nguyen-Manh[1] *1. EURATOM/CCFE Fusion Association, Abingdon, United Kingdom*

3:06

DE-09. $Fe_{3-x}Co_xSi$(Al)/MgO(001) hybrid structures: Influence of stoichiometry and disorder on magnetic properties - theory and experiment. *H.C. Herper*[1], B. Krumme[1], D. Ebke[2], C. Weis[1], C. Antoniak[1], A. Warland[1], A. Hütten[2], H. Wende[1] and P. Entel[1] *1. Faculty of Physics, University of Duisburg-Essen and CeNIDE, Duisburg, NRW, Germany; 2. Faculty of Physics, University of Bielefeld, Bielefeld, NRW, Germany*

3:18

DE-10. Electric field-driven magnetocrystalline anisotropy switching of surface Fe monolayer on MgO. *K. Nakamura*[1], T. Akiyama[1], T. Ito[1], M. Weinert[2] and A.J. Freeman[3] *1. Physics Engineering, Mie University, Tsu, Mie, Japan; 2. Physics, University of Wisconsin-Milwaukee, Milwaukee, WI; 3. Physics, Northwestern University, Evanston, IL*

3:30

DE-11. A study of radiation damage effects on the magnetic structure of bulk Fe. *Y. Wang*[1], D.M. Nicholson[2], G. Stocks[2], A. Rusanu[2], M. Eisenbach[2] and R.E. Stoller[2] *1. Pittsburgh Supercomputing Center, Carnegie Mellon University, Pittsburgh, PA; 2. Oak Ridge National Laboratory, Oak Ridge, TN*

3:42

DE-12. Giant proximity effect and critical opalescence in magnetic materials. *T.R. Charlton*[1], S. Ramos[2], J. Quintanilla[1,5], J.S. Moodera[3] and E.M. Forgan[4] *1. ISIS Facility, Science and Technology Facilities Council, Didcot, Oxfordshire, United Kingdom; 2. Diamond Light Source Ltd, Didcot, Oxfordshire, United Kingdom; 3. Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, MA; 4. School of Physics and Astronomy, University of Birmingham, Birmingham, United Kingdom; 5. School of Physical Sciences, University of Kent, Canterbury, Kent, United Kingdom*

3:54

DE-13. Serious Discrepancies between NMR and Neutron Scattering Measurements in the Critical Region of K_2NiF_4, Rb_2MnF_4, and K_2MnF_4 and Low-Temperature Behavior at Odds with Conventional Spin Wave Theory. *J. Klein*[1], c. Lin[2] and N. Bykovetz[3] *1. Department of Physics & Astronomy, University of Pennsylvania, Philadelphia, PA; 2. Department of Physics, Temple University, Philadelphia, PA; 3. Department of the Army, CECOM LCMC, AMSEL-SF-R, Fort Monmouth, NJ*

4:06

DE-14. Heusler compounds: multifunctional topological insulators. *C. Felser*[1,2], S. Zhang[2], S. Chadov[1], J. Kuebler[1] and X. Qi[2] *1. Inorganic chemitry, Johannes Gutenberg University, Mainz, Germany; 2. Applied Phyisc, Stanford, Stanford, CA*

4:18

DE-15. Orbitally driven spin-singlet state in $LiVS_2$ Y. Guo[1], G. Zhang[1], X. Zhang[1], T. Jia[1] and *Z. Zeng*[1] *1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, Anhui, China*

TUESDAY AFTERNOON 1:30

REGENCY VI

Session DF
RECORDING HEADS
Paul van der Heijden, Chair

1:30

DF-01. MR enhancement mechanism of FeCo nanocontact MR with CPP spin-valve structure. *H. Iwasaki*[1], H.N. Fuke[1], S. Hashimoto[1], M. Takagishi[1] and M. Sahashi[2] *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

1:42

DF-02. Large interfacial scattering in CPP-GMR devices using $Co_2Fe(Al_{0.5}Si_{0.5})$ and Ag. *T.M. Nakatani*[1,2], T. Furubayashi[2] and K. Hono[2,1] *1. University of Tsukuba, Tsukuba, Japan; 2. National Institute for Materials Science, Tsukuba, Japan*

1:54

DF-03. Development of current perpendicular to plane differential dual spin valve for ultrahigh resolution. *G. Han*[1], C. Wang[1], J. Qiu[1], P. Luo[1], V. Ko[1], Z. Guo[1], B. Zong[1] and L. An[1] *1. Data Storage Institute, Singapore, Singapore*

2:06

DF-04. Demonstration of high resolution differential read-head. *M. Shiimoto*[1], H. Katada[1], T. Nakagawa[1], K. Yasui[1], K. Nagasaka[1], K. Meguro[1], K. Nakamoto[1], H. Hoshiya[1] and Y. Nishida[1] *1. Central Research Laboratory, Hitachi, Ltd., Odawara-shi, Kanagawa-ken, Japan*

2:18

DF-05. Resolution of a Dual Differential Magneto-Resistive Head. *E. Cho*[1], M.F. Erden[2] and R.H. Victora[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Seagate Technology, Bloomington, MN*

2:30

DF-06. Applicability of CPP-GMR Tri-layer to over $2Tb/in^2$ *M. Takagishi*[1], H. Iwasaki[1], H.N. Fuke[1] and S. Hashimoto[1] *1. Toshiba Co., Kawasaki, Japan*

2:42

DF-07. Design and Analysis of TMR Read Head with Synthetic Antiferromagnetic Free Layer. *J. Zhu*[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA*

2:54

DF-08. Mag-flip Spin Torque Oscillator and its Dynamics. *K. Yamada*[1], M. Takagishi[1], K. Koi[1] and H. Iwasaki[1] *1. Toshiba Corp., Kawasaki, Japan*

3:06

DF-09. Dynamics of large amplitude excitation of magnetic media by microwave fields. *N. Tabat*[1], M. Benakli[1], K. Gao[1] and K. Rivkin[1] *1. Seagate Technology, Edina, MN*

3:18

DF-10. Experimental feasibility of spin-torque oscillator with synthetic field generation layer for microwave assisted magnetic recording. M. Matsubara[1], M. Shiimoto[1], *K. Nagasaka*[1], Y. Sato[1], Y. Udo[1], K. Sugiura[1], M. Hattori[1], M. Igarashi[1], Y. Nishida[1], H. Hoshiya[1], K. Nakamoto[1] and I. Tagawa[1] *1. Central Reserch Laboratory, Hitachi, Ltd., Odawara, Japan*

3:30

DF-11. Microwave assisted magnetization switching in Co/Pt multilayer. *S. Okamoto*[1], N. Kikuchi[1], O. Kitakami[1], T. Shimatsu[2] and H. Aoi[2] *1. IMRAM, Tohoku University, Sendai, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

3:42

DF-12. Characterization of Write Pole and Shield Saturation Using Magnetic Force Microscopy. *J.O. Rantschler*[2,1], F. Liu[1], S. Li[1], P. Rana[1] and T. Pan[1] *1. Magnetic Heads Operations, Western Digital Corporation, Fremont, CA; 2. Physics and Engineering, Xavier University, New Orleans, LA*

3:54

DF-13. Real-time direct measurement of the dynamic field from a perpendicular writer with nanometer spatial resolution. *P. Czoschke*[1], S. Kaka[1], N. Gokemeijer[1] and S. Franzen[1] *1. Seagate Technology, Bloomington, MN*

4:06

DF-14. In-situ magnetoresistance measurements of ion-beam-etched Fe-Co thin films. *Y. Ohsawa*[1,2], K. Yamakawa[2] and H. Muraoka[2] *1. CR&D center, Toshiba corp., Kawasaki, Japan; 2. RIEC, Tohoku Univ., Sendai, Japan*

4:18

DF-15. Magnetic characterization on epitaxial Fe16N2 thin films with giant saturation magnetization. *N. Ji*[1,2] and J. Wang[1,2] *1. The Center of Micromagnetic and Information Technologies (MINT) & Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Physics Department, University of Minnesota, Minneapolis, MN*

TUESDAY AFTERNOON 1:30

REGENCY VII

Session DG
ORGANIC AND CARBON-BASED SPIN TRANSPORT

Martin Aeschlimann, Chair

1:30

DG-01. The effects of LiF tunnel barriers on the performance of organic spin-valves. *G. Szulczewski*[1], J. Kriel[1], J. Brauer[1], E. Ellingsworth[1], H. Ambaye[2] and V. Lauter[2] *1. Chemistry, University of Alabama, Tuscaloosa, AL; 2. Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, TN*

1:42

DG-02. High impedance spin injectors for efficient graphene spintronics. *B. Dlubak*[1], P. Seneor[1], A. Anane[1], V. Garcia[1], K. Bouzehouane[1], C. Deranlot[1], B. Servet[2], S. Xavier[2], R. Mattana[1], W.A. De Heer[3], C. Berger[3,4], F. Petroff[1] and A. Fert[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Thales Research and Technology, Palaiseau, France; 3. GeorgiaTech, Atlanta, GA; 4. Institut Neel- CNRS, Grenoble, France*

1:54

DG-03. Large magnetoresistance and spin interface effects: the role of hybridization in Phthalocyanines based magnetic tunnel junctions. *C. Barraud*[1], R. Mattana[1], P. Seneor[1], K. Bouzehouane[1], S. Fusil[1], C. Deranlot[1], F. Petroff[1], A. Fert[1], D. Kim[2], J. Arabski[2], S. Boukari[2], M. Bowen[2] and E. Beaurepaire[2] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. IPCMS CNRS/ULP, strasbourg, France*

2:06

DG-04. Huge magnetoresistance (~280,000%) in C60-Co nanocomposite spin devices. *Y. Sakai*[1], G. Shiomi[1], E. Tamura[1], E. Shikoh[1], T. Shinjo[1], Y. Suzuki[1] and M. Shiraishi[1,2] *1. Graduate School of Engineering Science, Osaka university, Toyonaka, Osaka, Japan; 2. PRESTO-JST, Kawaguchi, Saitama, Japan*

2:18

DG-05. Molecular length independent tunneling magnetoresistance in Fe_3O_4/alkane molecule network. *S. Wang*[1], F. Yue[1], J. Shi[2], Y. Shi[1], A. Hu[1], Y. Du[1] and D. Wu[1] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics and Astronomy, University of California, Riverside, CA*

2:30

DG-06. Spin transport in graphite nanostructures. S. Parui[1], A. Solmaz[1], B.J. van Wees[1] and *T. Banerjee*[1] *1. Physics of Nanodevices Group,, University of Groningen, Groningen, Netherlands*

2:42

DG-07. Electric-field Control of Magnetism in "Diamond"-shaped Graphene Quantum Dots. *L. Agapito*[1,2], N. Kioussis[1,2] and E. Kaxiras[3,4] *1. Physics, California State University Northridge, Northridge, CA; 2. W. M. Keck Computational Materials Theory Center, California State University Northridge, Northridge, CA; 3. Physics, Harvard University, Cambridge, MA; 4. School of Engineering and Applied Sciences, Harvard University, Cambridge, MA*

2:54

DG-08. Organic multiferroic tunnel junctions with ferroelectric poly(vinylidene difluoride) barriers. J.M. Lopez[1], J.D. Burton[2], E.Y. Tsymbal[2] and *J.P. Velev*[1,2] *1. Physics, University of Puerto Rico, San Juan; 2. Physics, University of Nebraska, Lincoln, NE*

3:06

DG-09. Frequency Dependence of Organic Magnetoresistance. *P. Janssen*[1], W. Wagemans[1], I. van der Heijden[1], M. Kemerink[1] and B. Koopmans[1] *1. Applied Physics, Center for NanoMaterials, Eindhoven University of Technology, Eindhoven, Netherlands*

3:18

DG-10. Surface spin-polarization of organic semiconductor/half-metallic ferromagnet heterojunctions. *A. Pratt*[1,2], X. Sun[1,3], M. Kurahashi[1] and Y. Yamauchi[1] *1. National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan; 2. York Institute for Materials Research, University of York, York, North Yorkshire YO10 5DD, United Kingdom; 3. University of Science and Technology of China, Hefei, Anhui 230026, China*

3:30

DG-11. Efficient Electron Spin Relaxation via Dyakonov-Perel Type Mechanism in Carbon Nanotubes. *Y. Semenov*[1], J.M. Zavada[1] and K.W. Kim[1] *1. North Carolina State University, Raleigh, NC*

3:42

DG-12. Magnetic properties of the Co/Alq_3 interface. M. Venkatesan[1], H. Tokuc[1], F. Burke[1], *J.M. Coey*[1] and G. Szulczewski[1] *1. CRANN and School of Physics, Trinity College Dublin, Dublin 2, Ireland*

3:54

DG-13. The evidence of electron doping graphene with cobalt contacts by Raman spectra. W. Wang[1], S. Liang[1], T. Yu[1], D. Li[2], Y. Li[2] and *X. Han*[1] *1. Institue of Physics, Chinese Academy of Sciences, Beijing, China; 2. National Center for Nanoscicence and Technology, Chinese Academy of Science, Beijing, China*

TUESDAY AFTERNOON 1:30

LEARNING CENTER

Session DH
MAGNETOELASTIC MATERIALS I
Samuel Lofland, Chair

1:30

DH-01. Morphotropic phase boundary in ferromagnets – a way leading to large magnetostriction. *S. Yang*[1,2], H. Bao[2], C. Zhou[2], Y. Wang[2], X. Ren[2], Y. Matsushita[3], Y. Katsuya[3], M. Tanaka[3], K. Kobayashi[3] and X. Song[1] *1. MMRC, Frontier Institute of Science and Technology,State Key Laboratory for Mechanical Behaviour of Materials & MOE Key Laboratory for Nonequilibrium Synthesis and Modulation of Condensed Matter, Xi'an Jiaotong University, Xi'an, China; 2. Ferroic Physics Group, National Institute for Materials Science, Tsukuba, Japan; 3. Beamline BL15XU, Spring-8, National Institute for Materials Science, Kohto, Japan*

1:42

DH-02. Metastability of magnetostructural transition revealed by sweep rate dependence of magnetization in Ni45Co5Mn38Sb12 Heusler alloy. *A.K. Nayak*[1], K.G. Suresh[1] and A.K. Nigam[2] *1. Physics, IIT Bombay, Mumbai, Maharhastra, India; 2. TIFR, Mumbai, Maharashtra, India*

1:54

DH-03. Ni_2MnGa-polymer-composites: concept, interface and reversible magnetic field-induced strain. S. Weiss[1], N. Scheerbaum[1], *J. Liu*[1], L. Schultz[1], E. Mäder[2], G. Heinrich[2] and O. Gutfleisch[1] *1. IFW Dresden, Dresden, Germany; 2. IPF Dresden, Dresden, Germany*

2:06

DH-04. Magnetic and Structural Properties of Single Crystal $Fe_{1-x}Zn_x$ Thin Films. *A. McClure*[1], P. Rugheimer[1], E. Arenholz[2] and Y. Idzerda[1] *1. Physics, Montana State University, Bozeman, MT; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

2:18

DH-05. Large Magnetostriction in Annealed Co0.7Fe0.3 thin films. *D.D. Hunter*[1], R. Takahashi[1], R. Suchoski[1], E. Din[1], J.R. Hattrick-Simpers[2], L. Bendersky[2], S.E. Lofland[3], M. Wuttig[2] and I. Takeuchi[1] *1. Materials Science and Engineering, University of Maryland, College Park, MD; 2. National Institute of Standards and Technology, Gaithersburg, MD; 3. Department of Physics and Astronomy, Rowan University, Glassboro, NJ*

2:30

DH-06. Investigation of Ge^{4+}/Co^{2+} co-substituted Magnetoelastic Cobalt Ferrite ($Co_{1+x}Ge_xFe_{2-2x}O_4$) by Mossbauer Spectroscopy. *K. Krieble*[1], D.A. Dvorak[1], A. Watson[1], S. Song[3] and J.E. Snyder[2,3] *1. Physics Department, Moravian College, Bethlehem, PA; 2. Wolfson Magnetics Research, Cardiff University, Cardiff, United Kingdom; 3. Iowa State University, Ames, IA*

2:42

DH-07. Dependence of Magnetomechanical Performance of Ga-Substituted Cobalt Ferrite on Temperature Variation. *I.C. Nlebedim*[1], Y. Melikhov[1], J.E. Snyder[1], M.J. Anthony[1] and D.C. Jiles[1] *1. Wolfson Magnetics Research, School of Engineering, Cardiff University, Cardiff, United Kingdom*

2:54

DH-08. Magnetostriction "drop" in <110> oriented Tb0.36Dy0.64(Fe0.85Co0.15)2 polycrystals after transverse field annealing. *C. Zhang*[1], T. Ma[1] and M. Yan[1] *1. Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China*

3:06

DH-09. Piezomagnetic Constants, d_{33}^* and d_{33} of $Fe_{81.6}Ga_{18.4}$ Textured Polycrystals. *J. Restorff*[1], M. Wun-Fogle[1] and E. Summers[2] *1. Naval Surface Warfare Center, West Bethesda, MD; 2. ETREMA Products, Inc., Ames, IA*

3:18

DH-10. Improved magnetostriction of $Fe_{72}Ga_{28}$ boron doped alloy. *C. Bormio-Nunes*[1], C.T. Dos Santos[1], I.F. Leandro[1], R. Sato Turtelli[2], R. Groessinger[2] and M. Atif[2] *1. Escola de Engenharia de Lorena - EEL, Universidade de São Paulo - USP, Lorena, São Paulo, Brazil; 2. Institute of Solid State Physics, Technical University of Vienna, Vienna, Austria*

3:30

DH-11. Magnetostriction, elasticity, and $D0_3$ phase stability in Fe-Ga-Ge alloys. *G. Petculescu*[1], K. Ledet[1], M. Huang[2], T.A. Lograsso[2], Y. Zhang[3], R. Wu[3], M. Wun-Fogle[4], J.B. Restorff[4], K.B. Hathaway[5] and A.E. Clark[6] *1. Physics, University of Louisiana at Lafayette, Lafayette, LA; 2. Ames Laboratory, Ames, IA; 3. Department of Physics and Astronomy, University of California, Irvine, CA; 4. Naval Surface Warfare Center, Carderock Div., West Bethesda, MD; 5. G/J Associates, Annapolis, MD; 6. Clark Associates, Adelphi, MD*

3:42

DH-12. Development of <100> crystallographic texture in magnetostrictive Fe-Ga microwires produced by in-rotating water spinning method. *N. Lupu*[1], M. Lostun[1], S. Corodeanu[1] and H. Chiriac[1] *1. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania*

3:54

DH-13. Magnetic Property-Texture Relationships in Galfenol Rolled Sheet Stacks. *R. Meloy*[1] and E. Summers[1] *1. Etrema Products Inc, Ames, IA*

4:06

DH-14. Tensile Stress Annealing of Magnetostrictive Galfenol-Rolled Sheet. *H. Chun*[1], S. Na[2] and A.B. Flatau[2] *1. Materials Science and Engineering, University of Maryland, College Park, MD; 2. Aerospace Engineering, University of Maryland, College Park, MD*

TUESDAY AFTERNOON 3:00

GRAND HALL EAST

Session DP
SPIN TRANSFER TORQUE SWITCHING I (POSTER SESSION)

Johan Akerman, Chair

DP-01. Comparisons between STT-RAM Switching Distributions and the Thermal Activation Model. R. Heindl[1], *W.H. Rippard*[1], S. Russek[1] and M. Pufall[1] *1. NIST, Boulder, CO*

DP-02. Non-adiabatic spin torque investigated using thermally activated magnetic domain wall dynamics. M. Eltschka[1], M. Wötzel[1,2], J. Rhensius[1,3], S. Krzyk[1], T. Kasama[2], R. Dunin-Borkowski[2], L. Heyderman[3], H. van Driel[4], R. Duine[4], *C. Moutafis*[1], U. Nowak[1] and M. Kläui[1,5] *1. Department of Physics, University of Konstanz, 78457 Konstanz, Germany; 2. Center for Electron Nanoscopy, Technical University of Denmark, 2800 Kgs. Lyngby, Denmark; 3. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, 5232 Villigen PSI, Switzerland; 4. Institute for Theoretical Physics, Utrecht University, 3584 CE Utrecht, Netherlands; 5. Laboratory of Nanomagnetism and Spin Dynamics / SwissFEL, Ecole Polytechnique / Paul Scherrer Institut, 1015 Lausanne / 5232 Villigen PSI, Switzerland*

DP-03. Minimum action paths for single domain ferromagnetic nanostructures under the influence of spin torque. *G.D. Chaves-O'Flynn*[1], A.D. Kent[1], D.L. Stein[1,2] and E. Vanden-Eijnden[1,2] *1. Physics, New York University, New York, NY; 2. Courant Institute of Mathematical Sciences, New York University, New York, NY*

DP-04. Microscopic theory of spin torques induced by spin dynamics in the magnetic tunnel junctions. *D. Miura*[1] and A. Sakuma[1] *1. Department of Applied Physics, Tohoku University, Sendai, Japan*

DP-05. Current-Induced Magnetization Switching of Synthetic Antiferromagnet in MgO-based Magnetic Tunnel Junctions. *S. Lee*[1] and K. Lee[1] *1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, Korea, Republic of*

DP-06. Comparison of Thermal Activation and Macro-spin Models at High Bias in Switching Phase Diagrams. *T. Cecil*[1], R. Heindl[1], W. Rippard[1], M. Pufall[1] and S. Russek[1] *1. NIST, Boulder, CO*

DP-07. Spin transfer switching of GdFe based CPP-GMR with Ag-spacer for light modulator application. *K. Aoshima*[1], Y. Ohtsuka[2], Y. Hashimoto[1], N. Funabashi[1], K. Machida[1], K. Kuga[1], H. Kikuchi[1] and N. Shimidzu[1] *1. Science & Technology Research Laboratories, Japan Broadcasting Corp., Tokyo, Japan; 2. Tokai University, Hiratsuka, Kanagawa, Japan*

DP-08. Domain Formation in Spin Transfer Switching in Structures with Perpendicular Anisotropy. *D. Apalkov*[1], R. Zhu[1,2], S. Watts[1], V. Nikitin[1], A. Driskill-Smith[1] and E. Chen[1] *1. Grandis Inc, Milpitas, CA; 2. MINT Center and Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL*

DP-09. Low switching current in a modified Exchange-Biased Spin Valve via antiferromagnetic spin transfer torque. *J. Guo*[1], M.A. Jalil[1,2] and S. Tan[2,3] *1. Information Storage Materials Laboratory,Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 2. Computational Nanoelectronics and Nano-device Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, A*STAR (Agency for Science, Technology and Research), Singapore, Singapore*

DP-10. Invariant form of the spin transfer switching condition. I. Sodemann[1,2] and *Y.B. Bazaliy[1,3] 1. University of South Carolina, Columbia, SC; 2. University of Texas at Austin, Austin, TX; 3. Institute of Magnetism, Kyiv, Ukraine*

DP-11. Spin Transfer Torque in MTJs with Synthetic Ferrimagnetic Layer by Keldysh Approach. *M. Ichimura[1,5]*, T. Hamada[1,5], H. Imamura[2], S. Takahashi[3,5] and S. Maekawa[4,5] *1. Advanced Res. Lab., Hitachi, Ltd., Saitama, Japan; 2. AIST, Tsukuba, Ibaraki, Japan; 3. IMR, Tohoku Univ., Sendai, Japan; 4. ASRC, JAEA, Tokai, Ibaraki, Japan; 5. JST-CREST, Chiyoda-ku, Tokyo, Japan*

DP-12. Disorder-induced Enhancement of Spin Torque in Magnetic Tunnel Junctions. *Y. Tang[1,2]*, N. Kioussis[1] and A. Kalitsov[1,3] *1. Department of Physics, California State University, Northridge, Northridge, CA; 2. Department of Physics, National Central University, Jung-Li, Taiwan; 3. SPINTEC, CEA/CNRS, URA 2512 CEA/CNRS, Grenoble, France*

DP-13. Control of magnetic anisotropy in CoFeB by capping layer for current induced magnetization switching. *H. Yamamoto[1]*, J. Hayakawa[1], K. Ito[1], K. Miura[1,3], H. Matsuoka[1], S. Ikeda[2,3] and H. Ohno[2,3] *1. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan; 2. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 3. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

DP-14. Current-induced domain wall motion in well-shaped FeNi nanowires studied by XMCD-PEEM. X. Hu[1], J. Wu[2], P. Schofield[2], D.X. Niu[1], X. Zou[2], Z. Huang[1], T.Y. Cheng[1], A. Ding[1], W. Zhang[1], *Y.B. Xu[1]*, L. Chen[3], S.A. Morton[4] and A. Scholl[4] *1. Electronics Department, University of York, York, United Kingdom; 2. Physics Department, University of York, York, United Kingdom; 3. Electronics Department, University of Leeds, Leeds, United Kingdom; 4. Lawrence Berkeley National Laboratory, Berkeley, CA*

DP-15. Switching probability for CoFeB/MgO/CoFeB magnetic tunnel junctions driven by spin-transfer switching in nanosecond regime. J. Lee[1,3], C. Lee[1,2], L. Ye[1], J. Su[4] and *T. Wu[1,5] 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 Engineering Science and Technology, National Yunlin University of Science and Technology, Douliou, Taiwan; 4. Department of Electrical Engineering, National Yunlin University of Science and Technology, Douliou, Taiwan; 5. Graduate School of Information Technology, Overseas Chinese University, Taichung, Taiwan*

TUESDAY AFTERNOON 3:00

GRAND HALL EAST

Session DQ
MAGNETOCALORIC MATERIALS III (POSTER SESSION)

Min Zou, Chair

DQ-01. Exact Solution of the Free Energy Based on a Microscopic Model: Comparison with Landau expansion and application to MnAs compound. *B.P. Alho[1]*, N.A. de Oliveira[1], V.S. de Sousa[1,2], S. Gama[3], A.A. Coelho[2], A.M. Carvalho[4] and P.J. von Ranke[1] *1. UERJ, Rio de Janeiro, RJ, Brazil; 2. UNICAMP, Campinas, SP, Brazil; 3. UNIFESP, Diadema, SP, Brazil; 4. INMETRO, Duque de Caxias, RJ, Brazil*

DQ-02. Influence of processing parameters on structural and magnetic properties of the Gd5.09Ge2.03Si1.88 compound. *A.M. Carvalho[1]*, C.S. Alves[2], A.O. dos Santos[3], A.A. Coelho[4], S. Gama[5] and P.V. Trevizoli[6] *1. INMETRO, Duque de Caxias, RJ, Brazil; 2. UEM, Maringá, PR, Brazil; 3. UFMA, Imperatriz, MA, Brazil; 4. UNICAMP, Campinas, SP, Brazil; 5. UNIFESP, Diadema, SP, Brazil; 6. UFSC, Florianópolis, SC, Brazil*

DQ-03. Magnetocaloric effect and size-effect related thermal hysteresis reduction in MnAs1-xPx compounds. *N. Sun[1,2]*, S. Xu[1], D. Li[2] and Z. Zhang[2] *1. Shenyang Ligong University, Shenyang, China; 2. Peoples' Republic of China and Shenyang National Laboratory for Materials Science, Institute of Metal Research and International Centre for Materials Physics, Chinese Academy of Sciences, 72 Wenhua R, Shenyang, China*

DQ-04. Small thermal hysteresis and large magnetocaloric effect in Mn1.3Fe0.7-xCoxP0.46Si0.54 compounds. *O. Tegusi[1]* and Y. Geng[1] *1. Inner Mongolia Normal University, Hohhot, China*

DQ-05. Neutron diffraction studies on the Heusler alloy $Ni_{50}Mn_{37}Sb_{13}$ N.V. Rama Rao[1], J. Chelvane[1], V. Chandrasekaran[1], A.V. Morozkin[2], *J. Lamsal[3]*, W. Yelon[4], R. Nirmala[5] and S. Malik[6] *1. Defence Metallurgical Research Laboratory, Hyderabad, Andhra Pradesh, 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. Materials Research Center and Department of Chemistry, Missouri University of Science and Technology, Rolla, MO; 5. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 6. International Institute of Physics (IIP)-UFRN, Natal, Brazil*

DQ-06. Effect of Co and Cu substitution on the magnetic entropy change in $Ni_{46}Mn_{43}Sn_{11}$ alloy. R. Das[1], P. Alagarsamy[1] and *A. Srinivasan[1] 1. Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India*

DQ-07. Effect of post-annealing on martensitic transformation and magnetocaloric effect in $Ni_{45}Co_5Mn_{36.6}In_{13.4}$ alloys. L. Chen[1,2], *F. Hu*[1], J. Wang[1], J. Shen[1], J. Sun[1], B. Shen[1], J. Yin[2] and L. Pan[2] *1. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Department of Physics, University of Science and Technology Beijing, Beijing, China*

DQ-08. The Effect of Partial Substitution of Ni by Co on the Magnetic and Magnetocaloric properties of $Ni_{50}Mn_{35}In_{15}$ Heusler alloy. *A. Pathak*[1], I. Dubenko[1], Y. Xiong[2], P.W. Adams[2], S. Stadler[2] and N. Ali[1] *1. Physics, Southern Illinois University, Carbondale, IL; 2. Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA*

DQ-09. Magnetic and Magnetocaloric properties of $Gd_6X_2Si_3$ (X=Ni, Co, Ti, Cr, Mn). A. Pathak[1], *I. Dubenko*[1], S. Stadler[2] and N. Ali[1] *1. Physics, Southern Illinois University, Carbondale, IL; 2. Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA*

DQ-10. Anisotropic and excellent magnetocaloric properties of La 0.7Ca0.3MnO3 single crystal. *J. Debnath*[1], R. Zeng[1], P. Shamba[1], J.H. Kim[1] and S.X. Dou[1] *1. Institute for Superconducting and Electronic Materials, Wollongong, NSW, Australia*

DQ-11. Reduction of hysteresis losses and enhancement of magnetocaloric properties in the magnetic refrigerant La0.8Ce0.2Fe11.4Si1.6 by the addition of boron. *P. Shamba*[1], J.C. Debnath[1], R. Zeng[1], J.L. Wang[2], S.J. Campbell[2] and S.J. Kennedy[3] *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. School of Physical, Environmental and Mathematical Sciences, Australian Defence Force Academy, University of New South Wales, Canberra, ACT, Australia; 3. Bragg Institute, Australian Nuclear Science and Technology Organization, Lucas Heights, NSW, Australia*

DQ-12. Effect of partial substitution of Ca on the Curie temperature and magnetocaloric effects in the $LaFe_{11.5}Si_{1.5}$ compound. H. Zhang[1,3], *Y. Long*[2], M. Zou[3], Y. Mudryk[3], V.K. Pecharsky[3,4] and K.A. Gschneidner, Jr.[3,4] *1. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Materials Science and Engineering, University of Science and Technology of Beijing, Beijing, China; 3. The Ames Laboratory, U.S. Department of Energy, Iowa State University, Ames, IA; 4. Department of Materials Science and Engineering, Iowa State University, Ames, IA*

DQ-13. Influence of Ti Addition on structural and magnetocaloric effect in La0.67Ca0.33Mn1-xTixO3. *Z. Hong*[1], P. Zhang[2], H. Ge[2], Q. Wu[2] and M. Pan[2] *1. Department of Materials Science and Engineering, Zhejiang University, Hangzhou, Zhejiang, China; 2. College of Material Science and Engineering,, China Jiliang univeristy, Hangzhou, Zhejiang, China*

TUESDAY AFTERNOON 3:00

GRAND HALL EAST

Session DR
RARE EARTHS AND SUPERCONDUCTIVITY II (POSTER SESSION)

Takao Mori, Chair

DR-01. Visualization of Magnetic Vortices in BaFe1.9Ni0.1As2 Single Crystal. *Z.W. Lin*[1], Y.J. Li[1], J.G. Zhu[1], Y.G. Guo[1] and X.L. Wang[2] *1. Faculty of Engineering and Information Technology, University of Technology, Sydney, Sydney, NSW, Australia; 2. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia*

DR-02. Withdrawn

DR-03. Thermoelectric power of $Gd_4(Co_{1-x}Cu_x)_3$ compounds. *T.M. Seixas*[1], M.A. Salgueiro da Silva[1], H.F. Braun[2] and G. Eska[2] *1. Departamento de Física e Astronomia, Faculdade de Ciências da Universidade do Porto, Porto, Portugal; 2. Physikalisches Institut, Universitaet Bayreuth, Bayreuth, Germany*

DR-04. Improved Methods for Calculating Thermodynamic Properties of Magnetic Systems using Wang-Landau Density of States. *G. Brown*[1], A. Ruanu[1], M. Eisenbach[1], J. Fidlers[2], M. Daene[1] and D.M. Nicholson[1] *1. Oak Ridge National Laboratory, Oak Ridge, TN; 2. Pine Grove Area High School, Pine Grove, PA*

DR-05. Tunable Enhancement of Vortex Pinning in a Superconductor-Ferromagnet Bilayer. M.Z. Cieplak[1,2], *L.Y. Zhu*[1], Z. Adamus[2,3], M. Konczykowski[3] and C.L. Chien[1] *1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD; 2. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 3. Laboratoire des Solides Irradies, Ecole Polytechnique, Palaiseau, France*

DR-06. Spin valve effect in lateral double superconductor/ferromagnet/superconductor junctions. *L. Lin*[1,2], S. Huang[1], J. Lin[1], J. Huang[2] and S. Lee[1] *1. Physics, Academia Sinica, Taipei, Taiwan; 2. Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan*

DR-07. Intriguing complex magnetism of Co in RECoAsO (RE=La, Nd and Sm). *A. Pal*[1,2], M. Hussain[2] and V.S. Awana[1] *1. Superconductivity and Cryogenics, National Physical Laboratory, New Delhi, India; 2. Department of Physic, Millia, Islamia, University, New Delhi, India*

DR-08. Magnetic properties and exchange interactions of $TbNi_{5-x}M_x$ (M = Co and Fe) compounds: *ab initio* calculations.
A.V. Lukoyanov[1], A. Haldar[2], A. Das[3], A.K. Nayak[2], *K.G. Suresh*[2] and A.K. Nigam[4] *1. Institute of Metal Physics, Russian Academy of Sciences–Ural Division, Yekaterinburg, Russian Federation; 2. Department of Physics, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India; 3. Solid State Physics Division, Bhabha Atomic Research Centre, Mumbai, Maharashtra, India; 4. Tata Institute of Fundamental Research, Mumbai, Maharashtra, India*

DR-09. Antiferromagnetic ordering in $EuPtGe_3$ single crystals.
N. Kumar[1], P.K. Das[1], R. Kulkarni[1], A. Thamizhavel[1] and S.K. Dhar[1] *1. Condensed Matter Physics and Material Science, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India*

DR-10. The doping effect of Cr in $SrRuO_3$ systems. S. Zhang[1], *S. Tan*[2], L. Pi[2] and Y. Zhang[1] *1. High Magnetic Field Laboratory, University of Science and Technology of China, Hefei, Anhui, China; 2. Hefei National Laboratory for Physical Sciences at the Microscale, University of Science and Technology of China, Hefei, Anhui, China*

DR-11. Effects of Ti doping on the properties of $La_{0.5}Ba_{0.5}Co_{1-x}Ti_xO_3$
S. Zhang[1], *L. Pi*[2], S. Tan[2] and Y. Zhang[1] *1. High Magnetic Field Laboratory, University of Science and Technology of China, Hefei, Anhui, China; 2. Hefei National Laboratory for Physical Sciences at the Microscale, University of Science and Technology of China, Hefei, Anhui, China*

DR-12. 119Sn Mossbauer spectroscopy study of UCo1-xRuxSn solid solutions. *V. Krylov*[1] *1. Institute of Nuclear Physics, Moscow State University, Moscow, Russian Federation*

DR-13. Magnetic properties of NdFeO3 single crystal in the spin reorientation region. *S. Yuan*[1], Y. Wang[1], F. Chang[1], S. Cao[1], G. Hu[2] and I. Umehara[2] *1. Department of Physics, Shanghai university, Shanghai, China; 2. Faculty of Engineering, Department of Physics, Yokohama National University, Yokohama, Japan*

DR-14. Magnetic switching and magnetic transitions in $ErCo_2$ probed by radio frequency transverse susceptibility. *A.I. Figueroa*[1,2], S. Chandra[1], M.H. Phan[1], H. Srikanth[1], C.M. Bonilla[2], L.M. Garcia[2], F. Bartolome[2] and J. Bartolome[2] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Condensed Matter Physics Department, Universidad de Zaragoza, Zaragoza, Zaragoza, Spain*

TUESDAY AFTERNOON 3:00

GRAND HALL EAST

Session DS
NANOSTRUCTURED HARD MAGNETIC MATERIALS I (POSTER SESSION)

Aru Yan, Chair

DS-01. Crystallization of Nd-Co-B nanocomposite ribbons in high magnetic fields. *H. Kato*[1,2] and K. Koyama[3] *1. Department of Applied Mathematics and Physics, Yamagata University, Yonezawa, Yamagata, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

DS-02. Microstructure and Crystallographic Texture of Sm(CobalFe0.2Cu0.1Zr0.06)8 permanent magnet.
T. Yonamine[1], M. Fukuhara[1], B.S. Archanjo[1] and F.P. Missell[2] *1. Materials Metrology Division, Inmetro-National Institute of Metrology, Standardization and Industrial Quality, Duque de Caxias, Rio de Janeiro, Brazil; 2. Centro de Ciências Exatas e Tecnologia, UCS, Caxias do Sul, Rio Grande do Sul, Brazil*

DS-03. Magnetic Properties and Microstructure of FePt/Ag2Se Particulate Films. *J. Tsai*[1], H. Tai[1] and J. Wang[1] *1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

DS-04. Effect of intergranular amorphous phase on magnetization reversal behavior in α-Fe/Nd2Fe14B nanocomposite alloys.
P. Zhang[1], H. Ge[1], M. Pan[1], Q. Wu[1], H. Yang[1], Z. Jiao[1], M. Yue[2] and W. Liu[2] *1. College of Material Science and Engineering, China Jiliang University, Hangzhou city, Zhejiang, China; 2. College of Material Science and Engineering, Beijing University of Technology, Beijing, Beijing, China*

DS-05. $SmCo_5$ Nanoparticles by Cluster Beam Deposition.
O. Akdogan[1], W. Li[1], G.C. Hadjipanayis[1] and D.J. Sellmyer[2] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Physics and Astronomy, University of Nebraska, Lincoln, NE*

DS-06. Correlation between Microstructure and First-Order Magnetization Reversal of the SmCo5/α-Fe Nanocomposite Magnets. *C. Rong*[1], Y. Zhang[2], M. Kramer[2] and J. Liu[1] *1. Department of Physics, University of Texas at Arlington, Arlington, TX; 2. Division of Materials Science and Engineering, Ames Laboratory,, Iowa State University,, Ames, IA*

DS-07. Magnetic properties of exchange-coupled PtFe/Fe films with Cr_2O_3 and Cu spacer layers. W. Cui[1], W. Liu[1], W. Gong[1], *D. Li*[1], F. Yang[1], X. Lv[1], X. Liu[1], S. Guo[1] and Z. Zhang[1] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research and International Center for Materials Physics, Chinese Academy of Sciences, Shenyang, Liaoning, China*

DS-08. Enhanced magnetic properties of Bi-substituted cobalt ferrites. *A. Franco Jr*[1], F.A. Machado[2], V.S. Zapf[3] and F. Wolff-Fabris[4] *1. Instituto de Física, Universidade Federal de Goias, Goiânia, Goias, Brazil; 2. Departamento de Física, Universidade Federal de Pernambuco, Recife, PE, Brazil; 3. National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM; 4. Dresden High Magnetic Field, Laboratory (HLD),, Dresden, Germany*

DS-09. A novel route for preparing remanence enhanced NdFeB based permanent magnetic nanocomposites. K. Su[1], *Z. Liu*[1], X. Zhong[1], H. Yu[1], W. Qiu[1] and D. Zeng[1] *1. School of Materials Science and Engineering, South China University of Technology, Guangzhou, Guangdong, China*

DS-10. Anisotropic nanoflakes and laminated bulk $Sm(CoNb)_7$ magnets produced from various precursor alloy powders. Y. Shen[3], Z. Turgut[1], Z. Chen[4], J.C. Horwath[2] and *M. Huang*[1] *1. Wright-Patterson Air Force Research Laboratory, UES inc, Dayton, OH; 2. Wright-Patterson Air Force Research Laboratory, Dayton, OH; 3. Magnetic Laboratory, University of Dayton, Dayton, OH; 4. Magnequench Inc., 61 Science Park Road, 01-17 Galen, Singapore 117525, Singapore*

DS-11. Ultra-high coercivity in ternary Tb-Fe-B melt-spun ribbons. R. Liu[1], *M. Yue*[1], T. Li[1], H. Zhang[1], W. Liu[1] and J. Zhang[1] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China*

DS-12. Magnetic properties of anisotropy $Pr_2Fe_{14}B/\alpha$-Fe nanocomposite permanent magnet. X. Chen[1,2], J. Yin[3], H. Zhang[1], H. Jiang[2], *W. Wang*[1] and G. Wu[1] *1. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Physics, Capital Normal University, Beijing, China; 3. Physic, School of Applied Science, University of science & Technology Beijing, Beijing, China*

DS-13. Magnetic Properties of Dual L10-FePt with MgO Spacing Layer of Varying Thickness. *H. Pin*[1,2], H. Guchang[2], C. Gan-Moog[1] and C. Jingsheng[1] *1. National University of Singapore, S'pore, Singapore; 2. Data Storage Institute, S'pore, Singapore*

DS-14. In-Rotating Liquid Spinning NdFeB Amorphous and Nanostructured Microwires. H. Chiriac[1], S. Corodeanu[1], G. Ababei[1] and *N. Lupu*[1] *1. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania*

TUESDAY AFTERNOON 3:00

GRAND HALL EAST

Session DT
MgO-BASED TUNNEL JUNCTIONS I (POSTER SESSION)

Hitoshi Kubota, Chair

DT-01. Voltage control of magnetic anisotropy in Au/ultrathin Fe(Co)/MgO and Au/ultrathin Fe/Au/MgO junctions. *T. Nozaki*[1,2], S. Murakami[1], Y. Shiota[1], T. Shinjo[1] and Y. Suzuki[1] *1. Osaka Univ., Toyonaka, Osaka, Japan; 2. PRESTO, JST, Kawaguchi, Saitama, Japan*

DT-02. Fe|CoGd and CoFeB|CoGd bilayers for free layer application in spin-torque-switched devices. *G. Hu*[1], D.W. Abraham[1] and J. Sun[1] *1. IBM T J Watson Research Center, Yorktown Heights, NY*

DT-03. Spin-torque diode effect in magnetic tunnel junctions with synthetic ferrimagnetic layers. *N. Inami*[1], H. Naganuma[1], M. Oogane[1], Y. Ando[1], S. Ikeda[2] and H. Ohno[2] *1. Dept. Applied Physics, Tohoku University, Sendai, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

DT-04. Perpendicular magnetic tunnel junctions with Co/Ni and TbFe layers. *G. Feng*[1] and W.F. Egelhoff[1] *1. Magnetic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD*

DT-05. The dependence of the magnetic anisotropy on buffer layer and MgO thickness in $Co_{20}Fe_{60}B_{20}$/MgO structures for magnetic tunnel junction. *M. Yamanouchi*[1], R. Koizumi[2], S. Ikeda[1,2], K. Mizunuma[2], K. Miura[1,3], H. Gan[1], F. Matsukura[1,2] and H. Ohno[1,2] *1. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan*

DT-06. MgO magnetic tunnel junctions with a synthetic free layer consisting of CoFeB/Ru/perpendicular magnet. *Y. Lee*[1,3], B. Min[1], G. Choi[1], J. Langer[2], B. Ocker[2], W. Maass[2], Y. Kim[3] and K. Shin[1] *1. Korea Institute of Science and Technology (KIST), Seoul, Korea, Republic of; 2. Singulus Technologies Ag, Kahl am Main, Germany; 3. Korea University, Seoul, Korea, Republic of*

DT-07. Strong Perpendicular Magnetic Anisotropy in an MgO/CoFeB/Pd Unit Structure with a Thick CoFeB Layer. *J. Jung*[1], S. Lim[1] and S. Lee[1] *1. Department of Materials Science and Enginerring, Korea University, Seoul, Korea, Republic of*

DT-08. High Temperature Annealing Stability of MgO Based Perpendicular MTJ with CoFeB Polarizing Layer. *T. Rahman*[1], A. Lyle[1], G. Hu[2], W. Gallagher[2] and J. Wang[1] *1. MINT center, Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. T.J Watson research center, IBM, New York, NY*

DT-09. High temperature annealing induced superparamagnetism in CoFeB/MgO/CoFeB tunneling junctions. *X. Kou*[1], W. Wang[2], X. Fan[1], L.R. Shah[1], R. Tao[1] and J.Q. Xiao[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Physics and Astronomy, Johns Hopkins University, Baltimore, MD*

DT-10. Evolution of low-frequency magnetoresistance noise in CoFeB/MgO/CoFeB tunnel junctions during annealing. *R. Stearrett*[1], W.G. Wang[1], L.R. Shah[1], J.Q. Xiao[1] and E.R. Nowak[1] *1. Physics and Astronomy, University of Delaware, Newark, DE*

DT-11. Fully Epitaxial Fe/MgO/Fe(001) Junctions with Nonmagnetic Metal Layer Insertion. *T. Niizeki*[1], S. Mitani[1], H. Sukegawa[1], S. Kasai[1] and K. Inomata[1] *1. National Institute for Materials Science (NIMS), Tsukuba, Japan*

DT-12. Effects of hybrid free layer on high tunneling magnetoresistance ratio in double MgO barrier magnetic tunnel junctions. *D. Kim*[1], J. Cho[1], B. Chun[1], S. Isogami[2], M. Tsunoda[2], M. Takahashi[2] and Y. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

DT-13. Spin-Dependent Transport Properties in Fe/MgO(100)/CuPC/Py Hetero Tunnel Junctions. *Y. Bae*[1], N. Lee[1], T. Kim[1], J. Lee[2], H. Cho[3], C. Lee[3], L. Fleet[4] and A. Hirohata[4] *1. Department of Physics, Ewha Womans University, Seoul, Korea, Republic of; 2. PATRON Co., LTD, Hwaseong, Korea, Republic of; 3. School of Electrical Engineering and Computer Science, Seoul National University, Seoul, Korea, Republic of; 4. Department of Electronics, The University of York, York, United Kingdom*

TUESDAY AFTERNOON 3:00

GRAND HALL EAST

Session DU
MAGNETIC MICROSCOPY AND INSTRUMENTATION (POSTER SESSION)

Guido Meier, Chair

DU-01. Spatial Micromagnetic Imaging via the Topological Hall Effect. *C. Lee*[1,4], S. Tan[1,2], M.A. Jalil[2,3], S.G. Wu[1,2] and N. Chen[1,5] *1. Data Storage Institute, A*STAR (Agency for Science, Technology and Research), Singapore, Singapore; 2. Computational Nanoelectronics and Nano-device Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 3. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 4. Department of Physics, Stanford University, Stanford, CA; 5. NUS High School, Singapore, Singapore*

DU-02. Spin Structure In The Domain Wall Of Magnetic Stripe Phase. *G. Chen*[1], J. Li[1], A. Quesada[2], A. Schmid[2], Y. Huo[1] and Y. Wu[1] *1. Physics department, Fudan university, Shanghai, China; 2. NCEM, Lawrence Berkeley National Laboratory, Berkeley, Berkeley, CA*

DU-03. Micromagnetic study on the perturbative effect of CNT-MFM probe on soft magnetic materials. *H. Asada*[1], H. Kubo[1], A.S. Hazrina[1], T. Manago[2], H. Kuramochi[3], F. Takano[4] and H. Akinaga[4] *1. Yamaguchi University, Ube, Japan; 2. Fukuoka University, Fukuoka, Japan; 3. National Institute for Materials Science, Tsukuba, Japan; 4. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

DU-04. Measurement of Magnetic Near Field on a Coplanar Waveguide Using a MFM Tip. *Y. Endo*[1], M. Watanabe[1], Y. Mitsuzuka[1], Y. Shimada[1] and M. Yamaguchi[1] *1. Department of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

DU-05. Effect of the tip-contact interaction on the MFM image of magnetic nano-contact. *T. Kaneko*[1] and H. Imamura[1] *1. Nanosystem Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan*

DU-06. Magnetization switching characteristics of amorphous NiFeSiB confirmed by magneto-optical indicator film method. *B. Chun*[1], Y. Kim[1], Y. Lee[2], C. Lee[2], J. Hwang[3] and J. Rhee[3] *1. Material Science, Korea University, Seoul, seoul, Korea, Republic of; 2. Department of Materials Science and Engineering, Changwon National University, Changwon, Korea, Republic of; 3. Department of Physics, Sookmyung Women's University, Seoul, Korea, Republic of*

DU-07. Simultaneous MFM imaging of perpendicular and in-plane magnetic field gradient on $La_{0.7}Sr_{0.3}MnO_3$ granular film with in-plane magnetization. *Z. Li*[1], G. Egawa[1], S. Yoshimura[1], H. Saito[1], G. Li[2] and H. Asano[3] *1. Graduate School of Engineering & Resource Science, Akita University, Akita, Japan; 2. School of Physical Science and Technology, South Western University, Chongqing, China; 3. Graduate School of Engineering, Nagoya University, Nagoya, Japan*

DU-08. Design of a Self-Aligned, Wide Temperature Range (300mK-300K), Magnetic Force Microscope(MFM) with <10nm Resolution. *O. Karci*[1], M. Dede[1] and A. Oral[2] *1. NanoMagnetics Instruments Ltd., Oxford, United Kingdom; 2. Sabanci University, Istanbul, Turkey*

DU-09. MRI using a superconducting magnet with an off-centered homogeneous field zone. *M. Sekino*[1], A. Miyazoe[1], H. Ohsaki[1], T. Hisatsune[1], O. Ozaki[2], T. Kiyoshi[3] and H. Wada[3] *1. The University of Tokyo, Kashiwa, Japan; 2. Kobe Steel Ltd., Kobe, Japan; 3. National Institute for Materials Science, Tsukuba, Japan*

DU-10. Investigation of Bit-patterned Media by High-resolution Magnetic Force Microscopy. *T.V. Ashworth*[1], J. Ahner[2], S. Vranjkovic[3] and H. Hug[3] *1. NanoScan AG, Duebendorf, Switzerland; 2. Seagate, Fremont, CA; 3. Empa, Duebendorf, Switzerland*

DU-11. Recent Advances in the Metrology of Magnetostriction of Ultrathin Films. *C. Mathieu*[1] and B. Megdal[2] *1. Seagate, Bloomington, MN; 2. Shb Instruments, Northridge, CA*

DU-12. Analysis of volume distribution of power loss in ferrite cores. *M. LoBue*[1], V. Loyau[1] and F. Mazaleyrat[1] *1. SATIE, ENS Cachan, CNRS, Cachan, France*

DU-13. Automatized angular dependent MOKE measurements for magnetic anisotropy studies. R. Lusche[1], J.M. Teixeira[1], *J. Ventura*[1], D. Leitao[1], R. Fermento[1], J.P. Araujo[1], R. Macedo[2], S. Cardoso[2] and P.P. Freitas[2] *1. IFIMUP, Porto, Portugal; 2. INESC-MN, Lisbon, Portugal*

DU-14. The study of ordering of Fe_3Ni alloy using neutron diffraction and EXAFS. *D. Park*[1], S.S. Kim[1], Y.S. Kim[1] and Y.M. Cheong[1] *1. Nuclear Materials Research Division, Korea Atomic Energy Research Institue (KAERI), Daejeon, Korea, Republic of*

DU-15. Differential pulsed eddy current probe to detect the sub-surface defects in stainless steel. *C.S. Angani*[1,2], D.G. Park[1], C.G. Kim[2] and Y.M. Cheonh[1] *1. Nueclear material research division, KoreaAtomic Energy Research Institue, Daejeon, Korea, Republic of; 2. Materials Science and Engineering, Chungnam National University, Daejeon, Korea, Republic of*

TUESDAY AFTERNOON 3:00

GRAND HALL EAST

Session DV
MAGNETORESISTANCE, MAGNETOIMPEDANCE, AND HALL EFFECT (POSTER SESSION)

Manh-Huong Phan, Chair

DV-01. Detection of Weak Magnetic Flux Using a Nanoscale, Rashba-Metal Ring with Half-Metal Electrodes. *J. Chen*[1], M. Jalil[1,2] and S. Tan[1,3] *1. Computational Nanoelectronics and Nano-device Laborator,Electrical and Computer Engineering Department,National University of Singapore, Singapore, Singapore; 2. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, A*STAR (Agency for Science, Technology and Research), Singapore, Singapore*

DV-02. Clear correspondence between magnetoresistance and magnetization of epitaxially grown ordered FeRh thin films. *I. Suzuki*[1], T. Naito[1], M. Itoh[1], T. Sato[2] and T. Taniyama[1,3] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Department of Applied Physics and Physico-Informatics, Faculty of Science and Technology, Keio University, Yokohama, Japan; 3. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan*

DV-03. Hall transport measurement in $Cu_{1-x}Ni_x$ alloys as a function of composition and temperature. *K. Zeissler*[1], N.A. Stelmashenko[2], J.D. Witt[2], J.W. Robinson[2], M.G. Blamire[2], S. Ladak[2], W.R. Branford[1] and L.F. Cohen[1] *1. Physics, Imperial College London, London, United Kingdom; 2. Department of Materials Science & Metallurgy, University of Cambridge, Cambridge, United Kingdom*

DV-04. Incorporating magneto resistance into MQCA logic. *A. Lyle*[1], J. Harms[1], A. Klemm[1] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

DV-05. Tunnel Magneto-impedance under Bias Electric Field on the CoFeB/AlOX/CoFeB Magnetic Tunnel Junctions. C. Fu[1], *M. Kuo*[2], X. Han[3], C. Chang[2] and C. Chou[2] *1. Physics Department, National Taiwan University, Taipei, Taiwan; 2. Institute of Applied Mechanics, National Taiwan University, Taipei, Taiwan; 3. Institute of Physics, Chinese Academy of Sciences, BeiJing, China*

DV-06. Geometrical effect on the GMI response in a trilayered magnetic structure. *C. Garcia*[1], J.M. Florez[2], P. Vargas[2] and C.A. Ross[1] *1. Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Departamento de Física, Universidad Técnica Federico Santa María,, Valparaiso, Chile*

DV-07. Enhanced low-field magnetoimpedance effect in soft ferromagnetic amorphous ribbons coated with magnetic metals. *N. Laurita*[1], A. Chaturvedi[1], A. Leary[2], C. Bauer[1], P. Jayathilaka[1], C.W. Miller[1], M.E. McHenry[2], M.H. Phan[1] and H. Srikanth[1] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Materials Science and Engineering, Carnegie-Mellon University, Pittsburgh, PA*

DV-08. Buffer layer-enhanced magnetic field effect in $La_{0.5}Ca_{0.5}MnO_3/LaMnO_3/SrTiO_3$:Nb junctions. W. Gao[1], J. Sun[1], X. Lu[1], D. Shang[1], J. Wang[1], *F. Hu*[1] and B. Shen[1] *1. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Science, Beijing, Beijing, China*

DV-09. Anomalous Hall effect of amorphous TbFe thin films. L. Ye[1], C. Lee[1,2], J. Liu[2], J. Lin[3], Y. Chang[3], C. Huang[4] and *T. Wu*[1,5] *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; 4. Department of Physics, National Taiwan Normal University, Taipei, Taiwan; 5. Graduate School of Information Technology, Overseas Chinese University, Taichung, Taiwan*

DV-10. Magnetic properties and magnetoresistance effect of spinels Cd1-xCuxCr2S4 (x=0, 0.01, 0.04, 0.1, 0.2). L. Yan[1], F. Wang[1], L. He[1], J. Shen[2] and *Y. Sun*[1] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Key Laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China*

DV-11. Dynamical magnetotransport in Ln0.6Sr0.4MnO3 (Ln = La, Sm). V.B. Naik[1], A. Rebello[1] and *M. Ramanathan*[1] *1. Physics, National university of Singapore, Singapore, Singapore*

DV-12. Positive magnetoresistance in Fe_3Se_4 nanowires. *D. Li*[1], J.J. Jiang[1], W. Liu[1] and Z.D. Zhang[1] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, and International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*

DV-13. Detection of domain wall position in nanowires using magnon magnetoresistance measurements. V. Nguyen[1,2], L. Vila[1,2], A. Marty[1,2], T. Faivre[1,2], J. Pillet[1,2], A. Mihai[1,2], P. Laczkovski[1,2], Q. Riffard[1,2], L. Notin[1,2] and *J. Attané*[1,2] *1. INAC, SP2M, CEA Grenoble, 17 avenue des Martyrs, 38054 Grenoble, France; 2. Université Joseph Fourier, BP 53 - 38041 Grenoble, France*

DV-14. Fermi level spin polarisation of polycrystalline Thulium by Point Contact Andrev Reflection Spectroscopy. *P.S. Stamenov*[1] and M. Coey[1] *1. School of Physics and CRANN, Trinity College, Dublin 2, Ireland*

DV-15. Point Contact Andreev Reflection Measurements of Spin Polarisation at the Compensation Point of Rare-Earth-Metal-Transition-Metal Alloys. *B. Hickey*[1], A.D. Naylor[1] and G. Burnell[1] *1. Physics and Astronomy, Univeristy of Leeds, Leeds, United Kingdom*

TUESDAY AFTERNOON 3:00 — GRAND HALL EAST

Session DW
SOFT FERRITE MATERIALS I (POSTER SESSION)

Aria Yang, Chair

DW-01. The analysis of magneto-static surface wave (MSSW) propagating in YIG/dielectric/YIG/GGG double-layered magnetic film structure and its applications. *Q. Yang*[1], H. Zhang[1] and Y. Liu[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

DW-02. Magnetically tunable microstrip hairpin-line bandpass filter on a polycrystalline YIG substrate. *A.L. Geiler*[1], S.M. Gillette[1], Z. Chen[1], Y. Chen[1], T. Arruda[2], C. Xie[3], L. Wang[3], X. Zhu[3], M. Liu[3], S. Mukerjee[2], C. Vittoria[1] and V.G. Harris[1] *1. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Department of Chemistry and Chemical Biology, Northeastern University, Boston, MA; 3. Institute of Microelectronics, Chinese Academy of Sciences, Beijing, China*

DW-03. Improvement of High-Frequency Characteristics of Z-type Hexaferrite by Dysprosium Doping. *C. Mu*[1], Y. Liu[1], H. Zhang[1], Y. Song[1] and Y. Li[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

DW-04. Magnetic and microwave properties of ferrimagnetic Zr-substituted $Ba_2Zn_2Fe_{12}O_{22}$ (ZnY) single crystal. *J. Jalli*[1], Y. Hong[1], S. Bae[1], J. Lee[1], G.S. Abo[1], J. Park[1], S. Kim[2], T. Mewes[3], B. Choi[4], S. Gee[5], S.C. Erwin[6], I. Nam[7], T. Tanaka[8], R. Syslo[1] and N. Neveu[1] *1. Department of Electrical and Computer Engineering and MINT Center, University of Alabama, Tuscaloosa, AL; 2. Department of Physics and Astronomy, Mississippi State University, Mississippi State, MS; 3. Department of Physics and Astronomy and MINT Center, University of Alabama, Tuscaloosa, AL; 4. Department of Physics and Astronomy, University of Victoria, Victoria, BC, Canada; 5. Seagate Technologies, Bloomington, MN; 6. Center for Computational Materials Science, Naval Research Laboratory, Washington, DC; 7. Department of Advanced Materials Engineering, Kangwon National University, Chooncheon, Korea, Democratic People's Republic of; 8. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan*

DW-05. Enhanced reflection loss characteristics of substituted barium ferrite/functionalized multi-walled carbon nanotube nanocomposites. A. Ghasemi[1], *X. Liu*[1] and A. Morisako[1] *1. shinshu university, Nagano, Japan*

DW-06. Improvement of initial permeability for low fired Z-type barium ferrite by microwave sintering. *L. Jia*[1], H. Zhang[1], Z. Li[1], H. Su[1], Q. Wen[1] and B. Liu[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

DW-07. Low-temperature sintering, structure and magnetic properties of CoTi-substituted M-type barium ferrite with BaCu(B2O5) additive. D. Chen[1], Y. Liu[1], Y. Li[1], W. Zhong[1] and *H. Zhang*[1] *1. State Key Laboratory of Electronic Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

DW-08. High frequency magnetic properties of Co_2Z hexaferrite prepared by Sol-Gel method. L. Deng[1], *M. Han*[1] and W. Chen[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

DW-09. Microwave and magnetic properties of Gd-doped barium hexaferrite. *Y. Chen*[1,2], J. Wang[1,2], T. Fitchorov[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*

DW-10. Mössbauer spectra of the Co substituted *Y*-type Ba-ferrite $Ba_2Co_2Fe_{12}O_{22}$ *I. Lee*[1], H. Cho[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of*

DW-11. Preparation and Magnetic Properties of Barium Hexaferrites From Auto-Combustion Precursors. M.M. Doyle[1], S.E. Hamermesh[1], M.W. Lattanzi[1] and *K.M. Unruh*[1] *1. Physics and Astronomy, University of Delaware, Newark, DE*

DW-12. Dielectric relaxation and magnetic behavior of bismuth-substituted yttrium iron garnet. *Y. Siao*[1], X. Qi[1], C. Lin[2] and J. Huang[3] *1. Department of Materials Science and Engineering, National Cheng Kung University, Tainan, Taiwan; 2. Institute of Nanotechnology and Department of Mechanical, Southern Taiwan University, Tainan, Taiwan; 3. Department of Physics, National Cheng Kung University, Tainan, Taiwan*

DW-13. Magneto-optical effect and Ferromagnetic Resonance of Bi-Fe Garnet for High Frequency Electromagnetic Sensor. *N. Adachi*[1], K. Yogo[1], T. Ota[1], Y. Takahashi[2,3] and K. Ishiyama[2] *1. Ceramics Research Laboratory, Nagoya Institute of Technology, Nagoya, Japan; 2. Tohoku University, Sendai, Japan; 3. Taiyo Yuden Co., Takasaki, Japan*

DW-14. Smart magnetodielectric nano-materials for antenna miniaturization in the radio frequency range. A. Thakur[1], P. Thakur[2] and *J. Hsu*[1] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Physics, Himachal Pradesh University, Shimla, India*

DW-15. Sintering dense NiZn ferrite by two-step sintering process. *H. Su*[1], H. Zhang[1], X. Tang[1], Z. Zhong[1] and J. Shen[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

WEDNESDAY MORNING 8:30 — CENTENNIAL I

Session EA
SYMPOSIUM ON TOPOLOGICAL INSULATORS AND QUANTUM SPIN HALL EFFECT

Claudia Felser, Chair

8:30

EA-01. Quantum Spin Hall Effect and Topological insulators. ***(Invited)*** *S. Zhang*[1] *1. Stanford University, Stanford, CA*

9:06

EA-02. Visualizing Scattering and Transmission of Topological Surface States. ***(Invited)*** *A. Yazdani*[1] *1. Physics, Princeton University, Princeton, NJ*

9:42

EA-03. Electronic Structure of Topological Quantum Matter. ***(Invited)*** *Z. Shen*[1] *1. Department of Physics, Applied Physics and SLAC Photon Science, Stanford University, Stanford, CA*

10:18

EA-04. Novel properties of topological insulator thin films of Bi2Te3 and Bi2Se3 prepared by molecular beam epitaxy. ***(Invited)*** *Q. Xue*[1] *1. Tsinghua University, Beijing, China*

10:54

EA-05. Unconventional Superconductivity on a Topological Insulator. ***(Invited)*** *N. Nagaosa*[1,2] *1. Appl. Physics, University of Tokyo, Tokyo, Japan; 2. CMRG and CERG, Riken-ASI, Wako, Japan*

WEDNESDAY MORNING 8:30

CENTENNIAL II

Session EB
EXCHANGE BIAS I
Andrew Baruth, Chair

8:30

EB-01. Bimodal distributions of blocking temperature and their impact in exchange biased spintronic nanodevices. *V. Baltz*[1], G. Gaudin[1], P. Somani[1], B. Rodmacq[1], B. Auffret[1] and B. Dieny[1] *1. SPINTEC, UMR 8191 CNRS/CEA/UJF, Grenoble, France*

8:42

EB-02. Local breaking of the spin-orbit interaction: The microscopic origin for exchange bias in Co/FeMn? *E.J. Goering*[1], S. Brueck[2,1], P. Audehm[1] and G. Schütz[1] *1. Schuetz, Max-Planck-Institute for Metals Research, Stuttgart, BW, Germany; 2. University of Würzburg, Würzburg, Bayern, Germany*

8:54

EB-03. Depth profile and coupling geometry of uncompensated moments in the Fe/MnPd exchange bias system. *S. Brück*[1,2], S. Macke[2], X. Ji[3], Q. Zhan[3], E. Goering[2] and K. Krishnan[3] *1. Physikalisches Institut, University of Würzburg, Würzburg, Germany; 2. Dept. Prof. Schütz, Max Planck Institute for Metals Research, Stuttgart, Germany; 3. Department of Materials Science and Engineering, University of Washington, Seattle, WA*

9:06

EB-04. Uncompensated Magnetization in FeF_2 and Intrinsic Exchange Bias. *I.V. Roshchin*[1,2], K.E. Badgley[1], M. Zherenkov[3], M.R. Fitzsimmons[3], H. Ponce[4], A.H. Romero[4], C.W. Miller[5] and I.K. Schuller[6] *1. Department of Physics and Astronomy, Texas A&M University, College Station, TX; 2. Materials Science and Engineering Program, Texas A&M University, College Station, TX; 3. Los Alamos Neutron Science Center, Los Alamos National Laboratory, Los Alamos, NM; 4. CINVESTAV, Queretaro, Mexico; 5. Department of Physics, University of South Florida, Tampa, FL; 6. Department of Physics, University of California, San Diego, La Jolla, CA*

9:18

EB-05. Depth Dependent Study of the Interfacial Magnetic Order in Exchange Biased IrMn/CoFe. *L.E. Fernandez-Outon*[1], J.D. Ardisson[1] and W.A. Macedo[1] *1. Serviço de Nanotecnologia, Centro de Desenvolvimento da Tecnologia Nuclear, Belo Horizonte, Minas Gerais, Brazil*

9:30

EB-06. Perpendicular exchange coupling of chemically ordered PtFe/PtMn bilayer on Pt(001) single-crystal. *M.M. Soares*[1], H.C. Tolentino[1], M. De-Santis[1], A.Y. Ramos[1], J.C. Cezar[2], F. Yildiz[3] and M. Przybylski[3] *1. Institut Néel, CNRS and UJF, Grenoble, France; 2. ESRF, Grenoble, France; 3. Exp. Dep. 1, Max Planck Institute of Microstructure Physics, MPI, Halle, Germany*

9:42

EB-07. Impurity and Defect Effects in Exchange Bias Systems. B. Kaeswurm[1], N.C. Cramp[1], G. Vallejo Fernandez[2] and *K. O'Grady*[1] *1. Department of Physics, The University of York, York YO10 5DD, United Kingdom; 2. Department of Physics& Astronomy, University of Glasgow, Glasgow G12 8QQ, United Kingdom*

9:54

EB-08. Exchange Bias in Magnetic Nanocolloids. *F. Gomes da Silva*[1,2], R. Aquino[1], J. Aquino[1], F.A. Tourinho[1], V. Dupuis[2] and R. Perzynski[2] *1. Physics Institute, Universidade de Brasilia, Brasilia, DF, Brazil; 2. Physics Institute, Université Pierre et Marie Curie, Paris, France*

10:06

EB-09. Role of anisotropy configuration in exchange-biased systems. *E. Jimenez*[1], J. Camarero[1,2], J. Sort[3], J. Nogues[4], J. Garcia-Martin[5], N. Mikuszeit[2], P. Perna[2], F.J. Teran[2], A. Hoffmann[6], B. Dieny[7] and R. Miranda[1,2] *1. Universidad Autonoma de Madrid-INC, Madrid, Spain; 2. IMDEA-Nanociencia, Madrid, Madrid, Spain; 3. ICREA-Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain; 4. ICREA-ICN-CSIC-UAB, Bellaterra, Barcelona, Spain; 5. IMM-CSIC-CNM, Madrid, Madrid, Spain; 6. Argonne National Lab-CNM-MSD, Illinois, IL; 7. SPINTEC,CEA/CNRS/UJF, Grenoble, France*

10:18

EB-10. Exchange bias, size and proximity effects in inverted, antiferromagnetic (AFM)/ferrimagnetic (FiM), core/shell nanoparticles. ***(Invited)*** *J. Nogues*[1], A. Lopez-Ortega[2], M. Estrader[2], D. Tobia[3], E. Winkler[3], S. Estrade[4], I. Golosovsky[5], J. Sort[6], G. Salazar-Alvarez[7], J.D. Ardisson[8], W.A. Macedo[8], K.L. Krycka[9], J.A. Borchers[9], J. Arbiol[10], F. Peiro[4], S. Suriñach[11], R.D. Zysler[3] and M.D. Baro[11] *1. ICREA and, Centre d'Investigacio en Nanociencia i Nanotecnologia, Bellaterra, Spain; 2. Centre d'Investigacio en Nanociencia i Nanotecnologia, Bellaterra, Spain; 3. Centro Atomico Bariloche, S.C. de Bariloche, Argentina; 4. MIND-IN2UB, Dept. d'Electrònica, Univ. de Barcelona, Barcelona, Spain; 5. St. Petersburg Nuclear Physics Institute, Gatchina, Russian Federation; 6. ICREA and Dept. de Fisica, Universitat Autonoma de Barcelona, Bellaterra, Spain; 7. Dept. of Materials and Environmental Chemistry, Stockholm Univ., Stockholm, Sweden; 8. 8Serviço de Nanotecnologia, Centro de Desenvolvimento da Tecnologia Nuclear, Belo Horizonte, Brazil; 9. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 10. ICREA and, Institut de Ciencia de Materials de Barcelona, Bellaterra, Spain; 11. Dept. de Fisica, Universitat Autonoma de Barcelona, Bellaterra, Spain*

10:54

EB-11. Spin Structure and Exchange Bias in Fe-Co/CrPt. *R. Zhang*[1,2], R. Skomski[1,2], P. Manchanda[3], A. Kashyap[3], S. Liou[1,2] and D.J. Sellmyer[1,2] *1. Physics & Astronomy, Univ. of Nebraska-Lincoln, Lincoln, NE; 2. Nebraska Center for Materials and Nanoscience, Lincoln, NE; 3. LNM Institute of Information Technology, Jaipur, Rajasthan, India*

11:06

EB-12. Cr-addition to CoO in a CoO-Co/Pt multilayer system and enhancement of exchange bias. *M.A. Marioni*[1], S. Romer[1], P. Kappenberger[1,3], N. Joshi[2], S. Oezer[2] and H.J. Hug[1,2] *1. Empa, Swiss Federal Institute for Materials Testing and Research, Duebendorf, Switzerland; 2. Institute of Physics, University of Basel, Basel, Switzerland; 3. INFICON, Balzers, Liechtenstein*

11:18

EB-13. Diffusion interface and partially Coherent Nucleation Modes in Exchange Bias. *G. Zhao*[1,3], Y. Feng[2] and H. Zhang[3] *1. College of Physics and Electronic Engineering, Sichuan Normal University, Chengdu, Sichuan, China; 2. Department of Physics, National University of Singapore, Singapore,, Singapore; 3. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

WEDNESDAY MORNING 8:30

CENTENNIAL III

Session EC
SPIN TRANSFER TORQUE OSCILLATORS I

Stefano Bonetti, Chair

8:30

EC-01. Theory of Magnetic Hysteresis in Films and Its Application to Computers: Then and Now. ***(Invited)*** *J. Slonczewski*[1] *1. Katonah Research Center, Katonah, NY*

9:06

EC-02. Spin Torque Resonance Measurements of 2- and 3-Terminal Magnetic Devices: Investigating Prospects for Signal Amplification by Magnetic Tunnel Junctions. *L. Xue*[1], C. Wang[1], Y. Cui[1], R.A. Buhrman[1] and D.C. Ralph[1] *1. Cornell University, Ithaca, NY*

9:18

EC-03. Spin torque diode detectors with sensitivity exceeding that of Schottky diodes. ***X. Cheng***[1], J.A. Katine[2], G.E. Rowlands[1] and I.N. Krivorotov[1] *1. Physics and Astronomy, University of California Irvine, Irvine, CA; 2. Hitachi Global Storage Technologies, San Jose, CA*

9:30

EC-04. Highly effective spin-torque diode with out-of-plane precessing magnetic moment. O.V. Prokopenko[2], *V. Tyberkevych*[1], A.N. Slavin[1] and I.N. Krivorotov[3] *1. Department of Physics, Oakland University, Rochester, MI; 2. National Taras Shevchenko University of Kyiv, Kyiv, Ukraine; 3. Department of Physics and Astronomy, University of California, Irvine, CA*

9:42

EC-05. Frequency modulation of spin-torque oscillator under a nanosecond magnetic pulse. *T. Nagasawa*[1], H. Suto[1], K. Kudo[1], K. Mizushima[1] and R. Sato[1] *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*

9:54

EC-06. Time-resolved measurements of vortex core reversal in vortex magnetic nanocontact oscillators. T. Devolder[1,2], *J. Kim*[1,2], M. Manfrini[3], W. van Roy[3], L. Lagae[3] and C. Chappert[1,2] *1. Institut d'Electronique Fondamentale, Univ. Paris-Sud, Orsay, France; 2. UMR 8622, CNRS, Orsay, France; 3. IMEC, Leuven, Belgium*

10:06

EC-07. Modulation of nanocontact-based spin torque oscillator pairs. *Y. Pogoryelov*[1], P.K. Muduli[2], S. Bonetti[1], F. Mancoff[3] and J. Åkerman[1,2] *1. Material Physics, Royal Institute of Technology, Stockholm, Sweden; 2. Physics Department, University of Gothenburg, Gothenburg, Sweden; 3. Everspin Technologies, Inc., Chandler, AZ*

10:18

EC-08. Parametric excitation and synchronization of a spin-torque nano-oscillator. *S. Urazhdin*[1], V.S. Tiberkevich[2] and A.N. Slavin[2] *1. Physics, West Virginia University, Morgantown, WV; 2. Physics, Oakland University, Rochester, MI*

10:30

EC-09. Large locking range and fractional synchronization in vortex based spin transfer oscillators. ***A. Dussaux***[1], A.V. Khvalkovskiy[1,2], J. Grollier[1], V. Cros[1], A. Fukushima[3], M. Konoto[3], H. Kubota[3], K. Yakushiji[3], S. Yuasa[3], K. Ando[3] and A. Fert[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. A.M. Prokhorov General Physics Institute of RAS, Moscow, Russian Federation; 3. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan*

10:42

EC-10. Studies of Spin Transfer Nanocontact Oscillators with Patterned Free Layers. *M. Pufall*[1], W.H. Rippard[1], S.E. Russek[1], M.W. Keller[1] and H. Qiao[2] *1. NIST, Boulder, CO; 2. Georgia Institute of Technology, Atlanta, GA*

10:54

EC-11. Spin-torque-driven ferromagnetic resonance in point contacts. T. Staudacher[1] and *M. Tsoi*[1] *1. Physics, The University of Texas at Austin, Austin, TX*

11:06

EC-12. Micromagnetic study of phase-locking in spin-transfer nano-oscillators driven by AC currents and fields. M. d'Aquino[1], *C. Serpico*[2], R. Bonin[3], G. Bertotti[4] and I.D. Mayergoyz[5] *1. Department of Technology, University of Napoli "Parthenope", Napoli, Italy; 2. Department of Electrical Engineering, University of Napoli "Federico II", Napoli, Italy; 3. Politecnico di Torino - sede di Verres, Aosta, Italy; 4. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 5. ECE Department and UMIACS, University of Maryland, College Park, MD*

11:18

EC-13. Nucleation and modulation speed of vortex-based oscillators. *M. Manfrini*[1], T. Devolder[2], J. Kim[2], P. Crozat[2], C. Chappert[2], W. Van Roy[1] and L. Lagae[1] *1. IMEC, Leuven, Belgium; 2. Institut d'Electronique Fondamentale, CNRS, Univ. Paris-Sud, Orsay, France*

WEDNESDAY MORNING 8:30 — CENTENNIAL IV

Session ED
FRUSTRATED AND LOW DIMENSIONAL SYSTEMS

Ivelisse Cabrera, Chair

8:30

ED-01. Direct observation of magnetic monopole defects in artificial spin-ice. ***(Invited)*** *S. Ladak*[1], D. Read[1], G. Perkins[1], L.F. Cohen[1] and W.R. Branford[1] *1. Department of Physics, Imperial College, London, United Kingdom*

9:06

ED-02. Emergent magnetic monopoles and associated Dirac strings in artificial kagome spin ice. ***(Invited)*** *H. Braun*[1], L.J. Heyderman[2], E. Mengotti[2], R.V. Hügli[1], A. Fraile Rodríguez[2] and F. Nolting[2] *1. School of Physics, University College Dublin, Dublin, Ireland; 2. Paul Scherrer Institute, Villigen, Switzerland*

9:42

ED-03. Direct observations of magnetically charged vertex motion in an artificial spin-ice lattice. *S. Pollard*[1,2], Y. Zhu[2] and V. Volkov[2] *1. Physics, SUNY - Stony Brook, Stony Brook, NY; 2. Condensed Matter Physics and Materials Science, Brookhaven National Laboratory, Upton, NY*

9:54

ED-04. Non-equilibrium quantum dynamics in the valence bond glass state of the face-centered cubic s = 1/2 antiferromagnet Ba2YMoO6. *M.A. de Vries*[1], J.O. Piatek[2], H.M. Rønnow[2] and J.G. Bos[3] *1. School of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom; 2. Laboratory for Quantum Magnetism, École Fédérale de Lausanne, Lausanne, Switzerland; 3. Department of Chemistry, Heriot-Watt University, Edinburgh, United Kingdom*

10:06

ED-05. Are There Superspin Glasses? *R. Skomski*[1] *1. Physics and Astronomy, University of Nebraska, Lincoln, NE*

10:18

ED-06. Global Stability and Magnetic Phase Diagram of a Frustrated Triangular-Lattice Antiferromagnet. *R. Fishman*[1] and J. Haraldsen[1] *1. Oak Ridge National Laboratory, Oak Ridge, TN*

10:30

ED-07. Is EuSe a Pseudo 2D Magnetic System? *N. Bykovetz*[1], J. Klein[2], c. Lin[3] and K. Raj[4] *1. Department of the Army, CECOM LCMC, AMSEL-SF-R, Fort Monmouth, NJ; 2. Department of Physics & Astronomy, University of Pennsylvania, Philadelphia, PA; 3. Department of Physics, Temple University, Philadelphia, PA; 4. Department of Physics, Fordham University, Bronx, NY*

10:42

ED-08. Magnetic correlations in organic salt materials. *F. Hu*[1], T. Ma[1] and H. Lin[1] *1. The Chinese University of Hong Kong, Hong Kong, China*

10:54

ED-09. Partial antiferromagnetism in spin-chain Sr5Rh4O12, Ca5Ir3O12 and Ca4IrO6 single crystals. *M. Ge*[3,1], O.B. Korneta[1], T. Qi[1], P. Schlottmann[2] and G. Cao[1] *1. Department of Physics and Astronomy, University of Kentucky, Lexington, KY; 2. Department of Physics, Florida State University, Tallahassee, FL; 3. Department of Physics, University of Science and Technology of China, Hefei, China*

11:06

ED-10. Spin Coulomb Drag in the Hubbard Chain. *P.U. Schlottmann*[1] *1. Department of Physics, Florida State University, Tallahassee, FL*

11:18

ED-11. Pressure-induced insulating state in Ba1-xRExIrO3 (RE = Gd, Eu) single crystals. *T. Qi*[1], O.B. Korneta[1], L.E. DeLong[1], P. Schlottmann[2] and G. Cao[1] *1. Department of Physics and Astronomy, University of Kentucky, Lexington, KY; 2. Department of Physics, Florida State University, Tallahassee, FL*

WEDNESDAY MORNING 8:30 — REGENCY V

Session EE
SOFT MAGNETS I
Jordi Sort, Chair

8:30

EE-01. Low core losses of high *B*-FeSiBPCu nanocrystalline alloys for power applications. *(Invited)* *A. Makino*[1], T. Kubota[1], P. Sharma[1], A. Urata[2], H. Matsumoto[2], S. Yoshida[2] and A. Inoue[3] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 2. NEC TOKIN Corporation, Sendai, Miyagi, Japan; 3. Tohoku University, Sendai, Miyagi, Japan*

9:06

EE-02. Fluxmetric/magnetooptical approach to wideband energy losses in amorphous ribbons. *A. Magni*[1], F. Fiorillo[1], A. Caprile[1], E. Ferrara[1] and L. Martino[1] *1. Istituto Nazionale di Ricerca Metrologica, Torino, Italy*

9:18

EE-03. Fabrication and electromagnetic wave absorption properties of amorphous Fe-Si-B microwires. *M. Han*[1], L. Deng[1], J. Xie[1] and L. Chen[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

9:30

EE-04. Stress tunable properties of ferromagnetic microwires and their multifunctional composites. F. Qin[1], *H. Peng*[1], S. Popov[2], L. Panina[3], M. Ipatov[4], V. Zhukova[4], A. Zhukov[4] and J. Gonzalez[4] *1. Aerospace Engineering, University of Bristol, Bristol, Avon, United Kingdom; 2. Taurida National University, Simferopol, Ukraine; 3. University of Plymouth, Plymouth, United Kingdom; 4. Universidad del Pais Vasco, Bilbao, Spain*

9:42

EE-05. Ferromagnetic resonances in single and two-phase magnetic microwires. G. Infante[1], L. Kraus[2], V. Raposo[3], R. El Kammouni[4] and *M. Vázquez*[1] *1. Materials Science Institute of Madrid, CSIC, Madrid, Spain; 2. Institute of Physics, ASCR, Prague, Czech Republic; 3. Departamento de Física Aplicada, Universidad de Salamanca, Salamanca, Spain; 4. Faculty of the Sciences and Techniques, UAE, Tangier, Morocco*

9:54

EE-06. Enhanced soft magnetic properties in magnetic field annealed amorphous Fe(Co)-Zr-B alloys. D. Mishra[1], P. Saravanan[2], *P. Alagarsamy*[1] and A. Srinivasan[1] *1. Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India; 2. Advanced Magnetic Group, Defence Metallurgical Research Laboratory, Hyderabad, Andhra Pradesh, India*

10:06

EE-07. New Fe-based nanocrystalline FeBCSiCu soft magnetic alloys with high magnetic flux density. X. Fan[1,2], F. Kong[1], A. Wang[1], H. Men[1], A. Ma[2], *B. Shen*[1], G. Xie[3], A. Makino[3] and A. Inoue[3] *1. Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Scienes, Ningbo, Zhejiang, China; 2. College of Mechanics and Materials, Hohai University, Nanjing, Jiangsu, China; 3. Institure for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

10:18

EE-08. Enhanced soft magnetic properties in multilayer structured amorphous Fe-Ta-C films. D. Mishra[1], D. Sharma[1], A.K. Singh[1], S. Punathum Chalil[1] and *P. Alagarsamy*[1] *1. Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India*

10:30

EE-09. Crystallographic, electric, and magnetic properties of the FeCo films deposited onto various underlayers. *X. Liu*[1], H. Kanda[1] and A. Morisako[1] *1. Shinshu University, Nagano, Nagano, Japan*

10:42

EE-10. Effect of vanadium concentration on the magnetic moment in CoFeB thin films. *M. Pathak*[1], Z.R. Tadisina[1], A. Natarajarathinam[1], P.R. LeClair[1] and S. Gupta[1] *1. MINT Center, University of Alabama, Tuscaloosa, AL*

10:54

EE-11. Vortex propagation and pinning field dependence on the crystallinity of CoFeB films with various interfaces. *J.W. Lau*[1] and X. Liu[1] *1. National Institute of Standards and Technology, Gaithersburg, MD*

11:06

EE-12. Out-of-plane magnetic patterning based on nanoindentation-induced crystallization of metallic glasses. *J. Sort*[1], A. Varea[2], L. Fernando-Bonavina[3], C. Souza[3], W. Botta[3], C. Bolfarini[3], C. Kiminami[3], S. Suriñach[2], M. Baró[2] and J. Nogués[4] *1. ICREA AND Physics Department, Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain; 2. Physics Department, Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain; 3. Departamento de Engenharia de Materiais, Universidade Federal de Sao Carlos, Sao Carlos, Brazil; 4. ICREA AND Centre d'Investigació en Nanociència i Nanotecnologia, Universitat Autònoma de Barcelona, Bellaterra, Spain*

11:18

EE-13. Magnetic characterizations of ferromagnetic nanowires and nanotubes synthesized by electrodopsition method. *N. Ahmad*[1], J. Chen[1] and X. Han[1] *1. Institute of Physics, Beijing, Beijing, China*

WEDNESDAY MORNING 8:30

REGENCY VI

Session EF
PERPENDICULAR RECORDING MEDIA III
Ramamurthy Acharya, Chair

8:30

EF-01. A path for conventional perpendicular recording to reach 1 Tbits/in2 and beyond. *Y. Wang*[1], S. Park[2] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Material Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

8:42

EF-02. Extendibility of Traditional Perpendicular Magnetic Recording for Hard Disk Drives. *J.A. Bain*[1], V. Bhagavatula[1], Y. Cai[1], S. Jeon[1], K. Mai[1], W.C. Messner[1], C. Sim[1], Y. Wang[1] and J. Zhu[1] *1. ECE, Carnegie Mellon University, Pittsburgh, PA*

8:54

EF-03. Magnetic Recording Behavior of Exchange Coupled Composite Media. *H. Richter*[1] *1. Research, Hitachi Global Storage Technologies, San Jose, CA*

9:06

EF-04. Characterization of magnetic clustering and its effect on switching behavior and recording performance in perpendicular recording media. *H. Jung*[1], A. Ghaderi[1] and Z. Shi[1] *1. Media Development, Hitachi GST, San Jose, CA*

9:18

EF-05. Withdrawn

9:30

EF-06. Grain-size Dependent Magnetic Anisotropy in Perpendicular Magnetic Recording Media Measured by Small-angle Polarized Neutron Scattering. *S. Lee*[1], S. Lister[1], T. Thomson[2], J. Kohlbrecher[3], K. Takano[4], V. Venkataramana[1], S.J. Ray[1], M.P. Wismayer[1], M.A. de Vries[1], H. Do[4] and Y. Ikeda[4] *1. School of Physics and Astronomy, University of St Andrews, St Andrews, FIFE, United Kingdom; 2. School of Computer Science, University of Manchester, Manchester, Lancashire, United Kingdom; 3. Laboratory for Neutron Scattering, Paul Scherrer Institute, Villigen, Switzerland; 4. Hitachi San Jose Research Center, San Jose, CA*

9:42

EF-07. Effect of laminated crystalline FeCoB soft magnetic underlayer for perpendicular magnetic recording tape media. *S. Gomi*[1], Y. Mashiko[1], K. Hirata[1], S. Matsunuma[2], T. Inoue[2], T. Doi[2], T. Watanabe[2] and S. Nakagawa[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. R&D Division, Hitachi Maxell, Osaka, Japan*

9:54

EF-08. Withdrawn

10:06

EF-09. Transition Boundary Model of Magnetization Distribution in High Density Perpendicular Recording. *Z. Liu*[1], B. Chen[1] and H. Wang[1] *1. Data Storage Institute, Singapore, Singapore*

10:18

EF-10. Effects of SiN Overcoat on Recording Performances in PMR Media. *K. Zhang*[1] and R.L. White[1] *1. Hitachi Global Storage Technologies, San Jose, CA*

10:30

EF-11. Angular dependence of the switching field of recording media at finite temperature. *L. Saharan*[1], G. Hrkac[1], T. Thomson[2], J. Miles[2], T. Schrefl[3,1] and M. Bashir[1] *1. Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. School of Computer Sciencee, University of Manchester, Manchester, United Kingdom; 3. St. Pölten University of Applied Sciences, St. Pölten, Austria*

10:42

EF-12. Impact of Exchange Coupling on Reversal Processes of Voronoi granular CoPt/Co System. *W. Fan*[1], R. Evans[1], Y. Hancock[1] and R. Chantrell[1] *1. Physics, York University, York, United Kingdom*

10:54

EF-13. Highly H_k-graded perpendicular media with $[CoB/Pt]_n$+O multilayer film. *H. Nemoto*[1,2], H. Nakagawa[1], K. Tanahashi[1] and R. Nakatani[2] *1. Central Research Laboratory, Hitachi, Ltd., Odawara, Kanagawa, Japan; 2. Graduate School of Engineering, Osaka University, Suita, Osaka, Japan*

11:06

EF-14. Write current optimization for hard and soft ECC media. *N.F. Supper*[1], T. Olson[1], Y. Zorin[1] and K. Takano[1] *1. Hitachi, San Jose Research Center, San jose, CA*

11:18

EF-15. Granular coupling mechanisms in magnetic recording media. *C. Morrison*[1], Y. Ikeda[2], K. Takano[2] and T. Thomson[1] *1. School of Computer Science, University of Manchester, Manchester, Lancashire, United Kingdom; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

WEDNESDAY MORNING 8:30 REGENCY VII

Session EG
ANISOTROPY AND INTERACTIONS IN MAGNETIC NANOPARTICLES

Antonio Hernando, Chair

8:30

EG-01. Advanced characterization tools of magnetic colloids: Magnetic circular dichroism. G. Herranz[1], *J. Caicedo*[1], O. Pascu[1], J. Fontcuberta[1] and A. Roig[1] *1. Institute of Materials Science of Barcelona ICMAB-CSIC, Bellaterra, Spain*

8:42

EG-02. Internal Magnetic Structure of Dextran Coated Magnetite Nanoparticles in Solution using SANS with Polarization Analysis. *C. Dennis*[1], K.L. Krycka[1], A.J. Jackson[1,2], J.A. Borchers[1], C. Gruettner[3] and R. Ivkov[4] *1. NIST, Gaithersburg, MD; 2. Department of Chemical Engineering, University of Delaware, Newark, DE; 3. Micromod Partikeltechnologie, GmbH, Rostock-Warnemuende, Germany; 4. Department of Radiation Oncology and Molecular Sciences, Johns Hopkins University Medical School, Baltimore, MD*

8:54

EG-03. The influence of hollow structure on the magnetic characteristics for Fe3O4 submicrometer spheres. S. Yan[1,3], P. Liu[1], *J. Tang*[1], Q. Gao[2] and G. Hong[2] *1. Department of Physics and Astronomy, University of Wyoming, Laramie, WY; 2. Key Laboratory of Rare Earth Chemistry and Physics, Changchun Institute of Applied Chemistry, Chinese Academy of Science,, ChangChun, JiLin, China; 3. School of Materials Science and Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

9:06

EG-04. Highly Anisotropic Hollow Nanostructures of Iron Oxide. *H. Khurshid*[1], V. Tzitzios[2], W. Li[1] and G. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Institute of Materials Science, Demokritos, Athens, Greece*

9:18

EG-05. Size Dependence of the Effective Magnetic Anisotropy in High Magnetization Fe Nanoparticles. T.F. Ekiert[1], B.G. Kelly[1] and *K.M. Unruh*[1] *1. Physics and Astronomy, University of Delaware, Newark, DE*

9:30

EG-06. Temperature dependence of magnetic anisotropy constant in manganese ferrite nanoparticles at low temperature. *S. Yoon*[1] and K. Krishnan[2] *1. Department of Physics, Gunsan National University, Gunsan, Korea, Republic of; 2. Department of Materials Science and Engineering, University of Washington, Seattle, WA*

9:42

EG-07. Magnetic anisotropy dispersion in size-selected CoPt alloy nanoparticles. *F. Tournus*[1], N. Blanc[1], A. Tamion[1], M. Hillenkamp[2] and V. Dupuis[1] *1. LPMCN, CNRS & Univ. Lyon 1, Villeurbanne, France; 2. LASIM, CNRS & Univ. Lyon 1, Villeurbanne, France*

9:54

EG-08. Synthesis and Temperature-Dependent Magnetic Properties of Core/Shell Single Crystal Fe/Polycrystalline Fe_3O_4 Nanoparticles. *N. Frey Huls*[1], L. Lacroix[2] and S. Sun[2] *1. NIST, Gaithersburg, MD; 2. Chemistry, Brown University, Providence, RI*

10:06

EG-09. Azimuthal Dependence of Magnetic Core-Shell Morphology within Close-Packed Magnetite Nanoparticle Arrays. *K. Krycka*[1], R.A. Booth[2], C.R. Hogg[2], Y. Ijiri[3], J.A. Borchers[1], R. Bond[3], M. Chaves[3], L.R. Dedon[3], W. Chen[1,4], S.M. Watson[1], J.J. Rhyne[5] and S.A. Majetich[2] *1. NIST Center for Neutron Research, Gaithersburg, MD; 2. Department of Physics, Carnegie Mellon University, Pittsburgh, PA; 3. Department of Physics and Astronomy, Oberlin College, Oberlin, OH; 4. Department of Materials Science and Engineering, University of Maryland, College Park, MD; 5. Los Alamos National Laboratory, Los Alamos, NM*

10:18

EG-10. Size-dependent spin structures in supported iron nanoparticles. ***(Invited)*** *A. Fraile Rodríguez*[1,2], A. Kleibert[1], J. Bansmann[3], A. Voitkans[4], L.J. Heyderman[1] and F. Nolting[1] *1. Paul Scherrer Institut, Villigen, Switzerland; 2. Fisica Fonamental, Universitat de Barcelona and IN2UB, Barcelona, Spain; 3. Surface Chemistry and Catalysis, University of Ulm, Ulm, Germany; 4. Institute of Physics, University of Rostock, Rostock, Germany*

10:54

EG-11. Quantitative evaluation of magnetic interactions in arrays of elliptical nanomagnets. *D.A. Gilbert*[1], R.K. Dumas[1], M. Winklhofer[2], N. Eibagi[1] and K. Liu[1] *1. Physics Dept., University of California, Davis, CA; 2. Physics Dept., Ludwig-Maximilians-Universität München, Munich, Germany*

11:06

EG-12. Patterning and spin transport properties of FePt nanoparticle layers. *T. Gang*[1], O. Yildirim[2,4], M. Groen[1], K. Sachin[3], D.N. Reinhoudt[3,4], D. Blank[2], J. Huskens[4], G. Rijnders[2] and W.G. van der Wiel[1] *1. NanoElectronics Group, MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands; 2. Inorganic Materials Science Group, MESA+ Institute for Nanotechnology, University of Twente, Ensched, Netherlands; 3. Laboratory of Supramolecular Chemistry and Technology, MESA+ Institute for Nanotechnology, University of Twente, Ensched, Netherlands; 4. Molecular Nanofabrication Group, MESA+ Institute for Nanotechnology, University of Twente, Ensched, Netherlands*

WEDNESDAY MORNING 8:30 LEARNING CENTER

Session EH
HYSTERESIS MODELING
Oleg Mryasov, Chair

8:30

EH-01. Dynamic and Anisotropic Vector Hysteresis Model Using Isotropically Vectorized Play Hysterons. T. Matsuo[1] and *M. Miyamoto*[1] *1. Electrical Engineering, Kyoto University, Kyoto, Japan*

8:42

EH-02. Vector aftereffect. *E. Della Torre*[1] and E. Cardelli[2] *1. ECE, George Washington University, Washington, DC; 2. Perugia University, Perugia, Italy*

8:54

EH-03. An Ordinary Differential Approach for the Hysteretic Dynamics in Magnetic Materials. L. Wang[1] and *R. Melnik*[2] *1. Institute of Mechatronic Engineering, Hangzhou Dianzi University, Hangzhou, Zhejiang, China; 2. BCAM, Bizkaia Technology Park, Derio, Spain*

9:06

EH-04. A modified Preisach hysteresis operator for the modeling of temperature dependent magnetic material behavior. *A. Sutor*[1], S.J. Rupitsch[1], S. Bi[1,2] and R. Lerch[1] *1. Chair of Sensor Technology, University Erlangen-Nuremberg, Erlangen, Germany; 2. Department of Control Science and Engineering, Tongji University, Shanghai, China*

9:18

EH-05. Identification of parameters of Jiles Atherton model by neural networks. *M. Trapanese*[1] *1. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Palermo University, Palermo, Italy*

9:30

EH-06. Contribution of size on entropy production in nanoparticles. *E. Della Torre*[1], L.H. Bennett[1] and Y. Jin[1] *1. ECE, George Washington University, Washington, DC*

9:42

EH-07. Numerical strategy for mean field parameter identification using the First-order Reversal Curves diagram. *L. Stoleriu*[1], A. Stancu[1], F. Ciubotaru[1] and P. Postolache[1] *1. Department of Physics, Alexandru Ioan Cuza University, Iasi, Romania*

9:54

EH-08. Noise induced resonance phenomena in stochastically driven hysteretic systems. *M. Dimian*[1] and P. Andrei[2] *1. Electrical Engineering and Computer Science, Stefan cel Mare University, Suceava, Romania; 2. Electrical and Computer Engineering, Florida State University, Tallahassee, FL*

10:06

EH-09. Efficient Vector Hysteresis Modeling Using Clusters of Coupled Octal Step Functions. *A. Adly*[1] and S. Abd-El-Hafiz[2] *1. Elect. Power & Machines Dept., Cairo University, Giza, Egypt; 2. Engineering Mathematics Dept., Cairo University, Giza, Egypt*

10:18

EH-10. Numerical simulations for the recovery of the training effect in exchange biasd Co/CoO system. B. Miao[1], L. Sun[1], J. Ai[1], B. You[1], A. Hu[1] and *H. Ding*[1] *1. National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, China*

10:30

EH-11. Thermally activated transitions in a system of two single domain ferromagnetic particles. D. Cimpoesu[2], *I. Klik*[1], C. Chang[1], A. Stancu[3] and L. Spinu[2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Advanced Materials Research Institute, New Orleans, LA; 3. Physics, Al. I. Cuza University, Iasi, Romania*

WEDNESDAY MORNING
10:00

GRAND HALL EAST

Session EP
VORTEX SWITCHING AND DYNAMICS II (POSTER SESSION)

Hans Nembach, Chair

EP-01. Static and Dynamic Properties of one-dimensional Linear Chain of Nanomagnets. *J. Ding*[1], S. Jain[1] and A.O. Adeyeye[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

EP-02. Resonance modes of a pair of magnetic vortices in micron scale $Fe_{19}Ni_{81}$ ellipsoid. *H. Hata*[1], M. Goto[1], A. Yamaguchi[1,2] and Y. Nozaki[1,3] *1. Department of Physics, Keio University, Yokohama, Kanagawa, Japan; 2. PRESTO, JST, Kawaguchi, Saitama, Japan; 3. CREST, JST, Tokyo, Japan*

EP-03. Investigation of the spin motive force induced by magnetic vortex core motion. *K. Tanabe*[1], D. Chiba[1], S. Kasai[2], J. Ohe[3], H. Kohno[4], S.E. Barnes[5], S. Maekawa[3] and T. Ono[1] *1. Ono-Lab, Institute for Chemical Research, Kyoto University, Kyoto, Japan; 2. National Institute for Material Science, Tsukuba, Japan; 3. Advanced Science Research Center, The Japan Atomic Energy Agency., Naka, Japan; 4. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 5. Physics Department, University of Miami, Coral Gables, FL*

EP-04. Frequencies and critical currents for spin-transfer-induced motion of coupled vortices in spin-valve nanopillars. *A.V. Khvalkovskiy*[1,2], N. Locatelli[2], J. Grollier[2], K.Y. Guslienko[3,4], K.A. Zvezdin[1,5] and V. Cros[2] *1. A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russian Federation; 2. Unite Mixte de Physique CNRS/Thales and Universite Paris Sud 11, Palaiseau, France; 3. Dpto. Fisica de Materiales, Universidad del Pais Vasco, San Sebastian, Spain; 4. IKERBASQUE, the Basque Foundation for Science, Bilbao, Spain; 5. Istituto P.M. s.r.l., Torino, Italy*

EP-05. Reversal dynamics of magnetic vortex polarization in soft magnetic nanodots under perpendicular magnetic fields. *M. Yoo*[1], K. Lee[1], D. Jeong[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of*

EP-06. Electrical detection of vortex states in a ferromagnetic disk through the rectifying effect. *M. Goto*[1], H. Hata[1], A. Yamaguchi[1,2], Y. Nakatani[3], T. Yamaoka[4] and Y. Nozaki[1,5] *1. Department of Physics, Keio University, 3-14-1 Hiyoshi, Kohoku-ku, Yokohama-shi, Kanagawa, Japan; 2. PRESTO JST, Honcho, 4-1-8, Kawaguchi, Saitama, Japan; 3. University of Electro-Communications, 1-5-1 Chofugaoka, Chofu, Tokyo, Japan; 4. SII Nanotechnology Inc., RBM Tsukiji Bldg., Shintomi, Chuo, Tokyo, Japan; 5. CRESTO, JST, 5, Sanbancho, Chiyoda-ku, Tokyo, Japan*

EP-07. A Comparison of Electrical Techniques for Magnetization Dynamics Measurements in Micro/Nanoscale Structures. *S. Lim*[1], T. Wallis[1], A. Imtiaz[1], D. Gu[1], P. Krivosik[2] and P. Kabos[1] *1. Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO; 2. Physics, University of Colorado, Colorado Springs, CO*

EP-08. Nucleation of vortex pairs in exchange biased nanoelements. *A.L. Dantas*[1], A.S. Silva[1,2], G.O. Rebouças[3] and A.S. Carriço[2] *1. Department of Physics, UERN, Mossoró, RN, Brazil; 2. Department of Physics, UFRN, Natal, RN, Brazil; 3. Department of Physics, UFERSA, Angicos, RN, Brazil*

EP-09. Domain Wall Detection by Magnetoresistive Sensors. *M. Bashir*[1], T. Schrefl[2,1], D.A. Allwood[1], M.T. Bryan[1], J.S. Claydon[3], G. Burnell[3] and C.H. Marrows[3] *1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. St. Poelten University of Applied Sciences, St. Poelten, Austria; 3. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

EP-10. Magnetic Vortex Domain Wall Motion Driven by Propagating Spin Waves. *S. Seo*[1], H. Lee[2] and K. Lee[1] *1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, Korea, Republic of; 2. Dept. of Phys., Pohang Univ. of Sci. and Technol., Pohang, Korea, Republic of*

EP-11. Vortex-antivortex annihilation and creation on CoFeB patterns. *R.D. Gomez*[1,2], J. Ma[1,2], S. Chung[1,2], A. Arkilic[1] and C. Krafft[2] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD*

EP-12. Direct observation of domain wall trapping in notch-free asymmetric nanoring structures. *X. Wang*[1], S. Goolaup[1] and W. Lew[1] *1. Nanyang Technological University, Singapore, Singapore*

EP-13. Three-Dimensional Dynamics of Magnetic Vortex Core in a Nanodisk. *J. Moon*[1], D. Kim[2] and K. Lee[1] *1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, Korea, Republic of; 2. Dept. of Phys., Chungbuk National Univ., Chengju, Korea, Republic of*

EP-14. Magnetic Domain Wall Motion Driven by Perpendicular Field Pulse in Ferromagnetic Nanowires. *H. Piao*[1,2], D. Djuhana[2,3], J. Shim[2] and D. Kim[2] *1. College of Science, Huaihai Institute of Technology, Lianyungang, Jiangsu, China; 2. Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of; 3. Department of Physics, University of Indonesia, Depok, Indonesia*

EP-15. Influence of the Oersted Field on Current-Driven Vortex Dynamics. *B. Krueger*[1], G. Selke[2,3], A. Drews[2,3] and D. Pfannkuche[1] *1. I. Institute of Theoretical Physics, University of Hamburg, Hamburg, Germany; 2. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 3. Research Group Computer Engineering, University of Hamburg, Hamburg, Germany*

WEDNESDAY MORNING 10:00 — GRAND HALL EAST

Session EQ
MAGNETISM IN POWER APPLICATIONS (POSTER SESSION)
Edward Della Torre, Chair

EQ-01. Modeling,Validation and Implementation of Non-Linear Magnetic Switching for Device Applications. *A.E. Umenei*[1], Y. Melikhov[1] and D.C. Jiles[1] *1. School of Engineering, Cardiff University, Wolfson Magnetic Research, Cardiff, United Kingdom*

EQ-02. Force optimization in magnetic springs. *V. Raposo*[1] and J. Iñiguez[1] *1. Fisica Aplicada, Universidad de Salamanca, Salamanca, Salamanca, Spain*

EQ-03. An Advanced Double-layer Combined Windings Transverse Flux System for Thin Strip Induction Heating. *Y. Wang*[1], J. Wang[2], L. Pang[1], S. Ho[2] and W. Fu[2]*1. School of Electrical Engineering and Automation, Hebei University of Technology, Tianjin, Tianjin, China; 2. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

EQ-04. A Novel Resonant Inductive Magnetic Coupling Wireless Charger with TiO_2 Interlayer. S. Ho[1], *J. Wang*[1], W. Fu[1] and M. Sun[2]*1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA*

EQ-05. A control scheme for single-winding bearingless switched reluctance motor. X. Cao[1], Z. Deng[1], Z. Zhuang[1], J. Cai[1] and *Y. Wang*[1]*1. Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China*

EQ-06. Development of Advanced Rectangular Microspeakers Used for Wide LCD Mobile phones. *C. Lee*[1] and S. Hwang[1]*1. Mechanical Engineering, Pusan Naional Univ., Busan, Korea, Republic of*

EQ-07. A Study on the characteristics of High Frequency Power Converter for Wireless Power Transmission Using Magnetic Resonance. *J. Ahn*[1], S. Kim[2] and J. Lee[3]*1. Electrical Engineering, Osan University, Osan, Korea, Republic of; 2. Electrical Enbgineering, Yuhan University, Buchon, Gyeonggi, Korea, Republic of; 3. Electrical Engineering, Hanyang University, Seoul, Korea, Republic of*

EQ-08. Analysis on electric power consumption characteristics of cylindrical linear oscillatory actuator with Halbach permanent magnet array mover under electromechanical resonance frequency. *K. Ko*[1], J. Choi[1], J. Kim[1], S. Jang[1] and J. Choi[1]*1. Electrical Engineering, Chungnam National University, Daejeon, Korea, Republic of*

EQ-09. Implementation of a Novel Axial Hybrid Magnetic Bearing with Low Power Consumption. Y. Fan[1], *Y. Lee*[1] and K. Chen[1]*1. Chung Yuan Christian University, Chung li, Taoyuan, Taiwan*

EQ-10. Smooth Interaction Body Force Density and Global Contact Force in Hard Magnetic Materials. *S. Lee*[1], Y. Kim[2], G. Jeong[1] and H. Kim[1]*1. Department of Electrical Engineering, Kyungpook National University, Daegu, Korea, Republic of; 2. School of Information and Communication Engineering, Sungkyunkwan University, Suwon, Korea, Republic of*

WEDNESDAY MORNING 10:00 GRAND HALL EAST

Session ER
MAGNETIC FLUIDS AND INSTRUMENTATION (POSTER SESSION)

Sujoy Roy, Chair

ER-01. Reconfigurable Diffraction Gratings with Magnetic Nanoneedles. *B. Rubin*[1], A. Tokarev[1] and K. Kornev[1]*1. Clemson University, Clemson, SC*

ER-02. Magneto-optical dynamics of nano-ferrofluids under alternate magnetic fields. *C. Fu*[1], M. Chung[1] and C. Wang[1]*1. Physics Department, National Taiwan University, Taipei, Taiwan*

ER-03. Influence of magnetic films on magnetocapillary effect of magnetic fluid. *C. Lee*[1], H. Chang[2], T. Ger[2], H. Huang[2] and M. Lai[1]*1. Institute of NanoEngineering and MicroSystems, National Tsing Hua University, Hsinchu, Taiwan; 2. Dept. of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan*

ER-04. Synthesis of Iron Oxide Nanoworms. *S. Palchoudhury*[1], Y. Xu[1] and Y. Bao[1]*1. Chemical and Biological Engineering, The University of Alabama, Tuscaloosa, AL*

ER-05. Magnetic behavior of 10 nm-magnetite particles diluted in lyotropic liquid crystals. *F.R. Arantes*[1], A.M. Figueiredo Neto[1] and D.R. Cornejo[1]*1. Institute of Physics, University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil*

ER-06. Shape Calculation of Ferrofluid Droplet with Effects of Magnetic Field, Gravitational Field and Surface Tension Using FEA Coupled with LSM. *Y. Kim*[1], S. Lee[2] and I. Park[1]*1. School of Information and Communication Engineering Sungkyunkwan University, Suwon, Kyeonggi-do, Korea, Republic of; 2. School of Electrical Eng. and Computer Science, Kyungpook National University, Daegu, Korea, Republic of*

ER-07. Shape variation of ferrofluid droplets on magnetic thin disks. *S. Yang*[1], C. Lee[1], H. Huang[1], T. Ger[1] and Z. Wei[1]*1. National Tsing Hua University, Hsinchu, Taiwan*

ER-08. Magnetic-Field Induced Isotropic to Nematic Phase Transition in Ferronematics. *P. Kopcansky*[1], N. Tomašovičová[1], M. Koneracká[1], V. Závišová[1], M. Timko[1], N. Éber[2], T. Tóth-Katona[2], J. Jadzyn[3], E. Beaugnon[4] and X. Chaud[4]*1. Department of Magnetism, Institute of Experimental Physics SAS, Kosice, Slovakia; 2. Research Institute for Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary; 3. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland; 4. High Magnetic Field Laboratory, CNRS, Grenoble, France*

ER-09. Strong magnetic field induced segregation and alignment of non-magnetic particles. *Z. Sun*[1], L. Yang[1], M. Guo[1], J. Vleugels[1], O. Van der Biest[1] and B. Blanpain[1] *1. Department of Metallurgy and Materials Engineering, Katholieke Universiteit Leuven, Leuven, Belgium*

ER-10. Synthetic characterization and surface modification of FePt monodispersive nanoparticles. *D.H. Wei*[1,2], P.H. Chen[2,1] and Y.D. Yao[3,1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; 3. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan*

ER-11. Investigations of Exchange and Magnetic Anisotropic Interactions of Magnetic Ions. *A. Bazhan*[1] *1. RAS, P.L.Kapitza Institute for Physical Problems, Moscow, Russian Federation*

ER-12. A Measurement Setup for Acquiring the Local Magnetic Properties of Plastically Deformed Soft Magnetic Materials. S. Bi[1,2], *A. Sutor*[1], R. Lerch[1] and Y. Xiao[2] *1. Department of Sensor Technology, University of Erlangen-Nürnberg, Erlangen, Bayern, Germany; 2. Department of Control Science and Engineering, Tongji University, Shanghai, China*

ER-13. A sensor measuring the Fourier coefficients of the magnetic flux density for the pipe crack detection using the magnetic flux leakage methods. *T. Nara*[1], Y. Takanashi[1] and M. Mizuide[1] *1. Mechanical Engineering, The University of Electro-Communications, Chofu, Tokyo, Japan*

ER-14. A study on the defect annealing of different deformed FeSi alloys by positron annihilation spectroscopy. *K.M. Mostafa*[1,2], F.G. Cámara[1], R. Petrov[1], P.R. Calvillo[3,4], E. De Grave[2], D. Segers[2], Y. Houbaert[1] and Y. Houbaert[1] *1. materials science and engineering, Gent University, Gent, Belgium; 2. physics and astronomy, Gent University, Gent, Belgium; 3. CTM-Technologic Centre, Area of Materials Forming Processes, Manresa, Barcelona, Spain; 4. Department of Materials Science and Metallurgical Engineering, Universidad Politécnica de Cataluña, Barcelona, Spain*

WEDNESDAY MORNING 10:00

GRAND HALL EAST

Session ES
PERMANENT MAGNET PROCESSING AND APPLICATIONS (POSTER SESSION)

Jinfang Liu, Chair

ES-01. Enhancement in magnetic torque of micro rotor by usage of directly consolidated nanocomposite thick-films. F. Yamashita[1], *N. Menjo*[1], S. Nishimura[1], O. Kobayashi[1], M. Itoh[2], M. Nakano[3], H. Fukunaga[3] and K. Ishiyama[4] *1. Rotary Component Tech., Div.,, Minebea Co., Ltd., Fukuroi, Shizuoka, Japan; 2. Center for Advanced Science and Innovation, Osaka Univ., Suita, Osaka, Japan; 3. Faculty of Engineering, Nagasaki Univ., Nagasaki, Japan; 4. Research Institute of Electrical Communication, Tohoku Univ., Sendai, Japan*

ES-02. Anisotropic mechanical property of Pr(Co,In)5-type compound and its relation to texture formation in die-upset magnet. *H. Kwon*[1], D. Kim[2] and J. Yu[2] *1. Materials Science and Engineering, Pukyong National University, Busan, Korea, Republic of; 2. Korea Institute of Materials Science, Changwon, Korea, Republic of*

ES-03. Effect of laser beam condition on magnetic properties of PLD-made Nd-Fe-B thick film-magnets. H. Fukunaga[1], *T. Kamikawatoko*[1], T. Yanai[1], M. Nakano[1] and F. Yamashita[2] *1. Nagasaki Univercity, Nagasaki, Japan; 2. Rotary Component Basic Technology Development Division, Minebea Co., Ltd., Fukuroi, Shizuoka, Japan*

ES-04. Optimization of remanence temperature coefficient and magnetic properties of sintered $SmGdDy(Co,Fe,Cu,Zr)_z$ magnets by application of rapidly solidified strips. *Z. Liu*[1], Y.L. Sun[1], X.M. Liu[1], D. Lee[1] and A.R. Yan[1] *1. Zhejiang province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, CAS, Ningbo, China*

ES-05. Fine barium hexaferrite particles by chemical coprecipitation using for thick film producing with anneal treatment. *Y. Zhong*[1,2], X. Wang[1,2], L. Deng[1,2], X. Weng[1,2] and D. Li[1,2] *1. University of Electronic Science and Technology of China, Chengdu, China; 2. State Key Laboratory of Electronic Thin Films and Integrated Devices, Chengdu, Sichuan, China*

ES-06. Magnetic properties of PLD-fabricated isotropic Fe-Pt film magnets. M. Nakano[1], *W. Oniki*[1], T. Yanai[1] and H. Fukunaga[1] *1. Faculty of Engineering, Nagasaki University, Nagasaki, Japan*

ES-07. Microstructure of Sm2Co17 Alloy Aging at High Temperature. *H. Feng*[1], H. Chen[1], Z. Guo[1] and W. Li[1] *1. Division of Functional Materials, China Iron and Steel Research Institute Group, Beijing, China*

ES-08. Effects of Boundary Setting on Computer Modeling for Permanent Magnetic Solenoid. *C.H. Chen*[1], S. Lin[2], J.C. Horwath[3], P. Mardahl[4], B.W. Hoff[4], M.D. Haworth[4] and S.L. Heidger[4] *1. University of Dayton Research Institute, Dayton, OH; 2. ANSYS, Pittsburgh, PA; 3. Air Force Research Laboratory, Wright Patterson AFB, OH; 4. Air Force Research Laboratory, Kirtland AFB, NM*

ES-09. The effect of hydrogen on the corrosion behavior of sintered NdFeB magnet. *H. Yang*[1], S. Mao[1] and Z. Song[1] *1. Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China*

ES-10. Effects of Ta inserted layers on the microstructures and magnetic properties of the FePt films. *S. Chen*[1] and Y. Yao[2] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics and Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan*

ES-11. Ne-Fe-B thick film magnets with Nb additive prepared by Vacuum Arc Deposition method. M. Nakano[1], *M. Sahara*[1], T. Yanai[1] and H. Fukunaga[1] *1. Faculty of Engineering, Nagasaki University, Nagasaki, Japan*

ES-12. An investigation of the Diamagnetic Ti4+ effect on the Structural and Magnetic properties of BaNi2 based W-type hexaferrites. W. Tahir[1], M.A. Iqbal[2] and *G. Murtaza Rai*[3] *1. Physics, University of the Punjab, Lahore, Punjab, Pakistan; 2. Physics, University of the punjab, Lahore, Punjab, Pakistan; 3. Physics, University of the punjab, Lahore, Punjab, Pakistan*

ES-13. Study of Sensor Structure for Measurement of Magnetization Characteristics in high pulsed field. *Y. Nakahata*[1,2], B.E. Borkowski[1,2], H. Shimoji[1,2], K. Yamada[1,3], T. Todaka[2] and M. Enokizono[2] *1. Regional Technological Collaboration Promotion Bureau, Oita Prefectural Organization for Industry Creation, Oita, Japan; 2. Department of Electrical and Electronic Engineering, Faculty of Engineering, Oita University, Oita, Japan; 3. Open Innovation Center, Saitama University, Saitama, Japan*

ES-14. Investigation of an Axial-Axial Flux Compound-Structure PMSM with Varying Air Gap to fulfill field-weakening control. J. Zhao[1], *P. Zheng*[1], C. Tong[1], W. Ke[1] and H. Yan[1] *1. Harbin Institute of Technology, Harbin, China*

ES-15. Design of Flux-Modulated Permanent-Magnet In-Wheel Motor for Electric Vehicles. *Y. Fan*[1] and H. Jiang[1] *1. Southeast University, Nanjing, Jiangsu, China*

WEDNESDAY MORNING 10:00

GRAND HALL EAST

Session ET
MAGNETIC TUNNEL JUNCTIONS II (POSTER SESSION)

Jagadeesh Moodera, Chair

ET-01. Onset of Spin-Scattering-Asymmetry for Nano-Contacts in Ion-Assisted-Oxidation NCMR Devices. Y. Shiokawa[1], *T. Otsuka*[1], M. Shiota[1], Y. Watanabe[1], M. Doi[1], H. Fuke[2], H. Iwasaki[2], H. Imamura[3] and M. Sahashi[1] *1. Electronic Engineering, Tohoku university, Sendai, Japan; 2. Corporate Research and Development Center, TOSHIBA Corporation, Kawasaki, Japan; 3. Nanotechnology Research Institute, Advanced Industrial Science and Technology, Tsukuba, Japan*

ET-02. Reduction of surface roughness and Néel coupling in perpendicular magnetic tunnel junctions by plasma treatment. J. Lee[1], *W. Tsai*[1], C. Lai[1], C. Yen[2] and Y. Wang[2] *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Electronics and Optoelectronics Research Lab., Industrial Technology Research Institute, Hsinchu, Taiwan*

ET-03. Proposal of the spin-polarization measurement using non-contact Andreev reflection. *H. Ohtori*[1,2] and H. Imamura[2] *1. Univ. of Tsukuba, Tsukuba, Japan; 2. NRI-AIST, Tsukuba, Japan*

ET-04. Spin injection using a ferromagnetic insulator: Electrical transport through EuS/Silicon(001) heterostructures. *M. Müller*[1], R. Schreiber[1] and C.M. Schneider[1] *1. Institute of Solid State Research, Research Center Jülich, Jülich, Germany*

ET-05. Tunnel magnetoresistance of Fe/GaAs/Fe junctions including spin-orbit interaction. *S. Honda*[1,2], J. Inoue[3] and H. Itoh[2,4] *1. Organization for Research and Development of Innovation Science and Technology, Kansai University, Suita, Japan; 2. Japan Science and Technology Agency, CREST, Tokyo, Japan; 3. Department of Applied Physics, Nagoya University, Nagoya, Japan; 4. Department of Pure and Applied Physics, Kansai University, Kansai, Japan*

ET-06. Capacity of nanoscale metal/isolated/metal by electronic charge screening at the surface of their electrodes. *A. Yazdani*[1], B. Abedi Ravan[1] and A. Shokri[1] *1. Physics, Tarbiat Modares University, Tehran, Iran, Islamic Republic of*

ET-07. Epitaxial $Bi_{0.75}Ba_{0.25}FeO_3/Ba_{0.7}Sr_{0.3}TiO_3$ structures for multiferroic junctions. S. Tachiki[1], K. Yoshimoto[1], S. Kobayashi[1], T. Miyawaki[1], K. Ueda[1] and *H. Asano*[1] *1. Dept. of Cryst. Mat. Sci., Nagoya University, Nagoya, Japan*

ET-08. Rectifying characteristics, magnetic tunability, and photovoltaic response in La0.9Hf0.1MnO3 /0.7% wt Nb-SrTiO3 heteroepitaxial junctions. Z. Wu[1], L. Wang[1], *J. Wang*[1] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong*

ET-09. Magnetoresistance effect of tunnel junctions using Co_2 (Ti, Mn) Z (Z = Al, Si) Heusler alloys. *N. Tezuka*[1], A. Sasaki[1], L. Jiang[1] and S. Sugimoto[1] *1. Tohoku University, Sendai, Japan*

ET-10. Magnetic tunnel junctions of the Heusler Compound Co2FeAl0.4Si0.6. *F. Casper*[1], T. Graf[1], G. Jakob[2] and C. Felser[1] *1. Institute of Inorganic and Analytical Chemistry, Johannes Gutenberg Universtity, Mainz, Germany; 2. Institute of Physics, Johannes Gutenberg Universtity, Mainz, Germany*

ET-11. Highly spin-polarized tunneling characteristics at room temperature in magnetic tunnel junctions with a half-metallic Heusler-alloy spin source and a MgO barrier. *H. Liu*[1], T. Taira[1], Y. Honda[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

ET-12. Large-scale fabrication of magnetic tunneling junctions based on nanopillars and nanorings by nanosphere lithography. *W. Wang*[1], X. Chen[1], S. Hageman[1], S. Huang[1], F.Q. Zhu[1], T. Chen[1] and C. Chien[1] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD*

WEDNESDAY MORNING 10:00

GRAND HALL EAST

Session EU
NEW APPLICATIONS (POSTER SESSION)
Dario Arena, Chair

EU-01. Spatial light phase modulators with one-dimensional magnetophotonic crystals driven by piezoelectric films. *S. Mito*[1], K. Okada[1], K. Chung[1], J. Kim[1], P. Lim[1], H. Takagi[1] and M. Inoue[1] *1. Toyohashi Univ. Tech,, Toyohashi, Aichi, Japan*

EU-02. The absorption property of single crystal garnet film in terahertz band. *Q. Yang*[1], H. Zhang[1] and Q. Wen[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

EU-03. A new application of garnet magneto-optical crystal for terahertz waveguide devices. *H. Zhang*[1], Q. Yang[1] and Q. Wen[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

EU-04. Micro Magnetostrictive Energy Harvester using Iron Gallium Alloy (Galfenol). *T. Ueno*[1], S. Yamada[1] and Y. Ikehata[1] *1. Kanazawa University, Kanazawa, Japan*

EU-05. Fabrication of magnetic nanocomposites using thermally-expanded vermiculite. *P.C. Morais*[1], P.P. Araujo[1], V.K. Garg[1], A.C. Oliveira[1], E.C. Lima[2], L.R. Guilherme[1] and D.O. Cintra e Silva[3] *1. Institute of Physics, University of Brasilia, Brasilia, Distrito Federal, Brazil; 2. Intitute of Chemistry, Federal University of Goias, Goiania, Goias, Brazil; 3. Institute of Biological Sciences, University of Brasilia, Brasilia, Distrito Federal, Brazil*

EU-06. Design of one-dimensional magnetic photonic crystal for infrared light trap with asymmetrical cladding. *J. Lou*[1], F. Dang[1], L. Gao[1], D. Liang[1] and F. Jiao[1] *1. Xi'an Jiaotong University, Xi'an, China*

EU-07. Effects of pulsed magnetic fields on light scattering property in the freezing process of aqueous solutions. *M. Iwasaka*[1], M. Onishi[1], S. Kurita[2] and N. Owada[2] *1. Graduate School of Engineering, Chiba University, Chiba, Japan; 2. ABI, Abiko, Japan*

EU-08. Planar Dual-band Terahertz Metamaterial Absorber with Polarization Insensitivity and Wide Incident Angle. *X. He*[1], Y. Wang[1,2], J. Wang[1], T. Gui[1] and Q. Wu[2] *1. School of Applied Sciences, Harbin University of Science and Technology, Harbin, China; 2. Dept. of Electronic & Communications Engineering, Harbin, China*

EU-09. A Basic Study of a Triangle Type Magnet Chain for Locomotion Control. *S. Kim*[1], S. Hashi[1] and K. Ishiyama[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

EU-10. A Permanent Magnet Tubular Linear Generator for Wave Energy Conversion. *H. Yu*[1], B. Yuan[1], H. Yang[1] and M. Hu[1] *1. Southeast University, Nanjing, China*

EU-11. Magnetic field amplification using MgB2 bulk superconductor. *S. Choi*[1], S. Matsumoto[1] and T. Kiyoshi[1] *1. Magnet development group, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

EU-12. Research of Internal Cooling On-off Type Giant Magnetostrictive Valve. *L. Li*[1], C. Zhang[1], H. Wu[1] and B. Yan[1] *1. Electrical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

EU-13. Inductance Calculation of Cold Dielectric HTS Power Cable Considering Skin Effect. N. Duan[1], J. Qiu[1], Z. Wang[1], S. Wang[1], *J. Zhu*[2] and Y. Guo[2] *1. Xi'an Jiaotong University, Xi'an, China; 2. University of Technology, Sydney, Sydney, NSW, Australia*

EU-14. Improved Formulation for Faraday Rotation Characterization. *J. Tioh*[1], R.J. Weber[1] and M. Mina[1] *1. Iowa State University, Ames, IA*

EU-15. All-optical Switches for Transparent Networks : The Problem, Available Technologies, New Implementations. *J. Tioh*[1], M. Mina[1] and R.J. Weber[1] *1. Iowa State University, Ames, IA*

WEDNESDAY MORNING 10:00

GRAND HALL EAST

Session EV
OXIDE FERROMAGNETIC SEMICONDUCTORS (POSTER SESSION)

Alberta Bonanni, Chair

EV-01. Magnetism of ZnO Nanoparticles: Dependence on dopant concentration, size, and surfactant coating. *A. Thurber*[1], M.S. Jones[1], G.L. Beausoleil[1], J.J. Anghel[1], G.A. Alanko[1], L.M. Johnson[1], J. Zhang[1,2], C.B. Hanna[1], D.A. Tenne[1] and A. Punnoose[1] *1. Physics, Boise State University, Boise, ID; 2. Physics, Nanjing University, Nanjing, China*

EV-02. Effects of Ce Doping on the Properties of EuO Films Prepared via Pulsed Laser Deposition. *P. Liu*[1], J. Tang[1], J. Colón Santana[2], K. Belashchenko[2] and P. Dowben[2] *1. Department of Physics & Astronomy, University of Wyoming, Laramie, WY; 2. Department of Physics and Astronomy and the Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE*

EV-03. A first-principles study on the magnetic properties in boron-doped ZnO. *X. Xu*[1], H. Yang[1], Y. Wu[1], D. Zhang[1] and Y. Jiang[1] *1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China*

EV-04. Low temperature magneto-transport study of ZnO film with intrinsic magnetic moment. *S. Ghoshal*[1] and P. Kumar[1] *1. Physics, Indian Institute of Science, Bangalore, Karnataka, India*

EV-05. Room Temperature Ferromagnetism in HfO2 films. *K. Kamala Bharathi*[1], S. Venkatesh[2], G. Prathiba[3], N. Harish Kumar[3] and C. Ramana[1] *1. Mechanical Engineering, University of Texas, El Paso, Texas, El Paso, TX; 2. Department of Condensed Matter Physics and Material Sciences, Tata Institute of Fundamental Research, Mumbai, Mumbai, India; 3. Department of Physics, Indian Institute of Technology, Chennai, Chennai, India*

EV-06. Search for ferromagnetism in Mn-doped $LaAlO_3$ single crystals. J. Ge[1], M. Yang[1], X. Xue[1], *X. Wu*[1] and J. Du[1] *1. Physics, Nanjing Unversity, Nanjing, Jiangsu, China*

EV-07. Room temperature magnetic circular dichroism studies in carbon doped ZnO thin films. *H. Hsu*[1], Y. Chen[1], Y. Tung[1] and J. Lee[1] *1. National Pingtung University of Education, Pingtung, Taiwan*

EV-08. Room-temperature ferromagnetism in transition-metal co-doped SnO2 nanoparticles. *J. Okabayashi*[1], K. Nomura[2], S. Kono[3] and Y. Yamada[3] *1. Research Center for Spectrochemistry, The University of Tokyo, Tokyo, Japan; 2. Department of Applied Chemistry, The University of Tokyo, Bunkyo-ku, Tokyo, Japan; 3. Department of Chemistry, Tokyo University of Science, Shinjyuku-ku, Tokyo, Japan*

EV-09. Dilute magnetic oxides revisited. *J.M. Coey*[1], K. Rode[1], P. Stamenov[1], M. Venkatesan[1] and H.J. Xu[1] *1. CRANN and School of Physics, Trinity College Dublin, Dublin 2, Ireland*

EV-10. Room temperature ferromagnetism in N doped TiO2 films. *J. Yi*[1], N. Bao[2], H. Fan[1] and J. Ding[1] *1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Nanoscience and Nanotechnology initialtive, National University of Singapore, Singapore, Singapore*

EV-11. Dilute Magnetic Semiconducting Behavior of Eu-rich EuO. *Y.U. Idzerda*[1], G.X. Miao[2], J.S. Moodera[2] and E.A. Arenholz[3] *1. Physics, Montana State University, Bozeman, MT; 2. Francis Bitter Magnet Lab., MIT, Cambridge, MA; 3. Advanced Light Source, Lawrence Berkeley Nat. Labs., Berkeley, CA*

EV-12. Magnetocrystalline Anisotropy of Co-doped Reduced Rutile $TiO_{2-\delta}$ Single Crystal. G. Li[1], X. Zhang[1], W. Huang[1] and *Z. Cheng*[1] *1. State Key Laboratory of Magnetism, Insitute of Physics, CAS, Beijing, China*

EV-13. Spin glass behavior in Sr2Mn0.7Fe0.3MoO6. X. Wang[1,2], Y. Sui[1], Y. Li[1], M. Xu[1], W. Wang[2] and *J. Tang*[2] *1. Harbin Institute of Technology, Harbin, China; 2. University of Wyoming, Laramie, WY*

EV-14. Magnetic and transport properties of transparent $SrSn_{0.9}Sb_{0.05}Fe_{0.05}O_3$ semiconductor films. *G. Prathiba*[1], S. Venkatesh[2] and N. Harish Kumar[1] *1. Advanced Magnetic Materials Laboratory (AMMLa), Department of Physics, Indian Institute of Technology Madras, Chennai 600036, India; 2. Department of Condensed Matter Physics and Material Sciences, Tata Institute of Fundamental Research, Mumbai 400005, India*

EV-15. Room temperature ferromagnetism in Co doped In_2O_3 nanoparticles. *R. Prakash*[1], S. Kumar[2], S. Gautam[3], K.H. Chae[3], C.G. Lee[2] and J.I. Song[1] *1. Dept. of Mechanical Engineering, Changwon National University, Changwon, Gyeongnam, Korea, Republic of; 2. School of Nano & Advanced Materials Engineering, Changwon National University, Changwon, Gyeongsagnam, Korea, Republic of; 3. Nono Materials Analysis Centre, Korea Institute of Science and Technology, Seoul, Gyeongsagnam, Korea, Republic of*

WEDNESDAY MORNING 10:00 GRAND HALL EAST

Session EW
BULK COMPLEX OXIDES (POSTER SESSION)
Athena Safa-Sefat, Chair

EW-01. Jahn-Teller effect and magnetic property in anisotropic triangular compound NaxMnO2. *S. Ouyang*[1,2], D. Liu[1], L. Zou[1] and H. Lin[3] *1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Graduate School of the Chinese Academy of Sciences, Beijing, Beijing, China; 3. The Chinese University of Hong Kong, Hong Kong, Hong Kong*

EW-02. Magnetocaloric dependence of A-site cation-disordering in Ca and Gd co-doped $La_{2/3}Sr_{1/3}MnO_3$ compounds. Q. Ji[1], Q. Xie[1] and *X. Wu*[1] *1. Nanjing University, Nanjing, Jangsu, China*

EW-03. Soft x-ray Synchrotron Radiation Spectroscopy Study of $CuFe_{1-x}Ni_xO_2$ (0≤x≤0.03) Delafossite Oxides. *D.H. Kim*[1], J.H. Hwang[1], K.H. Lee[1], T. Nozaki[2], K. Hayashi[2], T. Kajiitani[2], B.G. Park[3], J.Y. Kim[3], J. Lee[4], B.I. Min[4] and J.S. Kang[1] *1. Department of Physics, The Catholic University of Korea, Bucheon, Korea, Republic of; 2. Department of Applied Physics, Tohoku University, Sendai, Japan; 3. Pohang Accelerator Laboratory, POSTECH, Pohang, Korea, Republic of; 4. Department of Physics, POSTECH, Pohang, Korea, Republic of*

EW-04. Evidences of Excitonic Dielectric Gap in Self-Doped Manganites. *F. Bukhanko*[1] *1. Donetsk Phys. & Techn. Institute NASU, Donetsk, Ukraine*

EW-05. Doped electron localization: EPR probing of $La_{0.3}Ca_{0.7}MnO_3$ compound. *M. Auslender*[1], A.I. Shames[2], E. Rozenberg[2], I. Felner[3], D. Mogilyansky[2], A. Pestun[4] and Y.M. Mukovskii[4] *1. Electrical and Computer Engineering, Ben-Gurion University, Beer Sheva, Israel; 2. Physics, Ben-Gurion University, Beer Sheva, Israel; 3. The Racah Institute of Physics, Hebrew University, Jerusalem, Israel; 4. Steel and Alloys Institute, Moscow, Russian Federation*

EW-06. Anisotropic magnetoresistance in low-doped $La_{0.78}Ca_{0.22}MnO_3$ single crystals. Y. Yuzelevski[1], *V. Markovich*[1], G. Jung[1], G. Gorodetsky[1] and Y. Mukovskii[2] *1. Physics, Ben-Gurion University, Beer-Sheva, Israel; 2. Moscow State Steel and Alloys Institute, Moscow, Russian Federation*

EW-07. Anomalous ac magnetoresistance in La0.5Ca0.5Mn1-xNixO3 (x = 0, 0.04). S. Barik[1] and *M. Ramanathan*[1] *1. Physics, National university of Singapore, Singapore, Singapore*

EW-08. Effect of 3d-TM doping on the Charge Ordering in Bi0.5Ca0.5MnO3. D. Vijayan[1], J. Kurian[1] and *R. Singh*[1] *1. School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

WEDNESDAY MORNING 10:00 GRAND HALL EAST

Session EX
MULTIFERROICS: FILMS AND HETEROSTRUCTURES (POSTER SESSION)
J Burton, Chair

EX-01. Magnetic property and structural analysis using transmission electron microscopy in $BiCoO_3$-$BiFeO_3$ solid solution films grown by metalorganic chemical vapor deposition. *H. Naganuma*[1], S. Yasui[2], K. Nishida[3], T. Iijima[4], H. Funakubo[2] and S. Okamura[5] *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*

EX-02. Switching of magnetic anisotropy due to interfacial strain at Fe/$BaTiO_3$ interface. *Y. Shirahata*[1], T. Nozaki[1], H. Taniguchi[1], M. Itoh[1] and T. Taniyama[1] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan*

EX-03. E-field control of exchange coupling and deterministic magnetization switching in AFM/FM/FE multiferroic heterostructures. *M. Liu*[1], J. Lou[1] and N.X. Sun[1] *1. Electrical and Computer engineering, Northeastern University, Bosotn, MA*

EX-04. Transitions in the Magnetoresistance behavior of Co doped $BiFeO_3$ system. K. Chakrabarti[1], *D. Tripathy*[1] and A. Adeyeye[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

EX-05. Talyoring Magnetic Anisotropy of Fe on BaTiO3 and SrTiO3 Surfaces with Electric field. *H. Choi*[1] and Y. Chung[1] *1. Material Science & Engineering, Hanyang University, Seoul, Korea, Republic of*

EX-06. Multiferroic properties of epitaxially grown Fe-doped $BaTiO_3$ thin film heterostructures. *R.R. Rajagukguk*[1], E. Ramana[1] and C. Jung[1] *1. Physics Department, Hankuk University of Foreign Studies, Yongin-si, Kyounggi-do, Korea, Republic of*

EX-07. Strong magnetization in bismuth ferrite and yttrium manganate super-lattice at room temperature. *Z. Cheng*[1], H. Zhao[2], X. Wang[1] and H. Kimura[2] *1. University of Wollongong, Institute for Superconducting and Electronic Materials, Fairy Meadow, NSW, Australia; 2. National Institute for Materials Science, Sengen 1-2-1, Tsukuba, Japan*

EX-08. Withdrawn

WEDNESDAY AFTERNOON 1:30

CENTENNIAL I

Session FA
SYMPOSIUM ON PERSPECTIVES ON MAGNETISM IN METALS

Zbigniew Celinski, Chair

1:30

FA-01. Dipole-dipole interactions in the computational micromagnetism of iron. ***(Invited)*** *A.S. Arrott*[1] *1. Physics, Simon Fraser University, Burnaby, BC, Canada*

2:06

FA-02. Spin Excitations in Metals; Historical Perspective and Recent Developments. ***(Invited)*** *D.L. Mills*[1] *1. Univ. of California, Irvine, Irvine, CA*

2:42

FA-03. Perspectives on metallic spintronics. ***(Invited)*** *T. Shinjo*[1,2], T. Ono[1] and Y. Suzuki[2] *1. Inst.Chem.Res., Kyoto Univ., Uji, Japan; 2. Engineering Science, Osaka Univ., Toyonaka, Japan*

3:18

FA-04. Perspective on Probing Metallic Ferromagnetism with Electrons. ***(Invited)*** *D.T. Pierce*[1] *1. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD*

3:54

FA-05. Perspectives on Magnetic Materials Studied by X-rays. ***(Invited)*** *G. Schütz*[1] *1. Max-Planck-Institute for Metal Research, Max-Planck-Society, Stuttgart, Germany*

WEDNESDAY AFTERNOON 1:30

CENTENNIAL II

Session FB
COMPLEX OXIDE FILMS AND NANOSTRUCTURES II

Anand Bhattacharya, Chair

1:30

FB-01. Interfacial magnetism in CaRuO3/CaMnO3 superlattices grown on SrTiO3. *C. He*[1], X. Zhai[1], V.V. Mehta[1,2], F. Wong[1,2] and Y. Suzuki[1] *1. Materials Science and Engineering, U.C. Berkeley, Berkeley, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA*

1:42

FB-02. Evolution of the band alignment with interfacial composition and magnetic order at the interface of a hole-doped Lanthanum manganite, $La_{1-x}A_xMnO_3$, and $SrTiO_3$ *J.D. Burton*[1] and E.Y. Tsymbal[1] *1. Physics and Astronomy, University of Nebraska Lincoln, Lincoln, NE*

1:54

FB-03. Interfacial effects in La2/3Sr1/3MnO3 thin films with different complex oxide capping layers. *S. Valencia*[2], Z. Konstantinovic[1], L. Balcells[1], . Schmitz[2] and B. Martinez[1] *1. Magnetic Materials and Complex Oxides, ICMAB-CSIC, Bellaterra, Spain; 2. Helmholtz-Zentrum-Berlin für Materialien und Energie, Albert-Einstein Str. 15 D-12489 Berlin., Germany*

2:06

FB-04. Magnetic Anisotropy in $LaCoO_3$ epitaxial films. *V.V. Mehta*[1,2], F. Wong[1,2], E. Arenholz[3] and Y. Suzuki[1,2] *1. Materials Science and Engineering, UC Berkeley, Berkeley, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

2:18

FB-05. Magnetism and Structure in $SrRuO_3$ Thin Films. *A. Grutter*[1,2], F. Wong[1,2], E. Arenholz[3], M. Liberati[3], A. Vailionis[4] and Y. Suzuki[1,2] *1. Materials Science and Engineering, UC Berkeley, Berkeley, CA; 2. Materials Sciences Division, Lawrence Berkeley National Lab, Berkeley, CA; 3. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA; 4. Geballe Laboratory for Advanced Materials, Stanford University, Stanford, CA*

2:30

FB-06. Role of Ru-vacancies in the magnetism of strain relaxed SrRuO3 films on SrTiO3 substrates. *M. Bohra*[1], C.P. Wu[1], H.J. Yeh[1], Y.H. Cheng[1], C.C. Peng[1] and H. Chou[1] *1. Department of Physics, National Sun Yat-Sen University, Kaohsiung, Kaohsiung, Taiwan*

2:42

FB-07. Structural and Magneto-Transport Properties of Thin Films and Spin-Filter Devices Based on Spinel Ferrites. *V. Sankar*[1], D. Mazumdar[1], J. Ma[1], X. Zhong[1] and A. Gupta[1] *1. Materials for Information Technology Center, University of Alabama, Tuscaloosa, AL*

2:54

FB-08. Structural properties of Lithium Ferrite thin films: Low temperature growth and effect of lattice mismatch. *C. Boyraz*[1,2], D. Mazumdar[1], M. Iliev[3], J. Ma[1], G. Srinivasan[4] and A. Gupta[1] *1. MINT center, MINT Center University of Alabama, Tuscaloosa, AL; 2. Physics, Marmara University, Istanbul, Turkey; 3. Texas Center for Superconductivity, University of Houston, Houston, TX; 4. Physics, Oakland University, Rochester, MI*

3:06

FB-09. NEXAFS and XMCD studies of La0.8Bi0.2Fe0.7Mn0.3O3 multiferroic thin film. *G. Anjum*[1], P. Thakur[2], R. Kumar[3], N.B. Brookes[2] and S. Mollah[1] *1. Department of Physics, Aligarh Muslim University, Aligarh, U.P., India; 2. European Synchrotron Radiation Facility, Grenoble Cedex, France; 3. Centre for Materials Science and Engineering, National Institute of Technology, Hamirpur, H.P., India*

3:18

FB-10. Enhanced Magnetization in Spinel Thin Films with a Triangular Canted Spin Configuration. *J.M. Iwata*[1], F.J. Wong[1,2], B.B. Nelson-Cheeseman[1], M.F. Toney[3], E. Arenholz[4], M. Liberati[4], B. Kirby[5], J. Borchers[5] and Y. Suzuki[1,2] *1. Materials Science & Engineering, University of California, Berkeley, Berkeley, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Stanford Synchrotron Radiation Lightsource, SLAC National Accelerator Laboratory, Menlo Park, CA; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 5. Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD*

3:30

FB-11. Interacting Magnetic Nanostructures for Novel Logic Gate Applications. *E. Kim*[1], A. Scholl[2], A. Young[2], A. Doran[2], B. Harteneck[3], M.E. Hawley[4] and Y. Suzuki[1] *1. Materials Science and Engineering, University of California, Berkeley, Berkeley, CA; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Materials Science & Technology Division, Los Alamos National Laboratory, Los Alamos, NM*

3:42

FB-12. Phase coexistence and magnetic anisotropy in polycrystalline and nanocrystalline $LaMnO_{3+\delta}$ *S. Chandra*[1], A. Figueroa[1,3], M.H. Phan[1], H. Srikanth[1], B. Ghosh[2] and A.K. Raychaudhuri[2] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Unit of Nanoscience, S N Bose National Center for Basic Sciences, Kolkata, India; 3. Condensed Matter Physics Department, Universidad de Zaragoza, Zaragoza, Spain*

3:54

FB-13. Magnetic properties of orientation controlled $CoFe_2O_4$ in heteroepitaxial $CoFe_2O_4$-$BiFeO_3$ columnar nanostructures. *S. Liao*[1], P. Tsai[2], H. Liu[1], T. Wu[1], Y. Chu[2] and C. Lai[1] *1. Materials Science & Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Science & Engineering, National Chiao Tung University, Hsinchu, Taiwan*

4:06

FB-14. Particle Size Dependence of Magnetization and Non-Centrosymmetry in Nanoscale BiFeO3. *S. Goswami*[1], D. Bhattacharya[1] and P. Choudhury[1] *1. Nanostructured Materials, Central Glass and Ceramic Research Institute, Kolkata, India*

4:18

FB-15. Disappearance of electron-hole asymmetry in nano-sized charge ordered manganites. *K.G. Padmalekha*[1] and S.V. Bhat[1] *1. Physics, Indian Institute of Science, Bangalore, Karnataka, India*

WEDNESDAY AFTERNOON 1:30

CENTENNIAL III

Session FC
SPIN TRANSFER TORQUE SWITCHING II

Mathias Kläui, Chair

1:30

FC-01. Tunnel Magnetoresistance and Spin Torque Switching in MgO-based Magnetic Tunnel Junctions with a Co/Ni Multilayer Electrode. *T. Moriyama*[1], T.J. Gudmundsen[1], P.Y. Huang[1], L. Liu[1], D.C. Ralph[1] and R.A. Buhrman[1] *1. Cornell University, Ithaca, NY*

1:42

FC-02. Micromagnetic States of Magnetic Tunnel Junction Memory Cells with Perpendicular Polarizer. *J.G. Alzate*[1], A. Kovalev[2], G. Rowlands[3], P. Khalili Amiri[1], Y. Tserkovnyak[2], I. Krivorotov[3], T. Rahman[4], A. Lyle[4], J. Wang[4], K. Galatsis[1] and K.L. Wang[1] *1. Electrical Engineering Department, University of California, Los Angeles, CA; 2. Physics and Astronomy Department, University of California, Los Angeles, CA; 3. Physics and Astronomy Department, University of California, Irvine, CA; 4. Electrical and Computer Engineering Deparment, University of Minnesota, Minneapolis, MN*

1:54

FC-03. Current induced vortices in multi-nanocontact spin-torque devices. *S. Redjai Sani*[1], J. Persson[1], S. Mohseni[1] and J. Åkerman[1,2] *1. Microelectronics and Applied Physicis Materilal Physics, Royal Institute of Technology (KTH), Stockholm, Sweden; 2. Physics Department, University of Gothenburg, Gothenburg, Sweden*

2:06

FC-04. Spin-transfer switching: From the dynamic to the thermally activated regime. *(Invited)* *D. Bedau*[1], H. Liu[1], J.Z. Sun[2], J.A. Katine[3], E.E. Fullerton[4], S. Mangin[5] and A.D. Kent[1] *1. Physics, New York University, New York, NY; 2. IBM T. J. Watson Research Center, P.O. Box 218, NY; 3. Hitachi-GST, San Jose, CA; 4. University of California, San Diego, CA; 5. Nancy-Université, Nancy, France*

2:42

FC-05. Calculation of spin transfer torque in partially polarized spin valves including multiple reflections. S. Hernandez[1] and *R.H. Victora*[1] *1. University of Minnesota, Minneapolis, MN*

2:54

FC-06. Low moment ferromagnetic alloys for spin transfer torque switching. *K. Oguz*[1] and M. Coey[1] *1. School of Physics and CRANN, Trinity College, Dublin, Ireland*

3:06

FC-07. Current Driven Oscillation and Switching in Co/Pd Perpendicular GMR Multilayer. *C. Sim*[1,2], S. Lua[2], R. Law[2], T. Liew[2] and J. Zhu[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Data Storage Institute, A*STAR, Singapore, Singapore*

3:18

FC-08. Theory of Spin Torque in Anisotropic Tunneling Systems. *A. Manchon*[1] *1. Materials Science and Eng., KAUST, Thuwal, Saudi Arabia*

3:30

FC-09. Temperature evolution of spin-transfer switching in non-local spin valves. *H. Zou*[1], X. Wang[1] and Y. Ji[1] *1. Physics & Astronomy, University of Delaware, Newark, DE*

3:42

FC-10. Study of spin torque in multilayer structures via combined drift diffusion and atomistic modelling techniques. P. Chureemart[1], J.L. Gay[1], *I. D'Amico*[1] and R.W. Chantrell[1] *1. Physics, University of York, York, United Kingdom*

3:54

FC-11. Switching and Equilibration in All-Perpendicular Spin Valves Subject to Short Current Pulses. *H. Liu*[1], D. Bedau[1], J.Z. Sun[2], J.A. Katine[3], E.E. Fullerton[4], S. Mangin[5] and A.D. Kent[1] *1. New York University, New York, NY; 2. IBM T.J. Watson Research center, P.O.Box218, NY; 3. Hitachi-GST, San Jose, CA; 4. University of California, San Diego, CA; 5. Nancy-Université, Nancy, France*

4:06

FC-12. Single shot measurement of inhomogeneous magnetization behavior in the ns spin-transfer switching for MgO-based magnetic tunnel junctions. *T. Aoki*[1], Y. Ando[1], T. Oka[1], M. Oogane[1] and H. Naganuma[1] *1. Applied physics, Tohoku University, Sendai, Japan*

4:18

FC-13. Spin Torque Switching of 26 nm Diameter Magnetic Tunnel Junction Using a Conductive Atomic Force Microscope. ***E.R. Evarts***[1], M. Moneck[2], R.A. Booth[1], C. Hogg[1], D.S. Ricketts[2], J. Zhu[2], J.A. Bain[2] and S.A. Majetich[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

WEDNESDAY AFTERNOON 1:30 CENTENNIAL IV

Session FD
FERROMAGNETIC SEMICONDUCTORS

Nitin Samarth, Chair

1:30

FD-01. Anomalous Zeeman splittings of II-VI diluted magnetic semiconductors at L-critical points. *K. Ando*[1], H. Saito[1] and V. Zayets[1] *1. AIST, Tsukuba, Japan*

1:42

FD-02. Magneto Polaron Formation in Colloidal CdMnSe Quantum Dots Studied by Circularly Polarized Magneto-Photoluminescence. *S. Delikanli*[1], A. Russ[1], L. Schweidenback[1], A. Petrou[1], S. Kim[2], J. Murphy[2], A.N. Cartwright[2] and H. Zeng[1] *1. Department of Physics, University at Buffalo, SUNY, Buffalo, NY; 2. Department of Electrical Engineering, University at Buffalo-SUNY, Buffalo, NY*

1:54

FD-03. Nonlinear magneto-optical effect in the centrosymmetric ferromagnetic semiconductor EuO. *M. Matsubara*[1], A. Schmehl[2], J. Mannhart[2], D.G. Schlom[3] and M. Fiebig[1] *1. HISKP, University of Bonn, Bonn, Germany; 2. Institute of Physics, University of Augsburg, Augsburg, Germany; 3. Department of Materials Science and Engineering, Cornell University, Ithaca, NY*

2:06

FD-04. μSR proof of magnetism in pure ZnO thin films. *T. Tietze*[1], P. Audehm[1], B. Straumal[2], S. Protasova[2], T. Prokscha[3], H. Luetkens[3], Z. Salman[3] and E. Goering[1] *1. Modern Magnetic Materials, Max-Planck-Institute for Metals Research, Stuttgart, Baden-Württemberg, Germany; 2. Moscow Institut of Steel and Alloys, Moscow, Russian Federation; 3. Laboratory for Muon Spin Spectroscopy, Paul-Scherrer-Institut, Villigen PSI, Switzerland*

2:18

FD-05. Comparative Study on Dilute Magnetic Semiconductor SnO2:Co Thin Films Grown by PLD and Magnetron Sputtering Methods. *G.M. Stoian*[1], E. Hu[1], P.A. Stampe[2], R.J. Kennedy[2], E. Lochner[1] and S. von Molnar[1] *1. Physics, Florida State University, Tallahassee, FL; 2. Physics, Florida A&M University, Tallahassee, FL*

2:30

FD-06. Large positive magnetoresistance of $Ge_{1-x}Mn_x$ films with magnetic nanocolumns and its heterostructure. *S. Yada*[1], R. Okazaki[1], S. Ohya[1] and M. Tanaka[1] *1. Dept. of Eletrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan*

2:42

FD-07. Control of ferromagnetism in nitride semiconductors. ***(Invited)*** *A. Bonanni*[1] *1. Semiconductor and Solid State Physics, Johannes Kepler University, Linz, Austria*

3:18

FD-08. Evidence of high thermal stability of interstitial Mn in heavily *p*-doped GaAs. *L.C. Pereira*[1,2], U. Wahl[3,4], J.G. Correia[3,4], S. Decoster[1], M.R. da Silva[4], J.P. Araújo[2] and A. Vantomme[1] *1. Instituut voor Kern- en Stralingsfysica and INPAC, K.U.Leuven, 3001 Leuven, Belgium; 2. IFIMUP and IN-Institute of Nanoscience and Nanotechnology, DFA-FCUP, 4169-007 Porto, Portugal; 3. Instituto Tecnológico e Nuclear, UFA, 2686-953 Sacavém, Portugal; 4. Centro de Física Nuclear da Universidade de Lisboa, 1649-003 Lisboa, Portugal*

3:30

FD-09. Magnetic anisotropy of epitaxial (Ga,Mn)As on (113)A GaAs. W. Stefanowicz[1,2], C. Sliwa[1], P. Aleshkevych[1], T. Dietl[1,3], M. Doppe[4], U. Wurstbauer[4], W. Wegscheider[4], D. Weiss[4] and *M. Sawicki[1] 1. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 2. Laboratory of Magnetism, University of Bialystok, Bialystok, Poland; 3. Institute of Theoretical Physics, University of Warsaw, Warsaw, Poland; 4. Department of Physics, University Regensburg, Regensburg, Germany*

3:42

FD-10. Reorientation of the easy axis magnetization in $GaMnAs_{1-y}P_y$ probed by Tunneling anisotropic magneto-resistance experiments(TAMR). *S. Ruttala*[1], H. Jaffrès[1], J. George[1], M. Olivia[2], L. Ludovic[2] and L. Aristide[2] *1. Unité Mixte de Physique CNRS-Thales (UMR137), Palaiseau, France; 2. Laboratoire de Photonique et de Nanostructures, CNRS, route de Nozay, F-91460 Marcoussis, France, Marcoussis, France*

3:54

FD-11. Magnetic anisotropy in (Ga,Mn)As grown on vicinal GaAs: effects of the orientation of microwave magnetic field. *K. Dziatkowski*[1,2], X. Liu[3], J.K. Furdyna[3] and A. Twardowski[2] *1. University of Texas at Austin, Austin, TX; 2. University of Warsaw, Warsaw, Poland; 3. University of Notre Dame, Notre Dame, IN*

4:06

FD-12. Planar Hall Effect in epitaxially and mechanically strained GaMnAs. *T. Kim*[1], C. Yang[1], D. Jang[1] and Y. Park[1] *1. Department of Physics and Astronomy, Seoul National University, Seoul, Korea, Republic of*

4:18

FD-13. Bulk Electronic Structure of the Ferromagnetic Semiconductor Ga(1-x)Mn(x)As via Angle-Resolved Hard X-Ray Photoemission. *A.X. Gray*[1,2], P.R. Stone[2,3], S. Ueda[4], Y. Yamashita[4], K. Kobayashi[4], J. Minar[5], J. Braun[5], H. Ebert[5], L. Plucinski[6], O.D. Dubon[2,3], C.M. Schneider[6] and C.S. Fadley[1,2] *1. Department of Physics, University of California, Davis, Davis, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Department of Materials Science and Engineering, University of California Berkeley, Berkeley, CA; 4. National Institute for Materials Science, SPring-8, Hyogo, Japan; 5. Department of Chemistry and Biochemistry, Physical Chemistry Institute, Ludwig Maximillian University, Munich, Germany; 6. Institute of Solid State Research IFF-9, Research Center Juelich, Juelich, Germany*

WEDNESDAY AFTERNOON
1:30

REGENCY V

Session FE
MAGNETORESISTANCE, SPIN TRANSPORT, AND HALL EFFECT

Tingyong Chen, Chair

1:30

FE-01. All Heusler alloy GMR multi-layers: Characterization of interface properties. R. Knut[1], O. Mryasov[2], S. Granroth[1,5], P. Warnicke[3], P. Svedlindh[4], D. Arena[3], R. Bejhed[4], J. Ericsson[4] and *O. Karis[1] 1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. MINT Center and Department of Physica, University of Alabama, Tuscaloosa, AL; 3. NSLS, Brookhaven National Lab, Upton, NY; 4. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden; 5. Department of Physics and Astronomy, Turku University, Turku, Finland*

1:42

FE-02. Mechanism of large magneto-resistance in half-metallic Co_2MnSi-based current-perpendicular-to-place giant magneto-resistive devices. *Y. Sakuraba*[1], K. Izumi[1], S. Bosu[1], K. Saito[1] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

1:54

FE-03. Physical nature of anomalous peaks observed in EHE loops of [Co/Pd] based exchange biased spin-valves with perpendicular anisotropy. *N. Thiyagarajah*[1], H. Joo[1], L. Lin[1], J. Heo[2], K. Lee[2] and S. Bae[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Department of Physics, Dankook University, Cheonan, Korea, Republic of*

2:06

FE-04. Spin current generation from insulators and metals. ***(Invited)*** *E. Saitoh[1,2] 1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. ASRC, Japan Atomic Energy Agency, Tokai, Japan*

2:42

FE-05. Long spin-relaxation time (10 μs) in a single ferromagnetic-metal MnAs nanoparticle. *P. Nam Hai*[1], S. Ohya[1] and M. Tanaka[1] *1. Department of Electrical Engineering and Information Systems, The University of Tokyo, Bunkyo-ku, Tokyo, Japan*

2:54

FE-06. A newly-discovered delayed switching effect could revolutionize magnetoelectronic memory design. *F.Z. Wang*[1], N. Helian[2], S. Wu[1], G. Lim[1], M. Rashid[1] and M.A. Parker[3] *1. Cambridge-Cranfield HPCF, Cranfield, United Kingdom; 2. University of Hertfordshire, Hatfield, United Kingdom; 3. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom*

3:06

FE-07. Equations-of-motion approach of spin-motive force. *Y. Yamane*[1,2], J. Ieda[1,2], J. Ohe[1,2], S.E. Barnes[3] and S. Maekawa[1,2] *1. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai-mura, Japan; 2. JST, CREST, Tokyo, Japan; 3. Physics Department, University of Miami, Coral Gables, FL*

3:18

FE-08. Frequency-dependent spin current noise and spin conductance of quantum dots in the Kondo regime. *I. Weymann*[1,2], P. Moca[3,4] and G. Zarand[3] *1. Physics, Ludwig Maximilians University, Munich, Germany; 2. Physics, Adam Mickiewicz University, Poznan, Poland; 3. Physics, Budapest University of Technology and Economics, Budapest, Hungary; 4. Physics, University of Oradea, Oradea, Romania*

3:30

FE-09. Interplay of the Kondo effect and spin-polarized transport in nanoscopic systems with uniaxial anisotropy. *M. Misiorny*[1], I. Weymann[1,2] and J. Barnas[1,3] *1. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 2. Physics Department, Arnold Sommerfeld Center for Theoretical Physics and Center for NanoScience, Ludwig-Maximilians-Universität München, München, Germany; 3. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

3:42

FE-10. Study of the magnetoresistance of magnetic film modified by using ion beams. *J. Suk*[1], I. Jeon[1], T. Kim[1], J. Song[2] and J. Lee[1] *1. Institute of Physics and Applied Physics, Yonsei University, Seoul, Korea, Republic of; 2. Nano Analysis Center, Korea Institute of Science and Technology, Seoul, Korea, Republic of*

3:54

FE-11. Anisotropic magnetoresistance effect in pseudo single crystal γ'-Fe_4N films. *M. Tsunoda*[1], H. Takahashi[1], S. Kokado[2], Y. Komasaki[1] and M. Takahashi[1] *1. Department of Electronics Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Faculty of Engineeing, Shizuoka University, Hamamatsu, Shizuoka, Japan*

4:06

FE-12. Anomalous Extraordinary Hall effects in Pt/Co/AlOx. H.M. Garad[1], L. Ortega[1], A. Ramos[1], J. Marcus[1], *F. Fettar*[1], S. Auffret[2], B. Rodmacq[2], B. Diény[2] and F. Gay[1] *1. Institut Neel, CNRS/UJF, Grenoble, France; 2. INAC/SPINTEC, UMR 8191 CEA/CNRS/UJF, Grenoble, France*

4:18

FE-13. Magnetoresistance induced by magnetostriction and piezoelectric effect in Co/ZnO/ZnCoO junctions. Q. Li[1], T. Xu[1], Y. Dai[1], Y. Chen[1], G. Liu[1], L. Mei[1] and *S. Yan*[1] *1. School of Physics, Shandong University, Jinan, Shandong, China*

WEDNESDAY AFTERNOON
1:30

REGENCY VI

Session FF
NANOSTRUCTURED HARD MAGNETIC MATERIALS II

Christina Chen, Chair

1:30

FF-01. Crystallization and magnetic properties of nanoscale SmCo/NdFeB hybrid magnets prepared by high-energy ball milling. *D. Wang*[1], C. Rong[1], Y. Zhang[2], M.J. Kramer[2] and J. Liu[1] *1. Department of Physics, University of Texas at Arlington, Arlington, TX; 2. Division of Materials Science and Engineering, Ames Laboratory, Iowa State University, Ames, IA*

1:42

FF-02. Magnetic Properties of Chemically-Synthesized FeRh/FePt Nanocomposites. *Z. Jia*[1], D. Misra[1] and J.W. Harrell[2] *1. Center for Strucutral and Functional Materials, University of Louisiana - Lafayette, Lafayette, LA; 2. MINT Center, University of Alabama, Tuscaloosa, AL*

1:54

FF-03. Giant coercivty of dense nanostructured spark plasma sintered barryum hexaferrite. *F. Mazaleyrat*[1], A. Bartok[1], A. Pasko[1] and M. LoBue[1] *1. SATIE, ENS Cachan, Cachan, France*

2:06

FF-04. Magnetism of YCo_5 and Y_2Co_{17} nanoclusters. *B. Balasubramanian*[1], R. Skomski[1], S.R. Valloppilly[1], X. Li[1], G.C. Hadjipanayis[3], J.E. Shield[2] and D.J. Sellmyer[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Mechanical Engineering and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 3. Department of Physics and Astronomy, University of Delaware, Newark, DE*

2:18

FF-05. Nanocrystalline $SmCo_5$ magnets with laminated structure and increased electrical resistivity. *A. Gabay*[1], W. Li[1], M. Marinescu-Jasinski[2], J. Liu[2] and G.C. Hadjipanayis[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE; 2. Electron Energy Corporation, Landisville, PA*

2:30

FF-06. Anisotropic $SmCo_5$ flakes and isotropic nanocrystalline particles by ball milling with and without the surfactant oleic acid. *B. Cui*[1], L. Zheng[1], D. Waryoba[2], M. Marinescu[3] and G. Hadjipanayis[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE; 2. Department of Mechanical Engineering, Florida State University, Tallahassee, FL; 3. Electron Energy Corporation, Landisville, PA*

2:42

FF-07. Withdrawn

2:54

FF-08. Intergranular diffusion in exchange-coupled Sm-Co/Fe nanocomposites and thin films. Y. Zhang[1,2], *M.J. Kramer*[1], C. Rong[2], D. Banerjee[3], I. Takeuchi[3] and P.J. Liu[2] *1. Materials Sciences and Engineering, Ames Laboratory, DOE, Ames, IA; 2. Department of Physics,, University of Texas at Arlington,, Arlington, TX; 3. Center for Nanophysics and Advanced Materials, University of Maryland, College Park, Maryland, MD*

3:06

FF-09. Effective Grain Pinning Revealed by Nanoscale Electron Tomography. *Y.Q. Wu*[1], W. Tang[1], K.W. Dennis[1], N. Oster[1,2], R.W. McCallum[1,2], I.E. Anderson[1,2] and M.J. Kramer[1,2] *1. The Ames Laboratory of USDOE, Iowa State University, Ames, IA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA*

3:18

FF-10. Effects of CrRu-SiO_X underlayer on the microstructure and magnetic properties of FePt-C thin film. *H. Li*[1,2], J. Hu[2], G. Ju[3], G. Chow[1] and J. Chen[1] *1. Department of Materials Science and Engineering, National University of Singapore, Singapore 117576, Singapore; 2. Data Storage Institute, Agency for Science, Technology and Research (A*STAR), Singapore 117608, Singapore; 3. Seagate Technology, Fremont, CA 94538, CA*

3:30

FF-11. Rapidly solidified Sm-Co(Fe) alloys modified with transition metal carbides and borides. S. Aich[1], P. Rasmussen[2,4] and *J.E. Shield*[3,4] *1. Metallurgical and Materials Engineering, IIT-Kharagpur, Kharagpur, India; 2. Raymond Central High School, Raymond, NE; 3. Mechanical Engineering, University of Nebraska, Lincoln, NE; 4. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE*

3:42

FF-12. Orientation of easy axes and hysteresis loops in exchange-coupled composite magnets. *G. Zhao*[1,3], Y. Deng[1] and H. Zhang[2] *1. College of Physics and Electronic Engineering, Sichuan Normal University, Chengdu, Sichuan, China; 2. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 3. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiansgsu, China*

3:54

FF-13. Magnetic anisotropy in bulk nanostructured SmCo5 permanent magnets prepared by hot deformation. *M. Yue*[1], W. Liu[1], J. Zuo[1], J. Wei[1], W. Lv[1], D. Zhang[1] and J. Zhang[1] *1. Beijing University of Technology, Beijing, China*

4:06

FF-14. Huge coercive field on metal substituted ε-Fe_2O_3. *A. Namai*[1], S. Umeda[1], S. Sakurai[1], M. Nakajima[2], T. Suemoto[2] and S. Ohkoshi[1] *1. Department of Chemistry, The University of Tokyo, Tokyo, Japan; 2. Institute for Solid State Physics, The Univ. of Tokyo, Chiba, Japan*

4:18

FF-15. Influence of milled α-Fe powders on structure and magnetic properties of $Sm(Co,Zr)_7$/α-(Fe,Co)nanocomposite magnets by mechanical alloying. *Z. Liu*[1], R.J. Chen[1], D. Lee[1] and A.R. Yan[1] *1. Zhejiang province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, CAS, Ningbo, China*

WEDNESDAY AFTERNOON 1:30

REGENCY VII

Session FG
PATTERNED FILMS II
Valentyn Novosad, Chair

1:30

FG-01. Magnetic imaging of the pinning of asymmetric transverse domain walls in ferromagnetic nanowires. *D. Petit*[1], H.T. Zeng[2], J. Sampaio[2], E.R. Lewis[2], L. O'Brien[2], A. Jausovec[2], D.E. Read[2], R.P. Cowburn[1], K.J. O'Shea[3], S. McVitie[3] and J.N. Chapman[3] *1. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Department of Physics, Imperial College London, London, United Kingdom; 3. Department of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

1:42

FG-02. Improved vortex nucleation in truncated soft magnetic cones. *N. Martin*[1,2], I. Mönch[2], R. Schäfer[2], L. Schultz[1,3] and J. McCord[1,2] *1. Insitute of Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf, Dresden, Germany; 2. Leibniz Institute for Solid State and Materials Research IFW Dresden, Dresden, Germany; 3. TU Dresden, Dresden, Germany*

1:54

FG-03. Chirality control in ferromagnetic nanoislands arranged in hexagonal ring structures. E. Mengotti[1], *R.V. Chopdekar*[1], D.A. Zanin[1], F. Nolting[1], H. Braun[2] and L.J. Heyderman[1] *1. Paul Scherrer Institute, Villigen PSI, Switzerland; 2. School of Physics, University College Dublin, Dublin, Ireland*

2:06

FG-04. Magnetization configurations of Ti/CoCrPt/Ti single and double concentric rings. *D. Navas*[1,2], C. Nam[1], C. Redondo[2], F. Castano[2] and C.A. Ross[1] *1. Materials Science and Engineering Depart., MIT, Cambridge, MA; 2. Quimica-Fisica Depart., Universidad del Pais Vasco, Leioa, Pais Vasco, Spain*

2:18

FG-05. Reversal of patterned Co/Pd multilayers with graded magnetic structure. *J.E. Davies*[1,2], P. Morrow[2], C.L. Dennis[2], J.W. Lau[2], B. McMorran[3], A. Cochran[3], J. Unguris[3], R.K. Dumas[4], P. Greene[4] and K. Liu[4] *1. Advanced Technology, NVE Corp., Eden Prairie, MN; 2. Magnetic Materials Group, Metallurgy Division, NIST, Gaithersburg, MD; 3. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD; 4. Physics Department, University of California, Davis, CA*

2:30

FG-06. Classification of super domains and super domain walls in permalloy antidot lattices. X. Hu[2,1], S. Sievers[1], A. Müller[1], V. Janke[1] and *H.W. Schumacher*[1] *1. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 2. College of Materials Science and Engineering, Hangzhou University, Jiliang, China*

2:42

FG-07. Thermal Ground State Ordering and Excitations in Artificial Magnetic Square Ice. *J.P. Morgan*[1], A. Stein[2], S.L. Langridge[3] and C.H. Marrows[1] *1. Physics and Astronomy, University of Leeds, Leeds, Yorkshire, United Kingdom; 2. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY; 3. ISIS, Rutherford Appleton Laboratory, Didcot, Oxfordshire, United Kingdom*

2:54

FG-08. Chirality control via double-vortex nucleation and coalescence in asymmetric Co dots. *D.A. Gilbert*[1], R.K. Dumas[1], N. Eibagi[1] and K. Liu[1] *1. Physics Dept., University of California, Davis, CA*

3:06

FG-09. Individual Resonances and Collective Modes for a rectangular array of Py circular dots. *H.J. Hurdequint*[1], V. Castel[1], G. de Loubens[2], O. Klein[2], J. Grollier[3], G. Faini[4], V. Cros[3] and C. Deranlot[3] *1. Laboratoire de Physique des Solides, CNRS-Universite Paris-Sud, Orsay, France; 2. SPEC, CEA, Gif-sur-Yvette, France; 3. Unite Mixte de Physique, CNRS-Thales-Universite Paris-Sud, Palaiseau, France; 4. Laboratoire Photonique et Nanostructures, CNRS, Marcoussis, France*

3:18

FG-10. Fabrication of Nano-Magnetic Structures by Nanoimprint Lithography (NIL) using Anodized Alumina Mold. *T. Rahman*[1], H. Wang[1], H. Zhao[1] and J. Wang[1] *1. MINT Center, Dept. of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

3:30

FG-11. Experimentally performed programmable magnetic-logic-gate with magnetic force microscopy. *H. Nomura*[1], M. Komura[1], Y. Imanaga[1], K. Toyoki[1] and R. Nakatani[1] *1. Graduate School of Engineering, Osaka University, Suita-city, Japan*

3:42

FG-12. Spatial profile of spin excitations in multilayered rectangular nanodots studied by micro-focused Brillouin light scattering. M. Madami[1], *G. Carlotti*[1], G. Gubbiotti[1], F. Scarponi[1], S. Tacchi[1] and T. Ono[2] *1. Dipartimento di Fisica, CNISM-Università di Perugia, Perugia, Italy; 2. Institute for Chemical Research, University of Kyoto, Kyoto, Japan*

3:54

FG-13. Complex Periodic Magnetic Nanostructures. ***(Invited)*** *A.O. Adeyeye*[1] and S. Jain[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

WEDNESDAY AFTERNOON 1:30

LEARNING CENTER

Session FH
SOFT MAGNETIC ALLOYS
Frank Johnson, Chair

1:30

FH-01. Soft Magnetism and Microwave Magnetic Properties of Fe-Co-Hf Films Deposited by Composition Gradient Sputtering. *S. Li*[2,1], F. Xu[3], Z. Tian[4], J. Wu[2], Y. Hu[2], X. Cai[2], N. Sun[1] and J. Duh[5] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Physics, Fujian Normal University, Fuzhou, China; 3. Department of Materials Science and Technology, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 4. College of Mechanical and Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China; 5. Department of Material Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

1:42

FH-02. Sub-100 μm Scale On-chip Inductors with CoZrTa for GHz Applications. W. Xu[1], *H. Wu*[1], D.S. Gardner[2], S. Sinha[1], T. Dastigir[1], B. Bakkaloglu[1], Y. Cao[1] and H. Yu[1] *1. Electrical Engineering, Arizona State University, Tempe, AZ; 2. Intel Labs, Intel Corp., Santa Clara,, CA*

1:54

FH-03. Microwave permeability and tunable ferromagnetic resonance in magnetic nanowire arrays. *X. Kou*[1], X. Fan[1], H. Zhu[2], R. Cao[1] and J.Q. Xiao[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Spectrum Magnetics, LLC, Wilmington, DE*

2:06

FH-04. Synthesis of CoFex/Al2O3 composite nanoparticles with ultra wideband microwave absorption performance. L. Zhen[1], *Y. Gong*[1,2], J. Jiang[1], C. Xu[1], W. Shao[1] and R. Mittra[2] *1. Harbin Institue of Technology, Harbin, Hei Longjiang, China; 2. Pennsylvania State University, State College, PA*

2:18

FH-05. The influence of Fe content on the magnetic and electromagnetic characteristics for Fex(CoNi)1-x ternary alloy nanoparticles. S. Yan[1,2], L. Zhen[1], C. Xu[1], J. Jiang[1], W. Shao[1] and *J. Tang[2]1. School of Materials Science and Engineering, Harbin Institute of Technology, Harbin, Hei Long Jiang, China; 2. Department of Physics and Astronomy, University of Wyoming, Laramie, WY*

2:30

FH-06. Tunable local band pass filter using permalloy square antidot arrays. *V. Venugopal*[1], B.K. Kuanr[1], L.M. Malkinski[2], M. Yu[2], R.E. Camley[1] and Z. Celinski[1]*1. Center for Magnetism and Magnetic Nanostructures, Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA*

2:42

FH-07. Electric Field Tunable Magnetoelectric Inductors. *T. Wu*[1], J. Hockel[1] and G.P. Carman[1]*1. Mechanical and Aerospace Engineering, University of California, Los Angeles, Los Angeles, CA*

2:54

FH-08. Microwave magnetic field imaging using thermoemissive ferromagnetic microstructured films. *J. Verniéres*[1], J. Bobo[1], D. Prost[2], F. Issac[2] and F. Boust[2]*1. NMH-CEMES, CNRS, Toulouse, France; 2. DEMR, ONERA, Toulouse, France*

3:06

FH-09. Probing Local Irreversible Magnetization Reversal in Soft Nanogranular Magnetic Ribbons. *F. Béron*[1], L. Costa[1], G. Soares[1], L. Valenzuela[1], J. Torrejon[1], K.R. Pirota[1] and M. Knobel[1]*1. Instituto de Fisíca Gleb Wataghin, Universidade Estadual de Campinas, Campinas, São Paulo, Brazil*

3:18

FH-10. Exchange bias of conetic thin films. *P. Jayathilaka*[1] and C.W. Miller[1]*1. Physics Department, University of South Florida, Tampa, FL*

3:30

FH-11. Withdrawn

3:42

FH-12. Total power loss density in a soft magnetic 49 % Co – 49 % Fe – 2 % V-alloy. *W. Pieper*[1] and J. Gerster[1]*1. R+D, Vacuumschmelze VAC, Hanau, Germany*

3:54

FH-13. Effect of B addition on high anisotropy field of FeCoB films on Ru underlayers. *Y. Mashiko*[1], K. Hirata[1] and S. Nakagawa[1]*1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

4:06

FH-14. Reducing audible noise for distribution transformer with HB1 amorphous core. Y. Chang[1], *C. Hsu*[1,2], C. Tseng[3] and H. Lin[4]*1. Electrical Engineering, Chang Gung University, Taoyuan, Taiwan; 2. Electrical Engineering, Fortune Electric Ltd, Co., Taoyuan, Taiwan; 3. Physics, Nuclear Energy Research, Taoyuan, Taiwan; 4. Electrical Engineering, Lee-Ming Institute of Technology, Taipei, Taiwan*

4:18

FH-15. Anisotropic Magnetic Properties and Domain Wall Dynamics in 3%Si-Fe (110) Single Crystal Sheet. *S. Shin*[1] and B.C. De Cooman[1]*1. Graduate Institute of Ferrous Technology, Pohang University of Science and Technology, Pohang, Korea, Republic of*

WEDNESDAY AFTERNOON
3:00

GRAND HALL EAST

Session FP
SPIN TRANSFER TORQUE OSCILLATORS AND MRAM (POSTER SESSION)

Christoforos Moutafis, Chair

FP-01. Spin Torque Ferromagnetic Resonance Induced by the Spin Hall Effect. *L. Liu*[1], T. Moriyama[1], D. Ralph[1] and R. Buhrman[1]*1. Cornell University, Ithaca, NY*

FP-02. Perpendicular-polarizer-based spin-torque oscillators with enhanced spectral features. *J. Park*[1], C. Sim[2], M. Moneck[2] and J. Zhu[2]*1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

FP-03. Current-driven vortex dynamics in metallic nanocontacts. *G. Hrkac*[1], J. Dean[1], L. Saharan[1], M. Bashir[1], T. Schrefl[1], J. Kim[2], T. Devolder[2] and L. Lagae[3] *1. Department of Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. Institut d'Electronique Fondamentale, Universite Paris-Sud, Paris, France; 3. IMEC, Leuven, Belgium*

FP-04. Field-theoretic model of magnon-mediated coupling between nanocontact spin torque oscillators. *J. Kim*[1,2] *1. Institut d'Electronique Fondamentale, Univ. Paris-Sud, Orsay, France; 2. UMR 8622, CNRS, Orsay, France*

FP-05. Instability in mutual synchronization of spin torque oscillators. *E. Iacocca*[1], G. Consolo[2] and J. Åkerman[1,3] *1. Microelectronics and Applied Physics, Royal Institute of Technology, Stockholm, Sweden; 2. Matter Physics and Electronic Engineering, University of Messina, Messina, Italy; 3. Physics, University of Gothenburg, Gothenburg, Sweden*

FP-06. Temperature dependence of the linewidth in a nano-contact based spin torque oscillator: effect of multiple oscillatory modes. *P.K. Muduli*[1,2], N. Veerde[1], S. Bonetti[1], F. Mancoff[3] and J. Åkerman[1,2] *1. Materials Physics, Royal Institute of Technology, 16440, Stockholm, Sweden; 2. Physics Department, University of Gothenburg, 41296, Gothenburg, Sweden; 3. Everspin Technologies, 1300 N. Alma School Road, Chandler, 85224, AZ*

FP-07. Spin-Transfer-Torque-Driven Ferromagnetic Resonance in the Nano-Contact Magnetoresistive Device and its Characteristics. *Y. Okutomi*[1], K. Miyake[1], M. Doi[1], H. Fuke[2], H. Iwasaki[2] and M. Sahashi[1] *1. Electronic Engineering, Tohoku University, Sendai Miyagi, Japan; 2. Corporate R&D Center, Toshiba Corporation, Kawasaki, Japan*

FP-08. Power Increasing of Angular Polarizer Spin Torque Oscillator in Magnetic Tunnel Junction. *Y. Zhang*[1], H. Zhao[1], A. Lyle[1] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

FP-09. Spin-wave interference patterns created by spin-transfer nano-oscillators for memory and computation. *F. Macià*[1,2], A.D. Kent[1] and F.C. Hoppensteadt[2] *1. Department of Physics, New York university, new York, NY; 2. Courant Institute of Mathematical Sciences, New York university, new York, NY*

FP-10. Extra-wide band spin-transfer oscillators. *A.M. Deac*[1,3], W.H. Rippard[2], M.R. Pufall[2], V. Sluka[1], D. Bürgler[1] and C.M. Schneider[1] *1. Institut fuer Festkoerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany; 2. National Institute of Standards and Technology (NIST), Boulder, CO; 3. Laboratory for Nanomagnetism and Spin Dynamics, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland*

FP-11. Interwell vs intrawell stochastic resonance driven by spin-transfer torque in nanomagnet. *G. Finocchio*[1], I. Krivorotov[2], X. Cheng[2], L. Torres[3] and B. Azzerboni[1] *1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Irvine University, Irvine, CA; 3. Universidad de Salamanca, Salamanca, Spain*

FP-12. A study on synthetic antiferromagnetic coupling in perpendicular magnetic multilayer systems. *K. Kim*[1], S. Lee[1], W. Kim[2], W. Lim[2], S. Oh[2], K. Kim[1], U. Pi[1] and J. Lee[2] *1. Semiconductor Lab., Samsung Advanced Institute of Technology (SAIT), Yongin-City, Gyeonggi-Do, Korea, Republic of; 2. Process Development Team, Samsung Electronics Co., Ltd, Hwaseong-City, Gyeonggi-Do, Korea, Republic of*

FP-13. Thermal Stability Characterization of Magnetic Tunnel Junctions Using Hard-Axis Magneto-resistance Measurements. *P. Upadhyaya*[1], P.K. Amiri[1], A. Kovalev[3], Y. Tserkovnyak[3], G. Rowlands[2], Z. Zeng[3], I. Krivorotov[2], H. Jiang[3] and K.L. Wang[1] *1. electrical, University of California Los Angeles, Los angeles, CA; 2. physics, University of California Irvine, Irvine, CA; 3. physics, University of California Los Angeles, Los Angeles, CA*

FP-14. 3D – MRAM Device based on Resonant AC-Spin Polarized Currents. *C. Vogler*[1], F. Bruckner[1], M. Fuger[1], J. Lee[1], J. Fidler[1] and D. Suess[1] *1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

FP-15. Synthetic antiferromagnet reference layer in magnetic tunnel junctions with perpendicular magnetic anisotropy. *S. Bandiera*[1], R. Sousa[1], Y. Dahmane[1], C. Ducruet[2], C. Portemont[2], S. Auffret[1], L. Prejbeanu[2] and B. Dieny[1] *1. SPINTEC, CEA, Grenoble, France; 2. Crocus Technology, Grenoble, France*

WEDNESDAY AFTERNOON 3:00 — GRAND HALL EAST

Session FQ
MAGNETIC SENSORS I (POSTER SESSION)
Guchang Han, Chair

FQ-01. An All-Optical Scalar and Vector SERF Magnetometer Employing On-Off Pump Modulation. D. Levron[1], A. Ben-Amar Baranga[1], *A. Gusarov*[2], E. Paperno[2] and R. Shuker[1] *1. Physics, Ben-Gurion University of the Negev, Beer-Sheva, Israel; 2. Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel*

FQ-02. Dynamic magnetostrictive responsiveness of heterostructural magnetoelectric magnetic field sensors. *S.M. Gillette*[1], A. Geiler[1], Y. Chen[1], A. Yang[1], C. Vittoria[1] and V. Harris[1] *1. Electrical and Computer Engineering Dept., Northeastern University, Boston, MA*

FQ-03. Improving Magnetic Flux Concentrators for MR Sensors Using 3D Magnetic Flux Concentrators. *Z.A. Marinho*[1], P.P. Freitas[1], S. Cardoso[1], R. Ferreira[1] and R. Chaves[1] *1. Instituto Superior Técnico (IST),INESC Microsistemas e Nanotecnologias, Lisbon, Portugal*

FQ-04. Study of the Domain Structure in Domain-wall Displacing Type Field Sensor. *G. Wang*[1], Y. Masuda[1], T. Kato[1] and S. Iwata[1] *1. Dept. of Quantum Engineering, Nagoya University, Nagoya, Aichi, Japan*

FQ-05. Magnetic pumping switch in a continuous magnetic fluid for reusable spin-valve sensor. *K. Lee*[1], M. Park[1], D. Lee[1,3], S. Lee[1,3], S. Yang[1,3] and B. Cho[1,2] *1. Research Center for Oceanographic Nano-photonics Sensor, GIST, Gwangju, Korea, Republic of; 2. School of Material Science and Engineering, GIST, Gwangju, Korea, Republic of; 3. School of Mechatronics, GIST, Gwangju, Korea, Republic of*

FQ-06. A GMR Ring-Sensor Based Microsystem for Magnetic Bead Manipulation and Detection. *C. Gooneratne*[1], C. Liang[1] and J. Kosel[1] *1. King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

FQ-07. 3D Simulation of GMI Effect in Thin Film Based Sensors. *B. Li*[1], J. Kosel[1] and C. Liang[1] *1. Physical Science and Engineering Division, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

FQ-08. Integration of Thin-Film Giant Magneto Impedance Sensor with Surface Acoustic Wave Device. *H. Alrowais*[1], B. Li[1], J. Kosel[1] and C. Liang[1] *1. Division of Physical Sciences and Engineering, KAUST, Thuwal, Saudi Arabia*

FQ-09. Large enhancement of GMI effect in Co-rich amorphous wire prepared by melt-extraction method. *S. Zhang*[1], D. Xing[1], J. Sun[1], F. Qin[2] and H. Peng[2] *1. School of Materials Science and Engineering, Harbin Institute of Technology, Harbin, China; 2. Advanced Composite Center for Innovation and Science, Department of Aerospace Engineering, University of Bristol, Bristol, United Kingdom*

FQ-10. A new coaxial magnetic gear with ferromagnetic sectorial modulating ring. *Y. Gong*[1,2], K. Chau[1] and J. Jiang[2] *1. Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Ningbo Tianan Group Co., Ltd, Ningbo, Zhejiang, China*

FQ-11. Effective excitation by a single magnet for rotation sensor and its driving of domain wall in FeCoV wire. *T. Kohara*[1], T. Yamada[1], Y. Takemura[1], S. Abe[2], S. Kohno[3] and F. Kaneko[3] *1. Yokohama National University, Yokohama, Japan; 2. Kanagawa University, Yokohama, Japan; 3. Nikkoshi Co., Ltd, Tokyo, Japan*

FQ-12. Reconstructing Residual Stress Depth Profiles using Magnetic Barkhausen Noise Method. *L. Mierczak*[1], Y. Melikhov[1] and D. Jiles[1] *1. Wolfson Magnetics Research, Cardiff University, Cardiff, United Kingdom*

FQ-13. Magnetic Field Simulation for Circumferential Direction Magnetic Phase Produced in Steam Generator Tube. *K. Ryu*[1], D. Son[2], D. Park[3] and Y. Kim[1] *1. Korea Research Institute of Standards and Science, Daejeon, Korea, Republic of; 2. Hannam University, Daejeon, Korea, Republic of; 3. Korea Atomic Energy Research Institute, Daejeon, Korea, Republic of*

FQ-14. Novel body-mount space magnetic field sensing approach. *W. Wang*[1] *1. Electrical Engineering, University of Wisconsin - Milwaukee, Milwaukee, WI*

WEDNESDAY AFTERNOON 3:00 — GRAND HALL EAST

Session FR
MAGNETOELECTRIC MATERIALS II (POSTER SESSION)
Pavel Lukashev, Chair

FR-01. Stress-induced magnetization change of in-plane single domain Ni nanostructures. *A. Bur*[1], T. Wu[1], K. Wong[2], K. Wang[2] and G. Carman[1] *1. Department of Mechanical and Aerospace Engineering, University of California Los Angeles, Los Angeles, CA; 2. Department of Electrical Engineering, University of California Los Angeles, Los Angeles, CA*

FR-02. Electric field modulation of magnetodynamics and magnetic surface anisotropy in FeGaB/PZN-PT multiferroic heterostructures. *J. Lou*[1], M. Liu[1], D. Reed[1], Y. Ren[2] and N.X. Sun[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Physics Department, Hunter College, New York, NY*

FR-03. Strain effects on the electrical properties of La0.8Ca0.2MnO3 films on textured PZT polycrystalline films. *H. Bu*[1,2] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, China; 2. Shanghai Institute of Technical Physics,Chinese Academy of Sciences, Shanghai, China*

FR-04. Effect of electric field on magnetic transport properties in magnetoelectric $La_{2/3}(Ca_{0.6}Ba_{0.4})_{1/3}MnO_3$/PZT laminate. S. Chen[2,1], Q. Ye[2], D. Wang[1], *S. Li*[2,3], Z. Huang[2] and Y. Du[1] *1. National Laboratory of Solid State Microstructures, Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics, Fujian Normal University, Fuzhou, Fujian, China; 3. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA*

FR-05. Multiferroic thin film composite of $Pb(Zr_{0.95}Ti_{0.05})O_3$ / $CoFe_2O_4$ on Si and $SrTiO_3$ substrates. K. Tahmasebi Abdar[1,2], A. Barzegar[1], *J. Ding*[2], T. Herng[2], A. Huang[3], S. Shannigrahi[3], R. Mahendiran[4], J. Wang[2], Q. Ke[2], J. Wu[2] and L. Huang[2] *1. Department of Materials Engineering, Shiraz University, Shiraz, Fars, Iran, Islamic Republic of; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. Institute of Materials Research and Engineering (IMRE), National University of Singapore, Singapore, Singapore; 4. Department of Physics, National University of Singapore, Singapore, Singapore*

FR-06. Enhanced magnetic proeperty and magnetocapacitance effect in transition metal doped multiferroic ErMnO3. *P. Liu*[1], Z. Cheng[1], Y. Du[1] and X. Wang[1] *1. University of Wollongong, Institute for Superconducting and Electronic Materials, Wollongong, NSW, Australia*

FR-07. Switching of magnetization process of glassy ferromagnetic films caused by interfacial strain. *T. Taniyama*[1], M. Itoh[1], P. Sharma[2], M. Fukuhara[2] and A. Inoue[2] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

FR-08. Electromagnetic Characteristics of Manganese Oxide-coated Fe_3O_4 Nanoparticles at 2-18 GHz. *R. Yang*[1], W. Liang[1] and C. Lin[2] *1. Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan*

FR-09. Dielectric Properties of Gd3Ba2Mn2Cu2O12 Manganocuprate. *S. Rayaprol*[1], S.D. Kaushik[1], N. Kumar[2], N.K. Gaur[2], J. Saha[3] and S. Patnaik[3] *1. UGC-DAE Consortium for Scientific Research Mumbai Centre, Mumbai, Maharashtra, India; 2. Department of Physics, Barkatullah University, Bhopal, Madhya Pradesh, India; 3. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, Delhi, India*

FR-10. Electromagnetic Properties of Microwave Sintered ferromagnetic-ferroelectric composites for application in LTCC devices. *Q. Yang*[1], H. Zhang[1], Q. Wen[1] and L. Jia[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

WEDNESDAY AFTERNOON 3:00

GRAND HALL EAST

Session FS
NANOSTRUCTURED HARD MAGNETIC MATERIALS III (POSTER SESSION)

Chuanbing Rong, Chair

FS-01. Direct chemical synthesis of L10 FePt nanoparticles. *V. Tzitzios*[1,2], G. Basina[1,2], D. Niarchos[2] and G. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. IMS, N.C.S.R. "Demokritos, Athens, Greece*

FS-02. Magnetic domains in garnet film controlled by NdFeB micromagnets. *J. Xinbing*[1], L. Jing[1] and J. Chunping[1] *1. Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences, Suzhou, Suzhou, China*

FS-03. The Microstructure and Magnetization Behaviors of $(Pr_{8.2}Fe_{86.1-x}Co_xB_{5.7})_{0.99}Zr$ (x = 0-10) Nanocomposite Magnets. *R. Chen*[1], S. Guo[1], D. Lee[1] and A. Yan[1] *1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology; Division of Magnetic Materials and Devices, Ningbo Institute of Materials Technology and Engineering, CAS, Ningbo, Zhejiang, China*

FS-04. Structure and magnetic properties of bulk nanostructured MnBi permanent magnets. *D. Zhang*[1,2], M. Yue[1], S. Cao[1], W. Liu[1], J. Zhang[1] and Y. Qiang[2] *1. College of Science and Engineering, Beijing university of technology, Beijing, China; 2. Department of Physics, University of Idaho, Moscow, ID*

FS-05. Coercive behaviour of multilayers of high magnetization hard and soft magnets. *S. Chui*[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE*

FS-06. Magnetic Properties and Crystallization Kinetics of Nd-Y-Fe-Mo-B Bulk Nanocomposite Magnets. *Q. Wu*[1,2], A. Yan[1], H. Ge[2], P. Zhang[2], Y. Liu[1] and M. Pan[2] *1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology; Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology&Engineering Chinese Academy of Sciences, Ningbo, China; 2. College of Materials Science and Engineering, China Jiliang University, Hangzhou, China*

FS-07. Magnetic properties of Pr-Fe-Ti-B nanocomposite magnets produced by spark plasma sintering method. *T. Saito*[1], I. Hiroyuki[1] and D. Hamane[2] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

FS-08. Investigation of Interaction Mechanisms in Nanocomposite PtCo Permanent Alloy. T. Liu[1], *W. Li*[1], M. Zhu[1], Y. Fang[1] and J. Li[1] *1. Central Iron & Steel Research Institution, Beijing, China*

FS-09. Microstructure and ordering parameter studies in multilayer [(FePt)x/Os]n films. D. Chiang[1,2], S. Chen[3], *Y. Yao*[4], H. Ouyang[5], C. Yu[6], H. Lin[2] and C. Wu[5] *1. Div. of Natural Science, Ming Hsin University of Science and Technology, Hsinchu, Taiwan; 2. Dept. of Materials Engineering, Tatung University, Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan; 5. Dept. of Materials Science and Engineering, National Tsing Hua University, Taipei, Taiwan; 6. Dept. of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

FS-10. On the magnetic properties of hard CoFe2O4 nanomaterials: from nanoparticles to the high-density very fine-grained ceramics. *S. Ammar*[1], M. Artus[1], F. Herbst[1] and R. Valenzuela[2] *1. ITODYS, Université Paris Diderot (Paris 7), Paris, France; 2. IIM, Universidad Nacional Autónoma de México, México, Mexico*

FS-11. Improvement of hard magnetic properties of Fe30Co20Nd20B20Zr10 ribbons through controlling crystallization of metallic glasses. *M. Qi*[1], W. Zhang[2], F. Jia[1] and H. Kimura[2] *1. School of Materials Science and Engineering, Dalian University of Technology, Dalian, China; 2. Institute of Materials Research, Tohoku University, Sendai, Japan*

FS-12. Preparation and magnetic properties of bulk nanostructured PrCo5 permanent magnets with strong magnetic anisotropy. W. Liu[1], W. Lv[1], *M. Yue*[1], D. Zhang[1] and J. Zhang[1] *1. College of Material Scicence and Engineering, Beijing University of Technology, Beijing, China*

FS-13. Crystallographic alignment and magnetic anisotropy in melt-spun Nd-Fe-B/α-Fe composite ribbons with different Nd content. L. Wang[1], *M. Yue*[1], R. Liu[1], W. Liu[1], D. Zhang[1], J. Zhang[1], P. Zhang[2] and H. Ge[2] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, Beijing, China; 2. Magnetism key laboratory of Zhejiang Province, China Jiliang University, Hangzhou, China*

FS-14. Structural and magnetic properties of cobalt ferrite thin films deposited by electrophoresis. *J.G. Barbosa*[1], M. Pereira[1], J.A. Mendes[1,2], M.P. Proença[3], J. Ventura[3], J.P. Araújo[3] and B.G. Almeida[1] *1. Centro de Física, Universidade do Minho, Braga, Portugal; 2. ESEIG, Instituto Politécnico Porto, Vila do Conde, Portugal; 3. Dep. de Física and IFIMUP-IN, Porto, Portugal*

WEDNESDAY AFTERNOON 3:00

GRAND HALL EAST

Session FT
NANOPARTICLE CHARACTERIZATION I (POSTER SESSION)

Kathryn Krycka, Chair

FT-01. Magnetic Polypropylene Nanocomposites Reinforced with In-situ Fabricated Iron Oxide Nanoparticles. *J. Zhu*[1], S. Wei[2], Y. Li[3], N. Haldolaarachchige[4], D.P. Young[4] and Z. Guo[1] *1. Integrated Composites Laboratory, Dan F. Smith Department of Chemical Engineering, Lamar University, Beaumont, TX; 2. Department of Chemistry and Physics, Lamar University, Beaumont, TX; 3. Magnetic Head Operation, Western Digital Corporation, Fremont, CA; 4. Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA*

FT-02. Synthesis and magnetic properties of self-organized chalcopyrite $CuFeS_2$ nanobricks. *C. Lin*[1], Y. Siao[2], I. Lyubutin[3], T. Han[4] and X. Qi[2] *1. Institute of Nanotechnology and Department of Mechanical Engineering, Southern Taiwan University, Yung-Kang, Taiwan; 2. Department of Materials Science and Engineering, National Cheng Kung University, Tainan, Taiwan; 3. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Moscow, Russian Federation; 4. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

FT-03. Structural characterization and anomalous Hall Effect measurements of Ni nanodot arrays fabricated by polysulfone template lithography. *S. Ramaswamy*[1], G.K. Rajan[1], C. Gopalakrishnan[1] and M. Ponnavaikko[2] *1. Nanotechnology Research Center, SRM University, Chennai, Tamil Nadu, India; 2. Bharathidasan University, Trichy, India*

FT-04. Fabrication and characteristics of nano-sized NiFe arrays on nanoporous anodic aluminum oxides. *M. Hsieh*[1], K. Huang[2], H. Lin[1], Y. Chen[3] and Y. Yao[4] *1. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 2. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Department of Physics, Fu Jen University, Taipei, Taiwan*

FT-05. Decoupled interparticle interactions in spaced Fe_3O_4 nanocrystals arrays. *J. Lee*[1], R.P. Tan[2], J. Wu[3] and Y. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. INSA, UPS, CNRS, LPCNO, Université de Toulouse, Toulouse, France; 3. Pioneer Research Center for Biomedical Nanocrystals, Korea University, Seoul, Korea, Republic of*

FT-06. Effect of dipolar interaction on the magnetic properties of Ni nanoparticles assembly analyzed with different protocols. *S. Masunaga*[1], R.F. Jardim[1] and J. Rivas[2] *1. Departamento de Física dos Materiais e Mecânica, Universidade de São Paulo, São Paulo, SP, Brazil; 2. Departamento de Física Aplicada, Universidade de Santiago de Compostela, Santiago de Compostela, Spain*

FT-07. Accurate determination of the effective anisotropy of nanoparticles : role of the matrix and interparticles interactions. *A. Hillion*[1], A. Tamion[1], M. Hillenkamp[2], F. Tournus[1], E. Bonet[3] and V. Dupuis[1] *1. LPMCN Université de Lyon, Villeurbanne, France; 2. LASIM Université de Lyon, Villeurbanne, France; 3. Institut Néel, Grenoble, France*

FT-08. High temperature magnetic properties of magnesium ferrite nanoparticles. *A. Franco Jr*[1] and M.S. Silva[1] *1. Instituto de Física, Universidade Federal de Goiás, Goiânia, Goiás, Brazil*

FT-09. Synthesis and Characterization of Dimer Fe_3O_4-ZnSe Fluorescent Magnetic Nanoparticles. *A.A. McBride*[1], J.M. Vargas[1], T. Memon[1], Y. Fichou[3], B.A. Akins[1], G.A. Smolyakov[1], J. O'Brien[5], N. Adolphi[2], H. Smyth[4] and M. Osinski[1] *1. Center for High Technology Materials, The University of New Mexico, Albuquerque, NM; 2. Health Sciences Center, The University of New Mexico, Albuquerque, NM; 3. Institut national des sciences appliquées, Rennes, France; 4. College of Pharmacy, University of Texas at Austin, Austin, TX; 5. Quantum Design, San Diego, CA*

FT-10. Synthesis of Ag-CoFe2O4 dimer colloidal nanoparticles and enhancement of their magnetic response. *S.K. Sharma*[1], G. Lopes[1], J.M. Vargas[2], K.R. Pirota[1] and M. Knobel[1] *1. IFGW, LMBT, Campinas, Sao Paulo, Brazil; 2. Center for High Technology Materials, University of New mexico, NM*

FT-11. Signature of multimers on magnetic susceptibility curves for mass selected Co particles. F. Tournus[1], A. Tamion[1], N. Blanc[1], *A. Hillion*[1] and V. Dupuis[1] *1. LPMCN, CNRS & Univ. Lyon 1, Villeurbanne, France*

FT-12. From bulk to nanoscale: Investigations of the size-dependent changes in the magnetism of Pd nanoparticles. *M.S. Seehra*[1], J.D. Rall[1], J. Liu[2] and C. Roberts[2] *1. Physics Department, West Virginia University, Morgantown, WV; 2. Chemical Engineering, Auburn University, Auburn, AL*

FT-13. Size effect on magnetic properties of hexagonal HoMnO3 nanoparticles. *T. Han*[1], M. Tsai[1] and C. Wei[1] *1. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

FT-14. Fe and Mn Orbital Moment Variation in $(Mn_xFe_{1-x})_3O_4$ Nanoparticles. *V. Pool*[1,5], M. Klem[2], C. Jolley[3,5], E.A. Arenholz[4], T. Douglas[3,5] and Y.U. Idzerda[1,5] *1. Physics, Montana State University, Bozeman, MT; 2. Dept. of Chemistry, Montana Tech, Butte, MT; 3. Dept. of Chem. and Biochem., Montana State University, Bozeman, MT; 4. Advanced Light Source, Lawrence Berkeley Nat. Labs., Berkeley, CA; 5. Center for Bio-inspired Nanomaterials, Montana State University, Bozeman, MT*

FT-15. Shape-dependent Cation Site Occupancies of Fe_3O_4 Nanoparticles. C. Ho[1], C. Chung[1], *J. Liao*[1], H. Lin[2] and C. Lai[1] *1. Dept. of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

WEDNESDAY AFTERNOON 3:00 — GRAND HALL EAST

Session FU
MEMS/NEW APPLICATIONS (POSTER SESSION)

Masahiro Yamaguchi, Chair

FU-01. Investigation of the magnetization process in a three-dimensional helix structure. *T. Ger*[1] and Z. Wei[1] *1. National Tsing Hua University, Hsinchu, Taiwan*

FU-02. Sound Generation Using a Magnetostrictive Micro Actuator. T.S. Albach[1], P.K. Horn[1], *A. Sutor*[1] and R. Lerch[1] *1. Department of Sensor Technology, University Erlangen-Nürnberg, Erlangen, Germany*

FU-03. Hybrid microfabrication process of hard/soft magnetic nanocomposite polymers on flexible 12"x24"substrates. *A. Khosla*[1] and B.L. Gray[1] *1. School of Engineering Science, Simon Fraser University, Burnaby, BC, Canada*

FU-04. Fabrication of bidirectional magnetic microactuator using (Nd0.7Ce0.3)10.5Fe83.9B5.6 polydimethylsiloxane composite polymer for soft MEMS. *A. Khosla*[1], B.L. Gray[1], D.B. Leznoff[1], J.W. Herchenroeder[3], D. Miller[2] and Z. Chen[2] *1. Simon Fraser University, Burnaby, BC, Canada; 2. Magnequench Tech Ctr., Industry, Singapore, Singapore; 3. Magnequench International, Industry, Anderson, IN*

FU-05. Development of micro magnetostrictive wireless controllable actuator. *C. Cho*[1], H. Lee[1], K. Choi[2] and A. Zehnder[3] *1. Mechanical Engineering, Inha University, Incheon, Korea, Republic of; 2. Electrical and Computer Engineering, Illinois Institute of Technology, Chicago, IL; 3. Theoretical and Applied Mechanics, Cornell University, Ithaca, NY*

FU-06. Design of a novel LC-tuned magnetically suspended rotating gyroscope. *L. Jin*[1], H. Zhang[1] and Z. Zhong[1] *1. University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

FU-07. Fabrication and Testing of a MEMS Type Dielectric Core Ethernet Transformer. *D. Bowen*[1], I.D. Mayergoyz[1] and C. Krafft[2] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD*

FU-08. High Power Density Vibration Energy Harvester with High Permeability Magnetic Materials. *X. Xing*[1], G. Yang[1], M. Liu[1], J. Lou[1], O. Obi[1] and N. Sun[1] *1. Northeastern University, Boston, MA*

FU-09. Design of a linear magnetic-geared machine for direct-drive wave energy harvesting. W. Li[1], K. Chau[1] and *J. Li*[1] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong SAR, China*

FU-10. Experimental analysis of vibrations damping due to magnetostrictive based energy harvesting. D. Davino[1], A. Giustiniani[2], C. Visone[1] and *A. Adly*[3] *1. Engineering Department, University of Sannio, Benevento, Italy; 2. DIIIE, University of Salerno, Fisciano, Italy; 3. Electric Power and Machines Department, Cairo University, Giza, Egypt*

FU-11. Study of Magnetization State Transition in Coupled Nanomagnet for Computation. A. Kumari[1], *S. Sarkar*[2] and S. Bhanja[1] *1. Electrical Engineering, University of South Forida, Tampa, FL; 2. Computer Science and Engineering, University of South Florida, Tampa, FL*

FU-12. A Neural Network Combined With 3-D FEM Applied to Optimize Eddy Current and Temperature Distributions of Travelling Wave Induction Heating System. *Y. Wang*[1], J. Wang[2], L. Pang[1], S. Ho[2] and W. Fu[2] *1. School of Electrical Engineering and Automation, Hebei University of Technology, Tianjin, Tianjin, China; 2. Deaprtment of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

FU-13. Lateral and Angular Misalignment Analytical Study for a Novel Witricity Charger. *J. Wang*[1], S. Ho[1], W. Fu[1] and M. Sun[2] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA*

FU-14. Simulation and Experimental Research on the EMAE based on High-Current Loading. *C. Zhang*[1], S. Liu[1], Q. Yang[2,1] and L. Jin[1] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin, China; 2. Tianjin Polytechnic University, Tianjin, China*

FU-15. Sample Shape Effects in Magnetic Thin Films. R. Hussain[1], B. Kaeswurm[1] and *K. O 'Grady*[1] *1. Department of Physics, The University of York, York, United Kingdom*

WEDNESDAY AFTERNOON 3:00

GRAND HALL EAST

Session FV
ELECTRONIC STRUCTURE AND CRITICAL PHENOMENA II (POSTER SESSION)

Vladimir Antropov, Chair

FV-01. Magnetic frustration in α-$NaMnO_2$ and $CuMnO_2$ T. Jia[1], G. Zhang[1], X. Zhang[1], Y. Guo[1], *Z. Zeng*[1] and H. Lin[2] *1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Shatin, Hong Kong, China*

FV-02. Electronic structure and transport properties at high pressure in ZnV_2O_4. *A. Piñeiro*[1,2], A.S. Botana[1,2], V. Pardo[1,2], J. Botana[1,2], M. Pereiro[1,2] and D. Baldomir[1,2] *1. Física Aplicada, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; 2. Instituto de Investigacións Tecnolóxicas, Universidade de Santiago de Compostela, Santiago de Compostela, Spain*

FV-03. Metal insulator phase transition in $Nd_{1-x}Eu_xNiO_3$ probed by specific heat and elastic modulus measurements. *V.B. Barbeta*[1], R.F. Jardim[2], M. Torikachvili[3], M.T. Escote[4], F. Cordero[5], F.M. Pontes[6] and F. Trequattrini[7] *1. Departamento de Física, Centro Universitário da FEI, São Bernardo do Campo, SP, Brazil; 2. Departamento de Física dos Materiais e Mecânica, Universidade de São Paulo, São Paulo, SP, Brazil; 3. Physics Department, San Diego State University, San Diego, CA; 4. Centro de Ciências Naturais e Humanas, Universidade Federal do ABC, Santo André, SP, Brazil; 5. Physics Department, Istituto dei Sistemi Complessi, Rome, Rome, Italy; 6. Departamento de Química, Universidade Estadual Paulista, Bauru, SP, Brazil; 7. Physics, University of Roma "La Sapienza", Rome, Rome, Italy*

FV-04. Irreversible Phase Transition in (Sm1-xGdx)0.55Sr0.45MnO3 Ceramics Induced by Strong External Magnetic Field. *F. Bukhanko*[1] *1. Donetsk Phys. & Techn. Institute NASU, Donetsk, Ukraine*

FV-05. Thermally and field driven spin-state transitions in (Pr0.925Y0.075)0.7Ca0.3CoO3. *M. Marysko*[1], Z. Jirak[1], K. Knizek[1], P. Novak[1], J. Hejtmanek[1], T. Naito[2], H. Sasaki[2] and H. Fujishiro[2] *1. magnetic materials and superconductors, Institute of Physics, Praha, Czech Republic; 2. Faculty of Engineering,Iwate University, Ueda,Morioka, Japan*

FV-06. Phase transition studies of sodium deintercalated $Na_{2-x}FePO_4F$ ($0 \le x \le 1$) by Mössbauer spectroscopy. *I. Lee*[1], I. Shim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of*

FV-07. Magnetic anomaly around orbital ordering temperature in FeCr2S4. C. Shen[1], *Z. Yang*[1], R. Tong[1], W. Song[1], Y. Sun[1], L. Pi[2] and Y. Zhang[2] *1. Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. University of Science and Technology of China, Hefei, China*

FV-08. Evidence for a possible quantum critical point in a Cr - Si alloy doped with Mo. *C. Sheppard*[1], A. Prinsloo[1], H. Alberts[1] and A. Strydom[1] *1. Physics, Department of Physics, University of Johannesburg, Johannesburg, Auckland Park, Gauteng, South Africa*

FV-09. High-pressure and substitution induced effects in $SrRuO_3$: First-principles insights. G. Zhong[1], J. Wang[2], Y. Li[3] and *H. Lin*[1] *1. Center for Photovoltaics Solar Cell, Shenzhen Institutes of Advance Integration Technology, Chinese Academy of Sciences and The Chinese University of Hong Kong, Shenzhen, Guangdong, China; 2. College of Physics Science and Technology, Hebei University, Baoding, Hebei, China; 3. Department of Physics, Xuzhou Normal University, Xuzhou, Jiangsu, China*

FV-10. Electronic Structure of $SrMn_{1-x}Mo_xO_3$ ($0 \le x \le 1$) Perovskite Oxides Investigated by Soft x-ray Absorption Spectroscopy. *J.H. Hwang*[1], D.H. Kim[1], K.H. Lee[1], S.M. Lee[1], J.S. Kang[1], S. Kolesnik[2], B. Dabrowski[2], B.G. Park[3], J.Y. Kim[3], J. Lee[4] and B.I. Min[4] *1. Department of Physics, The Catholic University of Korea, Bucheon, Korea, Republic of; 2. Department of Physics, Northern Illinois University, DeKalb, IL; 3. Pohang Accelerator Laboratory, POSTECH, Pohang, Korea, Republic of; 4. Department of Physics, POSTECH, Pohang, Korea, Republic of*

FV-11. $Sr_6Co_5O_{15}$: non-one-dimensional behavior of a structurally quasi-one-dimensional oxide. *A.S. Botana*[1,2], P.M. Botta[3], C. de la Calle[4], A. Piñeiro[1,2], V. Pardo[1,2], M. Pereiro[1,2], J. Botana[1,2], D. Baldomir[1,2], J.A. Alonso[4] and J. Rivas[1] *1. Física Aplicada, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; 2. Instituto de Investigacións Tecnolóxicas, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; 3. Instituto de Investigaciones en Ciencia y Tecnología de Materiales (INTEMA), CONICET-UNMdP, Mar del Plata, Argentina; 4. Intituto de Ciencia de Materiales de Madrid (ICMM), CSIC, Madrid, Spain*

FV-12. Calculated electronic and magnetic structure of screw dislocations in alpha iron. *K. Odbadrakh*[1], A. Rusanu[1], G.M. Stocks[1], M.E. Eisenbach[1], S.D. Samolyuk[1], Y. Wang[2] and D. Nicholson[1] *1. Oak Ridge National Lab, Oak Ridge, TN; 2. Pittsburgh Supercomputing Center, Carnegie Mellon University, Pittsburgh, PA*

FV-13. The two-dimensional site-diluted Ising model: a short-time-dynamics approach. *U.L. Fulco*[1], D. Anselmo[2], L. da Silva[2] and F. Nobre[3] *1. Biophysic, UFRN, Natal, Rio Grande do Norte, Brazil; 2. Physic, UFRN, Natal, Rio Grande do Norte, Brazil; 3. Physic, CBPF, Rio de Janeiro, Rio de Janeiro, Brazil*

FV-14. Investigation of local fields in GdZn and GdCu compounds by PAC spectroscopy. B. Bosch-Santos[1], *A.W. Carbonari*[1], G.A. Cabrera-Pasca[1] and R.N. Saxena[1] *1. CRPq, IPEN-CNEN/SP, Sao Paulo, Sao Paulo, Brazil*

FV-15. Universal Barkhausen Critical Scaling Behavior Observed in Ni_xFe_{1-x} (x=0~0.5) Films. *H. Lee*[1], K. Ryu[2,1], I. Kang[3] and S. Shin[1] *1. Departmen of Physics and Center for Nanospinics of Spintronic Materials, Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of; 2. IBM Research Division, Almaden Research Center, San Jose, CA; 3. Korea Science Academy, Busan, Korea, Republic of*

WEDNESDAY AFTERNOON 3:00 GRAND HALL EAST

Session FW
MAGNETIC RECORDING AND MAGNETO-OPTICS MATERIALS (POSTER SESSION)

Myung Jhon, Chair

FW-01. Force Field Parameter Estimation of Functional Perfluoropolyethers Lubricant. *R. Smith*[1], P. Chung[1], M.S. Jhon[1,2] and L.T. Biegler[1] *1. Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon, Korea, Republic of*

FW-02. Integrated Sub-mesoscale Modeling of Head/Disk Interface. *P. Chung*[1], D. Kim[1], S. Vemuri[1], J. Park[1] and M.S. Jhon[1,2] *1. Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon, Korea, Republic of*

FW-03. Multi-Component Gas Mixtures in Airbearings using Lattice Boltzmann Method. *S. Vemuri*[1], W. Kim[3] and M.S. Jhon[1,2] *1. Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. School of Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon, Gyeonggi Do, Korea, Republic of; 3. Division of Mechanical and Automotive Engineering, Kongju National University, Gongju, Korea, Republic of*

FW-04. Tailoring the shape of flux guide reader for ultra-high density magnetic recording. *S.Y. Lua*[1], C. Wang[1] and G. Han[1] *1. Spintronics, Media and Interface, Data Storage Institute, Singapore, Singapore*

FW-05. Modeling of 1/f Noise due to Thermally Induced Magnetic Switches of Anti-ferromagnetic Grains in Magnetic Tunneling Readers. *L. Wang*[1], M.S. Patwari[1] and S.W. Stokes[1] *1. Seagate Technology, Bloomington, MN*

FW-06. Withdrawn

FW-07. MAMR dependence on anisotropy field for ECC structured nano-pillar. *N. Narita*[1], T. Tanaka[1], A. Kato[1], Y. Nozaki[2,4], Y.K. Hong[3] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Faculty of Science and Technology, Keio University, Kanagawa, Kanagawa, Japan; 3. Department of Electrical and Computer Engineering and MINT Center, The University of Alabama, Tuscaloosa, AL; 4. CREST, JST, Chiyoda, Tokyo, Japan*

FW-08. Track density capability of microwave assisted magnetic recording. *A. Kato*[1], T. Tanaka[1], N. Narita[1], Y. Nozaki[2,3], Y. Kanai[4], Y.K. Hong[5] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Faculty of Science and Technology, Keio University, Yokohama, Japan; 3. CREST, JST, Chiyoda, Tokyo, Japan; 4. Department of Information and Electronics Engineering, Niigata Institute of Technology, Kashiwazaki, Japan; 5. Department of Electrical and Computer Engineering and MINT center, The University of Alabama, Tuscaloosa, AL*

FW-09. Analysis of write-head synchronization and Adjacent Track Erasure in Bit Patterned Media using a Statistical Model. *J. Kalezhi*[1,2] and J.J. Miles[1] *1. School of Computer Science, The University of Manchester, Manchester, United Kingdom; 2. Computer Science Department, School of Technology, Copperbelt University, Kitwe, Zambia*

FW-10. Two-dimensional Soft Output Viterbi Algorithm with Noise Filter for Patterned Media Storage. *J. Kim*[1] and J. Lee[1] *1. School of Electronic Engineering,, Soongsil Univ., Seoul, Korea, Republic of*

FW-11. A New Trellis Design for Viterbi Detection of Read Channel in Bit Patterned Media with size variations. *Y. Shi*[1], P. Nutter[1] and J. Miles[1] *1. School of Computer Science, The University of Manchester, Manchester, United Kingdom*

FW-12. Signal Generation Model Accounting for Transition Curvature Effects in Heat Assisted Magnetic Recording. *Z. Liu*[1], B. Chen[1] and B. Xu[1] *1. Data Storage Institute, Singapore, Singapore*

FW-13. A comparative anlaysis between Ag and Cu heat sink layers in $L1_0$-FePt films for heat-assisted magnetic recording. *R. Fernandez*[1], D. Teweldebrhan[1], C. Zhang[1], N. Amos[1], A.A. Balandin[1] and S. Khizroev[1] *1. Electrical Engineering, University of California, Riverside, Riverside, CA*

FW-14. Optical Waveguide Circulators based on Two-Dimensional Magnetophotonic crystals: Numerical Simulation for Structure Simplification and Experimental Verification. *K. Yayoi*[1], K. Tobinaga[2], Y. Kaneko[2], B.V. Alexander[2] and M. Inoue[2] *1. Ibaraki National College of Technology, Hitachinaka, Japan; 2. Toyohashi University of Technology, Toyohashi, Japan*

FW-15. Multiple diffraction in magnetophotonic crystals: propagation and polarization characteristics. *S. Baek*[1], A. Baryshev[1] and M. Inoue[1] *1. Toyohashi University of Technology, Toyohashi, Aichi, Japan*

FW-16. Spectral Origins of Giant Faraday Rotation at 1.5-μm Wavelength from Fe and Co in $SrTiO_3$ Films. *G.F. Dionne*[1], L. Bi[1], H. Kim[1] and C.A. Ross[1] *1. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

WEDNESDAY EVENING 7:30 — CENTENNIAL II

Session FZ
SYMPOSIUM ON SUSTAINABLE ENERGY WITH MAGNETS

Julia Lyubina, Chair

7:30

FZ-01. Magnetic materials in nuclear fusion. ***(Invited)*** *A.W. Molvik*[1] and A. Faltens[1] *1. Accelerators and Fusion Research Division, Lawrence Berkeley National Laboratory, Livermore, CA*

8:10

FZ-02. Magnets in Electric and Hybrid Automobiles. ***(Invited)*** *S. Konda*[1] *1. Technical Center, Toyota, Japan*

8:50

FZ-03. Microstructure and coercivity relationships in permanent magnets for energy-efficient devices. ***(Invited)*** *K. Hono*[1,2], T. Ohkubo[1] and H. Sepehri-Amin[2,1] *1. Magnetic Materials Center, Natl Inst Mater Sci (NIMS), Tsukuba, Japan; 2. Grad Schl Pure & Applied Sci, Univ. Tsukuba, Tsukuba, Japan*

THURSDAY MORNING 8:30

CENTENNIAL I

Session GA
SYMPOSIUM ON NEW DEVELOPMENTS IN SPINTRONICS FOR MAGNETIC LOGIC

Rachid Sbiaa, Chair

8:30

GA-01. 3-dimensional spintronics. ***(Invited)*** *R.P. Cowburn[1] 1. Physics Department, Cambridge University, Cambridge, United Kingdom*

9:06

GA-02. Challenges toward Gb-scale SPRAM (SPin-transfer torque RAM) and beyond for Normally-off, Green IT Infrastructure. ***(Invited)*** *T. Kawahara[1] 1. Central Research Laboratory, Hitachi Ltd., Kokubunji, Tokyo, Japan*

9:42

GA-03. High Magnetoresistance Ratio and Low Resistance-Area Product in Magnetic Tunnel Junctions with Perpendicularly Magnetized Electrodes. ***(Invited)*** *K. Yakushiji*[1], T. Saruya[1], H. Kubota[1], A. Fukushima[1], S. Yuasa[1] and K. Ando[1] *1. Spintronics Research Center, AIST, Tsukuba, Japan*

10:18

GA-04. Recent development in current induced domain wall motion in nanodevices with perpendicular anisotropy. ***(Invited)*** *D. Ravelosona*[1], S. Park[1], M. Ngoc[1], N. Lei[1], J. Kim[1], T. Devolder[1], N. Vernier[1], W. Zhao[1], J. Klein[1], C. Chappert[1], S. Mangin[2], J. Attane[3], L. Vila[3], A. Kent[4], D. Bedeau[4], E. Shipton[5] and E. Fullerton[5] *1. Institut d'Electronique Fondamentale, CNRS-Université Paris Sud, Orsay, France; 2. Institut Jean Lamour, CNRS-Université Henri Poincaré, Nancy, France; 3. CEA, INAC, Grenoble, France; 4. Dpt of physics, New York University, New York, NY; 5. Center for Magnetic Recording Research, University of California at San Diego, San Diego, CA*

10:54

GA-05. Spin-current induced domain wall dynamics. ***(Invited)*** *M. Kläui[1] 1. Laboratory for Nanomagnetism and Spin Dynamics, Paul Scherrer Institut - Ecole Polytechnique Federale de Lausanne, Villigen / Lausanne, Switzerland*

THURSDAY MORNING 8:30

CENTENNIAL II

Session GB
SPECIAL MAGNETIC MATERIALS: PEROVSKITES, INTERMETALLICS, AND NANOPARTICLES

Pedro Schlottmann, Chair

8:30

GB-01. LPCMO nano-templates grown using substrate induced strain. *T. Dhakal*[1], S. Yun[1], J. Tosado[1], N. Margankunte[1] and A. Biswas[1] *1. Physics, University of Florida, Gainesville, FL*

8:42

GB-02. Magnetization and Neutron Diffraction studies on the double perovskite oxide $Sr_2TiMnO_{6-\delta}$ *J. Lamsal*[2], R. Mondal[1], P.N. Santhosh[1], R. Nirmala[1], A.K. Nigam[3], W.B. Yelon[4], S. Quezado[5] and S.K. Malik[5] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Department of Physics and Astronom, University of Missouri-Columbia, Columbia, MO; 3. Tata Institute of Fundamental Research, Mumbai, India; 4. Missouri University of Science and Technology, Rolla, MO; 5. International Institute of Physics (IIP), Natal, Brazil*

8:54

GB-03. Fabrication and properties of double perovskite $SrLaVMoO_6$ epitaxial thin films. H. Matsushima[1], H. Gotoh[1], T. Miyawaki[1], K. Ueda[1] and *H. Asano*[1] *1. Dept. of Cryst. Mat. Sci., Nagoya University, Nagoya, Japan*

9:06

GB-04. Origin of giant saturation magnetization in α"-Fe16N2. *N. Ji*[1,2], X. Liu[1], Y. Xu[1], C. Sanchez-Hanke[3], F. de Groot[4] and J. Wang[1,2] *1. The Center of Micromagnetic and Information Technologies (MINT) & Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Department of Physics, University of Minnesota, Minneapolis, MN; 3. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY; 4. Inorganic Chemistry and Catalysis, Debye Institute for Nanomaterials Science, Utrecht University, Utrecht, Netherlands*

9:18

GB-05. Anisotropy and Orbital Moment of Nonuniaxial Nanostructures. *P.K. Sahota*[1,2], R. Skomski[2], V. Sharma[1], A. Enders[2] and A. Kashyap[1,2] *1. Condensed Matter Theory Group, LNM Institute of IT, Jaipur, Rajasthan, India; 2. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE*

9:30

GB-06. Magnetic and Vibrational Properties of High Entropy Alloys. *M.S. Lucas*[1], Z. Turgut[1], J.C. Horwath[1] and A.O. Sheets[1] *1. Air Force Research Laboratory, Wright Patterson Air Force Base, OH*

9:42

GB-07. Synthesis and properties of LnMBe (Ln = lanthanides, M=Si, Ge). *T. Ohnishi*[1], Y. Takahashi[1], S. Mizusaki[1], H. Samata[2] and Y. Noro[3] *1. Department of Electrical Engineering and Electronics, Aoyama Gakuin University, Sagamihara, Japan; 2. Graduate School of Maritime Sciences, Kobe University, Kobe, Japan; 3. Kawazoe Frontier Technologies, Co. Ltd., Yokohama, Japan*

9:54

GB-08. Magnetic Phase Transition and Mössbauer Spectroscopy of $ErNi_2Mn$ Compound. J. Wang[1,2], S.J. Campbell[1], *R. Zeng*[3], S.X. Dou[3] and S.J. Kennedy[2] *1. School of Physical, Environmental and Mathematical Sciences, 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*

10:06

GB-09. Properties of MBE grown EuxTMy Films. (TM=Mn, Cr). *K.A. Balin*[1,2], J. Szade[1], A. Nowak[1,3], A. Gibaud[3] and Z. Celinski[2] *1. Institute of Physics, Silesian University, Katowice, Poland; 2. Physics Department, University of Colorado at Colorado Springs, Colorado Springs, CO; 3. University du Maine, Le Mans Cedex, France*

10:18

GB-10. Synthesis and magnetic properties of Co-Ti-Bi codoped M-type barium ferrite. *L. Jia*[1], H. Zhang[1], S. Yin[1], Q. Wen[1], B. Liu[1] and F. Bai[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

10:30

GB-11. Growth and magnetization of highly-faceted three-dimensional ferromagnetic/non-ferromagnetic core/shell structures. *F. Nasirpouri*[2,1], M. Engbarth[1], S.J. Bending[1], L.M. Peter[3], A. Knittel[4] and H. Fangohr[4] *1. Department of Physics, University of Bath, Bath, United Kingdom; 2. Department of Materials Engineering, Sahand University of Technology, Tabriz, Iran, Islamic Republic of; 3. Department of Chemistry, University of Bath, Bath, United Kingdom; 4. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom*

10:42

GB-12. ntrinsic Ferromagnetic Behavior in Au Nanoparticles and Au-based Alloys. *C. Zhao*[1,2], J.T. Abiade[1], M. Murayama[2] and G. Yee[3] *1. Materials Sci and Eng, Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA; 2. Institute for critical Technology and applied science, Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA; 3. Department of Chemistry, Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA*

10:54

GB-13. Ferromagnetism of polythiophene-capped Au nanoparticles. *K. Suzuki*[1], H. Zhang[1], K. Saito[2], J.S. Garitaonandia[3], E. Goikolea[3] and M. Insausti[3] *1. Department of Materials Engineering, Monash University, Clayton, VIC, Australia; 2. Centre for Green Chemistry, Monash University, Clayton, VIC, Australia; 3. Zientzia eta Teknologia Fakultatea, Euskal Herriko Unibertsitatea, UPV/EHU, Bilbao, Spain*

11:06

GB-14. Heavy ion irradiation and magnetic stability of Fe3O4/Fe3N nanoparticles. *J. Sundararajan*[1], D. Zhang[1], Y. Qiang[1] and W. Jiang[2] *1. Physics, University of Idaho, Moscow, ID; 2. Material Science, Pacific Northwest National Laboratory, Richland, WA*

THURSDAY MORNING 8:30

CENTENNIAL III

Session GC
SPIN TRANSFER TORQUE OSCILLATORS II
Ursula Ebels, Chair

8:30

GC-01. Bias-voltage Dependence of Perpendicular Spin-Transfer Torque in Asymmetric MgO-based Magnetic Tunnel Junctions. ***(Invited)*** S. Oh[1], S. Park[2], A. Manchon[3,6], M. Chshiev[3], J. Han[4], H. Lee[4], J. Lee[1], K. Nam[1], Y. Jo[2], Y. Kong[5], B. Dieny[3] and *K. Lee*[5] *1. Semiconductor R&D Center, Samsung Electronics Co, Suwon, Korea, Republic of; 2. Division of Mater. Sci., Korea Basic Science Institute, Daejeon, Korea, Republic of; 3. SPINTEC, UMR8191 CEA/CNRS/UJF, Grenoble, France; 4. Dept. of Phys., Pohang University of Science and Technology, Pohang, Korea, Republic of; 5. Dept. of Mater. Sci. & Eng., Korea University, Seoul, Korea, Republic of; 6. Dept. of Mater. Sci. & Eng., King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

9:06

GC-02. Direct observation and mapping of spin waves emitted by spin-torque nano-oscillators. *V.E. Demidov*[1], S. Urazhdin[2] and S.O. Demokritov[1] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Department of Physics, West Virginia University, Morgantown, WV*

9:18

GC-03. Non-white Frequency Noise in Spin Torque Oscillators: Influence on Width and Shape of Spectral Line. *M.W. Keller*[1], M.R. Pufall[1], W.H. Rippard[1] and T.J. Silva[1] *1. National Institute of Standards and Technology, Boulder, CO*

9:30

GC-04. Intrinsic decoherence in a spin torque nano-oscillator. *O. Lee*[1], V. Pribiag[1], P. Gowtham[1], D. Ralph[1] and R. Buhrman[1] *1. Applied Physics, Cornell University, Ithaca, NY*

9:42

GC-05. Strong angular dependence of coherence time in MgO based spin torque oscillators. *P.K. Muduli*[1,2], J. Åkerman[1,2] and O. Heinonen[3] *1. Materials Physics, Royal Institute of Technology, 16440, Stockholm, Sweden; 2. Physics Department, University of Gothenburg, 41296, Gothenburg, Sweden; 3. Seagate Technology, 7801 Computer Avenue South, Bloomington 55435, MN*

9:54

GC-06. Amplitude and Phase Noise of MgO based Magnetic Tunnel Junction Oscillators. *M. Quinsat*[1,2], J. Sierra[2], D. Gusakova[1,2], J. Michel[1,2], D. Houssameddine[2], B. Delaet[1], U. Ebels[2], M. Cyrille[1], B. Dieny[2], D. Mauri[3], J. Katine[3] and A. Zeltser[3] *1. CEA, LETI, MINATEC, Grenoble, France; 2. SPINTEC, CEA, CNRS, UJF, INPG, Grenoble, France; 3. Hitachi Global Storage Technologies, San Jose, CA*

10:06

GC-07. Spin wave mode hopping in nanocontact spin torque oscillators: time-domain analysis. *S. Bonetti*[1], G. Consolo[2,3], G. Finocchio[3], F. Mancoff[4] and J. Åkerman[1,5] *1. Materials Physics, Royal Institute of Technology (KTH), Kista-Stockholm, Sweden; 2. Department of Physics, University of Ferrara, Ferrara, Italy; 3. Department of Matter Physics and Electronic Engineering, University of Messina, Messina, Italy; 4. Everspin Technologies, Inc., Chandler, AZ; 5. Department of Physics, University of Gothenburg, Gothenburg, Sweden*

10:18

GC-08. Current induced magnetization dynamics of stacked vortices in magnetic nanopillars. *V. Sluka*[1], A.M. Deac[1,2], A. Kakay[1], D.E. Bürgler[1], R. Hertel[1] and C.M. Schneider[1] *1. Institute of Solid State Research, Research Center Jülich GmbH, Jülich, Germany; 2. Laboratory for Nanomagnetism and Spindynamics, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland*

10:30

GC-09. Non-stationary magnetization oscillations excited in a magnetic tunnel junction. P.K. Muduli[1,2], *V. Puliafito*[3], G. Finocchio[3], G. Consolo[4,3], S. Bonetti[2], Y. Pogoryelov[2], B. Azzerboni[3], J. Åkerman[1,2] and O.G. Heinonen[5] *1. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 2. Material Physics, Royal Institute of Technology, Kista, Sweden; 3. Department of Matter Physics and Electronic Engineering, University of Messina, Messina, Italy; 4. Department of Physics, University of Ferrara, Ferrara, Italy; 5. Seagate Technology, Bloomington, MN*

10:42

GC-10. Spin Transfer Induced Excitations in Voltage-Stressed Magnetic Tunnel Junctions. *P. Gowtham*[1], O.J. Lee[1], V.S. Pribiag[1], J.A. Katine[2], D.C. Ralph[1] and R.A. Buhrman[1] *1. Cornell University, Ithaca, NY; 2. Hitachi GST, San Jose, CA*

10:54

GC-11. Stability of magnetization oscillations driven by spin-polarized currents. *R. Bonin*[1], M. d'Aquino[2], G. Bertotti[3], C. Serpico[4] and I.D. Mayergoyz[5] *1. Politecnico di Torino - Sede di Verres, Verres, Aosta, Italy; 2. Technology, Università di Napoli "Parthenope", Napoli, Napoli, Italy; 3. Istituto Nazionale di Ricerca Metrologica, Torino, Torino, Italy; 4. Electrical Engineering, Università di Napoli "Federico II", Napoli, Napoli, Italy; 5. Electrical and Computer Engineering and UMIACS, University of Maryland, College Park, MD*

11:06

GC-12. Application of spin-torque oscillators to high-data-transfer-rate read heads. *K. Mizushima*[1], K. Kudo[1], T. Nagasawa[1], H. Suto[1] and R. Sato[1] *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*

11:18

GC-13. Linewidth reduction of spin transfer driven excitations due to mode coupling. *D. Gusakova*[1], M. Quinsat[1], J.F. Sierra[2], V. Tiberkevich[3], U. Ebels[2], B. Dieny[2], L.D. Buda-Prejbeanu[2], B. Delaet[1] and M. Cyrille[1] *1. DRT/LETI/DIHS, CEA-LETI, Grenoble, France; 2. SPINTEC, UMR-8191, CEA-INAC/CNRS/UJF-Grenoble1/Grenoble-INP, Grenoble, France; 3. Dept. of Physics, Oakland University, Rochester, MI*

THURSDAY MORNING 8:30

CENTENNIAL IV

Session GD
MAGNETIC SENSORS II
Paulo Freitas, Chair

8:30

GD-01. Fabrication of thin films for a small alternating gradient field magnetometer for magnetic sensing applications. *N.J. Jones*[1], K.L. McNerny[1], V. Sokalski[1], M. Diaz-Michelena[2], D.E. Laughlin[1] and M.E. McHenry[1,3] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Programs and Space Sciences, Instituto Nacional de Técnica Aeroespacial, Torrejon De Ardoz, Spain; 3. Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA*

8:42

GD-02. Transformer coupled induction magnetometer with a high-Tc superconductor search coil. *I. Sasada*[1], Y. Suzuki[1] and T. Okazaki[2] *1. Applied Science for Electronics and Materials, Kyushu University, Kasuga, Japan; 2. Sumitomo Electric, Osaka, Japan*

8:54

GD-03. Noise Investigation of the Orthogonal Fluxgate Employing Alternating DC Bias. *E. Weiss*[1,2] and E. Paperno[1] *1. Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel; 2. Applied Physics, Soreq NRC, Yavne, Israel*

9:06

GD-04. Highly sensitive magnetoelectric sensors based on resonant cantilevers. *D. Meyners*[1], E. Lage[1], R. Jahns[2], E. Woltermann[1], H. Greve[1], R. Knöchel[2] and E. Quandt[1] *1. Institute for Materials Science, Christian-Albrechts-University, Kiel, Germany; 2. Institute of Electrical and Information Engineering, Christian-Albrechts-University, Kiel, Germany*

9:18

GD-05. Spin wave transducer with an arbitrary field direction. *R. Lassalle-Balier*[1] and C. Fermon[1] *1. DSM/IRAMIS/SPEC/GNM, CEA, Gif-sur-Yvette, France*

9:30

GD-06. A Novel Multiple Magnetic Object Detection Method using Magnetic Sensor Array. J. Fan[1], H. Tan[1] and *X. Li*[1] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore*

9:42

GD-07. Modulating the Magnetic Field to Improve Magnetic Sensor Performance. *A. Edelstein*[1], G.A. Fischer[1], J. Fine[1], J. Burnette[2], W. Egelhoff, Jr[2] and S. Cheng[3] *1. US Army Research Laboratory, Adelphi, MD; 2. National Institute of Standards and Technology, Gaithersburg, MD; 3. US Naval Research Laboratory, Washington, DC*

9:54

GD-08. Self-Powered, Hybrid Antenna-Magnetoresistive Sensor for Magnetic Field Detection. *R. Macedo*[1,3], F.A. Cardoso[1,3], S. Cardoso[1,3], M.S. Piedade[2,3] and P.P. Freitas[1,3] *1. INESC MN and Institute for Nanosciences and Nanotechnologies, Lisbon, Portugal; 2. INESC ID, Lisbon, Portugal; 3. Instituto Superior Técnico, UTL, Lisbon, Portugal*

10:06

GD-09. Low aspect ratio micron size TMR sensors with permanent magnet biasing integrated in the top lead. *R.C. Chaves*[1,2], S. Cardoso[1,2], R. Ferreira[1,2] and P.P. Freitas[1,2] *1. INESC-MN / Institute for Nanosciences and Nanotechnologies, Lisboa, Portugal; 2. Physics Department, IST-UTL, Lisboa, Portugal*

10:18

GD-10. Magnetic Amplification by Magnetically Induced Self-Assembly of Vertical Chains of Magnetic Micro-beads for the Detection of sub-200-nm Magnetic Labels by Magnetoresistive Biosensors. *Y. Morimoto*[1,2], R. Ishikawa[1,3], T. Takamura[1,3] and A. Sandhu[1,4] *1. Tokyo Institute of Technology, Tokyo, Japan; 2. Research Fellow of the Japan Society for the Promotion of Science, Tokyo, Japan; 3. Tokyo Tech Global COE Program on Evolving Education and Research Center for Spatio-Temporal Biological Network, Yokohama, Japan; 4. Toyohashi University of Technology, Tempaku-cho, Japan*

10:30

GD-11. High-sensitivity microcantilever detector for chemical sensing using magnetic particles. *D. Le Roy*[1,3], W. Yang[2,3], X. Yin[1,3], R.Y. Lai[2,3], S. Liou[1,3] and D.J. Sellmyer[1,3] *1. Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Chemistry, University of Nebraska, Lincoln, NE; 3. Nebraska Center for Materials and Nanoscience, Lincoln, NE*

10:42

GD-12. Microfabrication of magnetostrictive sensors based on NiFe thin film magnetic materials with doping of B and Mo. *C. Liang*[1,2], C. Gooneratne[1], J. Kosel[1], H. Rowais[1,2], T. Li[2], S.R. Green[2] and Y. Gianchandani[2] *1. Electrical and Computer Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI*

10:54

GD-13. A Multidomain modeling of the magneto-elastic behavior for non-destructive evaluation. S. Lazreg[1] and *O. Hubert*[1] *1. LMT / ENS-Cachan, Cachan, France*

11:06

GD-14. Application of the drag force method to evaluate magnetic property degradation near the cut edges of electrical steels. *I.J. Garshelis*[1,3], G. Crevecoeur[2], S. Tollens[3] and L. Dupré[2] *1. Magnova, Inc., Pittsfield, MA; 2. Department of Electrical Energy, Systems and Automation, Ghent University, Gent B-9000, Belgium; 3. MagCanica, Inc., San Diego, CA*

THURSDAY MORNING 8:30 REGENCY V

Session GE
ALTERNATIVE MAGNETIC RECORDING AND MAGNETO-OPTIC MATERIALS

Kaizhong Gao, Chair

8:30

GE-01. Off-track Error Probability Due To Track Squeeze in Shingled Recording. *K. Miura*[1], E. Yamamoto[1], H. Aoi[1] and H. Muraoka[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan*

8:42

GE-02. Effect of Track Asymmetry and Curvature for Shingle Writing Scheme. *F. Liu*[1], S. Li[1], H. Mendez[1], D. Bai[1], T. Pan[1] and S. Mao[1] *1. Western Digital Corporation, Fremont, CA*

8:54

GE-03. Thermal Distribution in Heat Assisted Bit Patterned Media Heated By Bow Tie Antenna. *Y. Yosia*[1] *1. OMS, Data Storage Institute, Singapore, Singapore*

9:06

GE-04. Understanding field angle for heat assisted magnetic recording via dynamic modeling. *Y. Wang*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:18

GE-05. Analysis of Near-Field Optical-to-Thermal Energy Transfer into the Media with Near-Field HAMR Experiments. *D. Lim*[1], G. Lee[1], K. Kim[2], M. Shin[2] and Y. Kim[2,1] *1. Center for Information Storage Device, Yonsei University, Seoul, Korea, Republic of; 2. Mechanical Engineering, Yonsei University, Seoul, Korea, Republic of*

9:30

GE-06. Withdrawn

9:42

GE-07. The Influence of Media Index of Refraction on the Efficiency of Optical Power Delivery for HAMR. *S.P. Powell*[1], E.J. Black[1], T.E. Schlesinger[1] and J.A. Bain[1] *1. ECE, Carnegie Mellon University, Pittsburgh, PA*

9:54

GE-08. Confined Circularly Polarized Light Generated by Nano-size Aperture for High Density All-Optical Magnetic Recording. *K. Nakagawa*[1], Y. Ashizawa[1], S. Ohnuki[1], A. Itoh[1] and A. Tsukamoto[1] *1. College of Science and Technology, Nihon University, Funabashi, Japan*

10:06

GE-09. Shape Enhanced Magneto-optical Activity in plasmonic structures. *G. Du*[1], T. Mori[2], S. Shin[1] and M. Takahashi[1] *1. Tohoku University, Sendai, Japan; 2. Ricoh Co., Ltd., Yohohama, Kanagawa, Japan*

10:18

GE-10. Magnetic field modulation of surface plasmon polaritons on gratings. *C. Clavero*[1], K. Yang[1], J.R. Skuza[2], L. Wang[2] and R.A. Lukaszew[1,2] *1. Department of Applied Science, The College of William and Mary, Williamsburg, VA; 2. Department of Physics, The College of William and Mary, Williamsburg, VA*

10:30

GE-11. Plasmon Resonance Enhancement of Faraday Rotation in Thin Garnet Films. *S. Tkachuk*[1], G. Lang[1], C. Krafft[2], O. Rabin[3] and I. Mayergoyz[1] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD; 3. Materials Science and Engineering, University of Maryland, College Park, MD*

10:42

GE-12. Plasmon enhanced magneto-optical activity in non-magnetic nanocomposites. *Y. Gu*[1] and K. Kornev[1] *1. Materials Science & Engineering, Clemson University, Clemson, SC*

10:54

GE-13. Beyond linear magneto-optics in ferromagnetic oxides. *J. Caicedo*[1], J. Fontcuberta[1], F. Sánchez[1], G. Herranz[1], M.C. Dekker[2], K. Dörr[2], S.K. Arora[3], R. Ramos[3] and I.V. Shvets[3] *1. Institute of Materials Science of Barcelona ICMAB-CSIC, Bellaterra, Spain; 2. Institute for Metallic Materials, IFW, Dresden, Germany; 3. Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), Trinity College, Dublin, Germany*

11:06

GE-14. Magneto-Optical Garnet Waveguides on Semiconductor Platforms: Magnetics, Mechanics, and Photonics. S. Sung[1], A. Sharma[1], A. Block[1] and *J. Stadler*[1] *1. Electrical and Computer Engineering, U Minnesota, Minneapolis, MN*

11:18

GE-15. Novel magnetophotonic crystals controlled by electro-optic effect for non-reciprocal high speed modulation of light. *T. Goto*[1], H. Sato[1], A. Kume[1], H. Takagi[2] and M. Inoue[1] *1. Toyohashi University of Technology, Toyohashi, Aichi, Japan; 2. Toyota National College of Technology, Toyota, Aichi, Japan*

THURSDAY MORNING 8:30

REGENCY VI

Session GF
PERMANENT MAGNET PROCESSING
Jeff Shield, Chair

8:30

GF-01. Local Orientation Analysis by EBSD in Highly Textured Sintered, Die-Upset and HDDR NdFeB Magnets. *K. Güth*[1], T.G. Woodcock[1], J. Thielsch[1], L. Schultz[1] and O. Gutfleisch[1] *1. IFW Dresden, Dresden, Germany*

8:42

GF-02. Time-Temperature-Transformation Measurements of FePt Films in the Millisecond Regime using Pulse Laser Processing. *J.W. Harrell*[1], Y. Inaba[1], G.B. Thompson[1], I. Zana[1,2], C. Swartz[3], Y. Kubota[4] and T. Klemmer[4] *1. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL; 2. Western Digital, Freemont, CA; 3. Belmont University, Nashville, TN; 4. Seagate Technologies, Freemont, CA*

8:54

GF-03. Patterned $L1_0$-FePt for Polarization of Magnetic Films. *Y. Dusch*[1], N. Tiercelin[1], A. Klimov[1,2], V. Rudenko[1], Y. Ignatov[1,2], S. Hage-Ali[1], P. Pernod[1] and V. Preobrazhensky[1,3] *1. International Associated Laboratory LEMAC: IEMN UMR CNRS 8520, PRES Lille Nord de France, ECLille, Villeneuve d'Ascq, France; 2. International Associated Laboratory LEMAC: V.A. Kotel'nikov Institute of Radioengineering and Electronics, Moscow, Russian Federation; 3. International Associated Laboratory LEMAC: Wave Research Center, General Physics Institute, Moscow, Russian Federation*

9:06

GF-04. High Performance Bonded Neo Magnets Using High Density Compaction. *J.W. Herchenroeder*[1], D. Miller[2], N. Sheth[2] and K. Nagarathnam[3] *1. Magnequench International, Pendleton, IN; 2. Magnequench Technical Centre, Singapore, Singapore; 3. Utron Kinetics, LLC, Manassas, VA*

9:18

GF-05. Patterned Hard Magnetic L10 FePt for frequency tunable millimeter-wave planar antennas. S. Hage-Ali[1], Y. Dusch[1], *T. Nicolas*[1], P. Coquet[1], R. Sauleau[3], V.L. Preobrazhensky[1,2] and P. Pernod[1] *1. International Associated Laboratory LEMAC, IEMN UMR CNRS 8520, PRES Lille Nord de France, ECLille, Villeneuve d'Ascq, France; 2. International Associated Laboratory LEMAC, Wave Research Center, General Physics Institute, Moscow, Russian Federation; 3. IETR, UMR CNRS 6164, Université de Rennes 1, Rennes, France*

9:30

GF-06. Influence of surfactant and process conditions on the magnetic properties of hot-pressed SmCo5 nanoflakes. *L. Zheng*[1], A.M. Gabay[1], W. Li[1], B. Cui[1] and G.C. Hadjipanayis[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE*

9:42

GF-07. Optimization of Melt Spun RE-Fe-B Powder Composition for Fully Dense, High Energy Magnets. *D. Brown*[1], Y. Lim[1] and D. Miller[1] *1. Magnequench Technology Centre, 61 Science Park Road, Singapore*

9:54

GF-08. Characterization of Mixed Rare Earth-Iron-Boron Alloy Crystallized Under Uniaxial Pressure. *N. Oster*[1], Y. Wu[2], W. Tang[2], K.W. Dennis[2], S.M. Long[1], I.E. Anderson[1,2], M.J. Kramer[1,2] and R.W. McCallum[1,2] *1. Materials Science & Engineering, Iowa State University, Ames, IA; 2. Ames Laboratory, Ames, IA*

10:06

GF-09. Electroplating Hard Magnetic SmCo for Magnetic Microactuators Application. J. Chen[1] and *L. Rissing*[1] *1. Institute for Micro Production Technology, Center for Production Technology, Leibniz Universität Hannover, An der Universitaet 2, 30823 Garbsen, Germany*

10:18

GF-10. A study on the corrosion behavior of Nd-Fe-B sintered magnets with Zr addition made by the binary alloy method. *Y. Ding*[1], R.J. Chen[1], Q.Y. Zhou[1], D. Lee[1] and A.R. Yan[1] *1. Ningbo Institute of Materials Technology and Engineering, Ningbo, China*

10:30

GF-11. Bulk SmCo5/α-Fe Nanocomposite Permanent Magnets Fabricated via a Mould-free Joule-Heating Compaction Method. *C. Rong*[1], Y. Zhang[2], N. Poudyal[1], D. Wang[1], M. Kramer[2] and J. Liu[1] *1. Department of Physics, University of Texas at Arlington, Arlington, TX; 2. Division of Materials Science and Engineering, Ames Laboratory, Iowa State University, Ames, IA*

10:42

GF-12. Milling Energy Impact on Anisotropic SmCo5 Nanopowder with High Energy Product. S.J. Knutson[1], Y. Shen[2], J.C. Horwath[3], P. Barnes[3] and *C.H. Chen*[1,2] *1. School of Engineering, University of Dayton, Dayton, OH; 2. University of Dayton Research Institute, Dayton, OH; 3. Air Force Research Laboratory, Wright Patterson AFB, WPAFB, OH*

10:54

GF-13. Enhanced Remanence in Anisotropic Hard Magnetic SmCo and NdFeB Nanoflakes Prepared by Surfactant-Assisted Ball Milling in a Magnetic Field. *N. Poudyal*[1], C. Rong[1] and J. Liu[1] *1. University of Texas at Arlington, Arlington, TX*

11:06

GF-14. Shape Controlled Anisotropic $Nd_2Fe_{14}B$ Nanoparticles and Nano-flakes by Surfactant-Assisted Ball Milling. *N. Gunduz Akdogan*[1], W. Li[1] and G.C. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE*

11:18

GF-15. Grain-size Dependence of Maximum Energy Product of Aligned Nanocrystalline Composite Permanent Magnets. *S. Sato*[1], S.J. Lee[1], C. Mitsumata[2], H. Yanagihara[1] and E. Kita[1] *1. Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

THURSDAY MORNING 8:30

REGENCY VII

Session GG
NANOPARTICLE CHARACTERIZATION II
Ralph Skomski, Chair

8:30

GG-01. Coexistence of Ferromagnetism and Superconductivity in Pb/PbO core/shell nanoparticles. *C. Hsu*[1], C. Wu[1], C. Wang[1], C. Li[1], S.K. Karna[1], S. Liu[1], C. Hung[1], D. Hsu[1], C. Lee[1] and W. Li[1] *1. Department of Physics, National Central Unuiversity, Jhongli City, Taiwan*

8:42

GG-02. Conduction band Magnetism in ZnO Nanoparticles. *M. Garcia*[1], R. Boada[2,3], C. Piquer[2], M. Laguna-Marco[4,5], N. Carmona[6], C. Guglieri[2,3], J. Llopis[6], M. Garcia-Hernandez[5], M. Ruiz-Gonzalez[7], J. Gonzalez-Calbet[7], J. Fernandez[1] and J. Chaboy[2,3] *1. Institute for Ceramic ad Glass, Spanish Council for Scientific Research - CSIC, Madrid, Madrid, Spain; 2. Material Science Institute of Aragon, Spanish Council for Scientific Research- CSIC, Zaragoza, Zaragoza, Spain; 3. Dpt. Condensed Matter Physics, University of Zaragoza, Zaragoza, Zaragoza, Spain; 4. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 5. Material Science Institute of Madrid, Spanish Council for Scientific Research- CSIC, Madrid, Madrid, Spain; 6. Dpt. Material Physics, University Complutense at Madrid, Madrid, Madrid, Spain; 7. Dpt. Inorganic Chemistry, University Complutense at Madrid, Madrid, Madrid, Spain*

8:54

GG-03. Ferromagnetism in thiolated and aminated Au nanoparticle assemblies. *T. Kim*[1], E. Her[1], J. Ahn[1], J. Jang[2], S. Moon[2], J. Cheon[2] and E. Ito[3] *1. Department of Physics, Ewha Womans University, Seoul, Korea, Republic of; 2. Department of Chemistry, Yonsei University, Seoul, Korea, Republic of; 3. Local Spatio-Temporal Functions Laboratory, RIKEN, Wako, Japan*

9:06

GG-04. Effect of ligands on the surface chemistry and magnetic properties of Fe/Fe2O3 and Fe/Fe3O4 core-shell nanoparticles. *N. Lupu*[1], M. Lostun[1], D. Herea[1], M. Grigoras[1] and H. Chiriac[1] *1. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania*

9:18

GG-05. Magnetism in functionalized ZnO nanoparticles: Permanent magnetic moment at surface. *A. Hernando*[1] and M. García[2] *1. IMA, Universidad Complutense Madrid, Las Rozas - Madrid, Spain; 2. Instituto de Cerámica y Vidrio, CSIC, Madrid, Spain*

9:30

GG-06. Magnetic Moment of $(Ni_{1-x}T_x)O$ Nanoclusters. M.A. Peck[1], M.D. Allison[2], Y.M. Huh[2], *R. Skomski*[3], P. Kharel[3], D.J. Sellmyer[3] and M.A. Langell[1] *1. Chemistry, University of Nebraska, Lincoln, NE; 2. Physics, South Dakota State University, Brookings, SD; 3. Physics & Astronomy, University of Nebraska, Lincoln, NE*

9:42

GG-07. Magnetism and Structure of MnAu Nanoclusters. *X. Wei*[1,2], R. Skomski[1,2], D. Le Roy[1,2], Z. Sun[1,2], X. Li[2], J. Shield[3,2], M.J. Kramer[4], Y.Q. Wu[4] and D.J. Sellmyer[1,2] *1. Department of Physics, University of Nebraska, Lincoln, NE; 2. Department of Mechanical Engineering, University of Nebraska, Lincoln, NE; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 4. Ames Laboratory, Ames, IA*

9:54

GG-08. Three-dimensional characterization of FePt nanoclusters using laser-assisted tomographic atom probe and electron tomography. E. Folcke[1], R. Larde[1], J. Le Breton[1], M. Patterson[2], X. Rui[3,4], M.J. Kramer[5], Y.Q. Wu[5], D.J. Sellmyer[6,4] and *J.E. Shield*[3,4] *1. Groupe de Physique des Materiaux, University of Rouen, Rouen, France; 2. Department of Physics, University of Wisconsin-Stout, Menomonie, WI; 3. Mechanical Engineering, University of Nebraska, Lincoln, NE; 4. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 5. Ames Laboratory, USDOE, Ames, IA; 6. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE*

10:06

GG-09. Withdrawn

10:18

GG-10. Magnetic Phase Transition in Spherical MnO Nanoparticles. *C. Wang*[1], S.N. Baker[1], A.D. Christianson[1], M.D. Lumsden[1], S.N. Nagler[1], W.T. Heller[1], G.A. Baker[1] and L. Cranswick[2] *1. Oak Ridge National Laboratory, Oak Ridge, TN; 2. Canadian Neutron Beam Center, Chalk River, ON, Canada*

10:30

GG-11. Ga Site Determination in $Ga_xFe_{3-x}O_4$ Nanoparticles. *V.L. Pool*[1,2], M.T. Klem[3], C. Chorney[3], E.A. Arenholz[4] and Y.U. Idzerda[1,2] *1. Dept. of Physics, Montana State University, Bozeman, MT; 2. Center for Bio-inspired Nanomaterials, Montana State University, Bozeman, MT; 3. Dept. of Chemistry, Montana Tech, Butte, MT; 4. Advanced Light Source, Lawrence Berkeley Nat. Labs., Berkeley, CA*

10:42

GG-12. Photomagnetism induced by magnetostriction in core-shell nanoparticles of prussian blue analogues. *M. Presle*[1], I. Maurin[1], J. Boilot[1] and T. Gacoin[1] *1. Laboratoire de Physique de la Matière Condensée, Ecole Polytechnique - CNRS, Palaiseau Cedex, France*

THURSDAY MORNING 8:30 LEARNING CENTER

Session GH
MAGNETIC APPLICATIONS
Kazushi Ishiyama, Chair

8:30

GH-01. A dq axis theory of the magnetic, thermal and mechanical properties of Curie motor. *M. Trapanese*[1] *1. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Palermo University, Palermo, Italy*

8:42

GH-02. Testing and Analysis of Common Mode Characteristics of Ethernet Transformers. *D. Bowen*[1], I.D. Mayergoyz[1] and C. Krafft[2] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD*

8:54

GH-03. Soft Magnetic Nanocomposites Assembled by Fe/Fe3O4 Nanoparticles with Controllable RF Performance. Q. Qao[1], H. Han[1], J. Sundararajan[1] and *Y. Qiang*[1] *1. Physics, University of Idaho, Moscow, ID*

9:06

GH-04. Closed core inductor fabrication by evaporation driven self-assembly of ferrite nanoparticles in capillaries. *S.S. Bedair*[1], C.D. Meyer[1,2] and B. Morgan[1] *1. Sensors & Electron Devices Directorate, US Army Research Laboratory, Adelphi, MD; 2. Electrical and Computer Engineering, University of Florida, Gainsville, MD*

9:18

GH-05. Analysis of Eddy Currents in Magnetically Nonlinear Conductors. *I.D. Mayergoyz*[1], C. Serpico[2] and P. McAvoy[1] *1. Department of Electrical and Computer Engineering, University of Maryland College Park, College Park, MD; 2. Dipartimento di Ingegneria Elettrica, Università di Napoli "Federico II", Napoli, Italy*

9:30

GH-06. Analytical Calculation of the Torque Exerted Between Two Perpendicularly Magnetized Magnets. H. Allag[1,2], *J. Yonnet*[1] and M. Latreche[2] *1. Laboratoire de Génie Electrique de Grenoble, "G2E Lab" (UMR 5269 CNRS-INPG-UJF), Institut Polytechnique de Grenoble, France, Grenoble, France; 2. Laboratoire d'Electrotechnique de Constantine, Université de Constantine, Algeria, Constantine, Algeria*

9:42

GH-07. A comparison between magnetostriction measurement results by using strain gauge technique and heterodyne laser technique. *S. Gorji Ghalamestani*[1], L. Vandevelde[1], J. Dirckx[2] and J. Melkebeek[1] *1. Electrical Energy, Systems & Automation, Ghent University, Ghent, Belgium; 2. Laboratory of Biomedical Physics, University of Antwerp, Antwerp, Belgium*

9:54

GH-08. Dynamic Performance Analysis of Permanent Magnet Contactor with a Flux-weakening Control Strategy. X. Wang[1,2], H. Lin[1] and *S. Fang*[1] *1. School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China; 2. State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, Shanxi, China*

10:06

GH-09. Alignment effect between a magnet over a superconductor cylinder in the Meissner state. *E. Diez-Jimenez*[1], I. Valiente-Blanco[1] and J. Perez-Diaz[1] *1. Ingeniería Mecánica, Universidad Carlos III de Madrid, Leganés, Madrid, Spain*

10:18

GH-10. New trends towards construction of NMR-magnets based on HTSC. *D.I. Puzanov*[1], A.A. Kartamyshev[1] and E.P. Krasnoperov[1] *1. Laboratory of low temperatures physics, RSC "Kurchatov Institute", Moscow, Moscow, Russian Federation*

10:30

GH-11. Robust LQ-Servo Control Design Based on Loop-Shaping Method for Magnetic Levitation System. *J. Yang*[1], H. Kim[1] and J. Lee[2] *1. Department of Electrical and Computer Engineering, Hanyang University, Seoul, Korea, Republic of; 2. Department of Electrical Engineering, Hanyang University, Seoul, Korea, Republic of*

THURSDAY MORNING 10:00 — GRAND HALL EAST

Session GP
DOMAIN WALL MOTION AND DYNAMICS II (POSTER SESSION)

Sy-Hwang Liou, Chair

GP-01. Dynamic binding of driven domain walls in coupled ultrathin ferromagnetic layers. *P.J. Metaxas*[1,2], R.L. Stamps[1], J. Jamet[2], J. Ferré[2], V. Baltz[3], B. Rodmacq[3] and P. Politi[4] *1. School of Physics, University of Western Australia, Crawley, WA, Australia; 2. Laboratoire de Physique des Solides, Université Paris-Sud 11/CNRS, Orsay, France; 3. SPINTEC, CEA-INAC/CNRS/UJF-Grenoble 1/Grenoble-INP, Grenoble, France; 4. Istituto dei Sistemi Complessi, Consiglio Nazionale delle Ricerche, Sesto Fiorentino, Italy*

GP-02. Study of the Domain Wall nucleation in a permalloy nanowire with field pulses generated by a current line. *J.L. Prieto*[1], M. Muñoz[2] and E. Martinez[3] *1. Instituto de Sistemas Optoelectrónicos y Microtecnología, Universidad Politécnica de Madrid, Madrid, Spain; 2. Instituto de Física Aplicada, CSIC, Madrid, Spain; 3. Física Aplicada, Universidad de Salamanca, Madrid, Spain*

GP-03. Magnetization reversal controlled by nucleation sites in ferromagnetic rings. *H. Huang*[1], T. Ger[1], C. Hsu[1] and Z. Wei[1] *1. National Tsing Hua University, Hsinchu, Taiwan*

GP-04. Domain wall velocity in submicron amorphous wires. T. Óvári[1], S. Corodeanu[1] and *H. Chiriac*[1] *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*

GP-05. Depinning of transverse domain walls from notches in magnetostatically coupled nanostrips. *F. Garcia-Sanchez*[1], A. Kákay[1] and R. Hertel[1] *1. Institute of Solid State Research, IFF9, Research Centre Jülich, Jülich, Germany*

GP-06. Ferromagnetic resonance frequency of domain wall in ferromagnetic nanowires with spin transfer torque. *J. Yoon*[1], C. You[1], Y. Jo[2], S. Park[2] and M. Jung[3] *1. Physics, Inha University, Incheon, Korea, Republic of; 2. Division of Materials Science, Korea Basic Science Institute, Daejeon, Korea, Republic of; 3. Physics, Sogang University, Seoul, Korea, Republic of*

GP-07. Current-assisted domain-wall depinning from single pinning site in MgO/Co/Pt nanowires: Quadratic contribution of current density. G. Gim[1], *K. Kim*[1], J. Lee[1,2], K. Shin[2] and S. Choe[1] *1. Department of Physics, Seoul National University, Seoul, Korea, Republic of; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, Korea, Republic of*

GP-08. Reduction of intrinsic critical current density on current-induced domain wall motion by using a ferrimagnetic nanowire. *T. Komine*[1], K. Takahashi[1], A. Ooba[1] and R. Sugita[1] *1. Department of Media and Telecommunications Engineering, Ibaraki University, Hitachi, Ibaraki, Japan*

GP-09. Edge roughness effect on threshold current density for current induced domain wall motion in submicron spin valve wires. *L. Chang*[1,2], Y. Yao[3], P. Lin[2] and S. Lee[1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Materials Science & Engineering, National Chiao Tung University, Hsinchu, Taiwan; 3. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan*

GP-10. Impact of Bloch lines and nucleation on domain wall velocity in (Co/Ni) nanowires. K. Yamada[1], J. Jamet[2], Y. Nakatani[3], *A. Mougin*[2], A. Thiaville[2], T. Ono[1] and J. Ferré[2] *1. Laboratory of Nano Spintronics, Division of Materials Chemistry Institue for Chemical Research, Uji - Kyoto, Japan; 2. Laboratoire de Physique des Solides, UMR CNRS 8502 - University Paris Sud, Orsay, France; 3. Graduate School of Informatics and Engineering, University of Electro-communication, Tokyo, Japan*

GP-11. Displacement and retention characteristics of domain wall trapped at step structure in Co/Ni nanowire: critical current, critical field, and thermal stability. *S. Fukami*[1], T. Suzuki[1], K. Nagahara[1], N. Ohshima[1] and N. Ishiwata[1] *1. NEC Corporation, Sagamihara, Japan*

GP-12. Quantitative analysis of interaction between domain walls and magnetic nanoparticles. *T. Klein*[1], D. Dorroh[2], Y. Li[1] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Department of Physics, University of Minnesota, Minneapolis, MN*

GP-13. Magnetic video-pulse influence on domain wall NMR in magnetic materials. *G.I. Mamniashvili*[1], T.O. Gegechkori[2], A.M. Akhalkatsi[3] and T.A. Gavasheli[3] *1. Condensed Matter Physics, Andronikashvili Institute of Physics, Tbilisi, Georgia; 2. Plasma Physics, Andronikashvili Institute of Physics, Tbilisi, Georgia; 3. Javakhishvili Tbilisi State University, Tbilisi, Georgia*

GP-14. Magnetization reversal processes of epitaxial Fe_3Si film on GaAs(001). *Y. Liu*[1], S. Huang[1,3], L. Chang[3], P. Chang[2], S. Lee[3], M. Hong[2] and R. Kwo[1] *1. Department of Physics, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Mat. Sci. and Eng., National Tsing Hua University, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

GP-15. Magnetic domain wall displacement in a multilayered wire with quantum interference. *A. Yamaguchi*[1,2], T. Kishimoto[1], Y. Nozaki[1] and H. Miyajima[1] *1. Department of Physics, Keio University, Yokohama, Japan; 2. PRESTO, JST, Kawaguchi, Japan*

THURSDAY MORNING 10:00 — GRAND HALL EAST

Session GQ
SOFT MAGNETS II (POSTER SESSION)
Manuel Vazquez, Chair

GQ-01. 'In-plane' and 'out-of-plane' uniaxial magnetic anisotropy of amorphous precursors and nanocrystalline FeCuNbSiB alloys. *G.A. Basheed*[1,2], S.N. Kaul[1] and M.V. Vazquez[2] *1. School of Physics, University of Hyderabad, Central University P.O., Hyderabad 500 046, Andhra Pradesh, India; 2. Instituto de Ciencia de Materiales de Madrid, CSIC, 28049, Cantoblanco, Madrid, Spain*

GQ-02. Preparation of Synthetic-Antiferromagnetic Coupled FeCoN/Ru/FeCoN Films. L. Zhang[1], H. Lv[1], J. Bai[1], X. Liu[2] and *F. Wei*[1] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Department of Information Engineering, Shinshu University, Nagano, Japan*

GQ-03. Production and characterization of exchange spring nano-composites produced using a gas aggregation technique. *G.T. Landi*[1], F.P. Missell[2] and A.D. Santos[1] *1. Departamento de Física dos Materiais e Mecânica, Instituto de Física da Universidade de São Paulo, São Paulo, SP, Brazil; 2. Centro de Ciências Exatas e Tecnologia, Universidade de Caxias do Sul, Caxias do Sul, RS, Brazil*

GQ-04. Influence of Magnetic Field Annealing on Saturation Magnetostriction and μi~T curves for FeCo-based nanocrystalline alloys. *Z. Wang*[1], R. Shi[1] and Y. Jia[1] *1. tianjin university, Tianjin, tianjin, China*

GQ-05. Magnetic Properties and Structure of The High Saturation Magnetization FeCoN Thin Films. L. Zhang[1], X. Liu[1], H. Lv[1], J. Bai[1], X. Liu[2] and *F. Wei*[1] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Department of Information Engineering, Shinshu University, Nagano, Japan*

GQ-06. High Bs Fe84-xSi4B8P4Cux (x=0-1.5) nanocrystalline alloys with excellent magnetic softness. *F. Kong*[1], A. Wang[1], X. Fan[1], H. Men[1], B. Shen[1], G. Xie[2], A. Makino[2] and A. Inoue[2] *1. Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China; 2. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

GQ-07. Soft Magnetic Properties of (Ni80Fe20)1-x(Ni0.5Zn0.5Fe2O4)x Films for High Frequency Applications. *G. Lu*[1], H. Zhang[1], Z. Zhong[1], X. Tang[1] and J. Shen[1] *1. State Key Laboratory of Electronic Thin films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

GQ-08. Influence of Sputtering Power on the High Frequency Properties of Nanogranular FeCoHfO Thin Films. *G. Lu*[1], H. Zhang[1], X. Tang[1], Y. Song[1], J. Shen[1] and J.Q. Xiao[2] *1. State Key Laboratory of Electronic Thin 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*

GQ-09. GHz permeability and permittivity dispersion behaviors of $(Fe_{0.67}Co_{0.33})_{78}Nb_6B_{15}Cu_1$ nanocrystalline alloy. L. Deng[1], *M. Han*[1], J. Xie[1], D. Liang[1] and H. Zhou[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

GQ-10. High frequency characteristic and magnetic properties of amorphous CoZr thin films. *H.W. Chang*[1], M.H. Wu[2], C.C. Hsieh[2] and W.C. Chang[2] *1. Department of Physics, Tunghai University, Taichung, Taiwan; 2. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan*

GQ-11. Ferromagnetic resonance investigation of SPS-Sintered Ni-Zn nanoparticles produced by a chemical route. *R. Valenzuela*[1], Z. Beji[2], F. Herbst[2] and S. Ammar[2] *1. Materials Research Institute, National University of Mexico, Mexico D.F., D.F., Mexico; 2. ITODYS, UMR-CNRS 7086, Universite de Paris 7 Diderot, Paris, France*

GQ-12. Measurement of demagnetizing fields of rectangular magnetic plates and prisms: paramagnetic and ferromagnetic resonances. *F. Pelegrini*[1] *1. Instituto de Física, Universidade Federal de Goiás, Goiânia, Goiás, Brazil*

GQ-13. Calculations of Microwave Permeability and Permittivity of Fe/SiO2 Composites. C. Neo[1,2], Y. Yang[1,2], Z. Li[1], J. Xue[1,2] and *J. Ding*[1,2] *1. National University of Singapore, Singapore, Singapore; 2. Materials Science & Engineering, National University of Singapore, Singapore, Singapore*

THURSDAY MORNING 10:00

GRAND HALL EAST

Session GR
NOVEL MAGNETIC SEMICONDUCTORS (POSTER SESSION)

George Kioseoglou, Chair

GR-01. Universal Valence-Band Picture of GaMnAs Studied by Resonant Tunneling Spectroscopy. *S. Ohya*[1], K. Takata[1] and M. Tanaka[1] *1. Dept. of Electrical Eng. and Information Systems, The University of Tokyo, Tokyo, Japan*

GR-02. Asymmetry in the angle dependence of the planar Hall effect observed in GaMnAs film. *J. Shin*[1], S. Kim[1], S. Lee[1], H. Lee[1], S. Khym[1], S. Lee[1], X. Liu[2] and J.K. Furdyna[2] *1. Physics Department, Korea University, Seoul, Korea, Republic of; 2. Department of Physics, University of Notre Dame, Notre Dame, IN*

GR-03. Antiferromagnetic exchange coupling between GaMnAs layers separated by a nonmagnetic GaAs:Be spacer. *J. Leiner*[1], K. Tivakornsasithorn[1], X. Liu[1], M. Dobrowolska[1], J. Furdyna[1], B. Kirby[2], H. Lee[3], T. Yoo[3] and S. Lee[3] *1. University of Notre Dame, Notre Dame, IN; 2. Center for Neutron Research, NIST, Gaithersburg, MD; 3. Korea University, Seoul, Korea, Republic of*

GR-04. Magnetic anisotropy and magnetization reversal of (Ga,Mn)As dots. *H. Kimura*[1], Y. Kitamoto[1] and H. Munekata[2] *1. Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan; 2. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan*

GR-05. Room temperature ferromagnetism and hopping conduction in Pt NCs/Al2O3 films. *Y. Ma*[1], J. Ding[1], J. Yi[1], L. Chan[2], T. Herng[1] and S. Huang[2] *1. Department of materials science, National university of singapore, Singapore, Singapore; 2. Globalfoundaries Singapore PTE LTD, Singapore, Singapore*

GR-06. Magnetism and Magnetotransport studies in Ge1-xMnxTe. S. Lim[2], J. Bi[1], *K. Teo*[1] and Y. Liew[2] *1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

GR-07. Room temperature ferromagnetism in MWCNTs synthesized by chemical vapor deposition technique. S. Gautam[1,3], *K. Chae*[1], J. Song[1], S. Augustine[2], J. Kang[2], J. Kim[3] and K. Asokan[4] *1. Nano Analysis Center, Korea Institute of Science and Technology, Seoul, Seoul, Korea, Republic of; 2. Material Science and Engineering, KAIST, Daejeon, Korea, Republic of; 3. Pohang Accelerator Lab, Pohang University of Science and Technology, Pohang, Korea, Republic of; 4. Material Science Division, Inter-University Accelerator Center, New Delhi, India*

GR-08. Ab-Initio Calculation of Magnetic Properties of Gd-doped $ZnGeN_2$ *J. Rufinus*[1] *1. Science Division, Widener University, Chester, PA*

GR-09. Withdrawn

GR-10. Mn and Co doping effect on gapless semiconductor $PbPdO_2$ *K. Lee*[1], S. Choo[1], Y. Saiga[2], T. Takabatake[2] and M. Jung[1] *1. Department of Physics, Sogang University, Seoul, Korea, Republic of; 2. ADSM, Hiroshima University, Higashi-Hiroshima, Japan*

GR-11. Magneto-Optic Properties of InAsN and InN Quantum Dots Doped with Co and/or Ni Atoms. *L.A. Pozhar*[1] *1. Physics, University of Idaho, Moscow, ID*

GR-12. Influence of nanometric size on the properties of Nickel (5%) doped SnO2 nanorods. *P. Venugopal Reddy*[1,2] and K. Sreenivas[1] *1. Physics, Osmania University, Hyderabad, A.P, India; 2. Principal, Vidya Jyothi Institute of Technology, Hyderabad, A.P, India*

GR-13. Magnetism and transport properties of α-Mn structure Mn3Ge thin film. *D.D. Dung*[1], W. Feng[1], Y. Shin[1], D. Thiet[1] and S. Cho[1] *1. Department of Physics, Ulsan, Korea, Republic of*

GR-14. Magnetic and magnetotransport studies on dual-acceptor doped Ni:ZnO thin films grown by pulsed laser deposition. *E. Kumar*[1] and M. Rao[1] *1. Department of Physics, Nano Functional Materials Techology Centre and Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India*

THURSDAY MORNING 10:00

GRAND HALL EAST

Session GS
MAGNETOELASTIC MATERIALS II (POSTER SESSION)

Masaki Takezawa, Chair

GS-01. Giant Magnetostriction in Antiperovskite Mn_3CuN. *T. Shibayama*[1] and K. Takenaka[1] *1. Crystalline Materials Science, Nagoya University, Nagoya, Aichi, Japan*

GS-02. Static and dynamic magneto-mechanical characterization of magnetostrictive materials. P.E. Roccato[1], *M. Zucca*[1] and O. Bottauscio[1] *1. INRIM, Torino, Italy*

GS-03. Magnetic properties of Fe62Co19Ga19 films deposited on Si(100) substrates. *S. Jen*[1], T. Tsai[1,2], M. Li[1], P. Kuo[2] and M. Lin[1] *1. Academia Sinica, Institute of Physics, Taipei, Taiwan; 2. Department of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan*

GS-04. Composition dependence of Young's modulus for amorphous FeCo-Si02 thin film via combinatorial cantilevered arrays. *L. Zhang*[1], Q. Guo[2], Z. Zhu[1], M.G. Han[1], P.H. Zhou[1], K.R. Xiong[3] and L.J. Deng[1] *1. School of Microelectronic and Solid-State Electronics, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. CETC No.29 Research Institute, Chengdu, China*

GS-05. Microstructures and magnetostrictive strains of two-phase Fe_{66}-Pd_{30}-Ni_4 high-temperature ferromagnetic shape memory alloys. *Y. Lin*[1], C. Hu[1], C. Lin[2], J. Yang[2] and H. Lee[3] *1. Department of Mold and Die Engineering, National Kaohsiung University of Applied Sciences, Kaohsiung, Taiwan; 2. Department of Mechanical and Automatic Engineering, National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan; 3. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*

GS-06. Concentration dependence on magnetic moment in $Ni_{50-x}Co_xMn_{50-y}Z_y$ (Z = In, Sn, Sb) Heusler alloys. *W. Ito*[1], X. Xu[1], R. Umetsu[2], T. Kanomata[3], K. Ishida[1] and R. Kainuma[1] *1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Faculty of Engineering, Tohoku Gakuin University, Tagajo, Japan*

GS-07. Magnetostriction in high-pressure synthesized PrxNd1-xFe1.9 (0≤x≤1) compounds. *Y. Shi*[1] and S. Tang[2] *1. Department of Applied Physics, Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China; 2. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiangsu, China*

GS-08. Effects of particle coating on magnetostrictive properties of Terfenol-D composites. X. Dong[1], *M. Qi*[1], X. Guan[3] and J. Ou[2,3] *1. School of Materials Science and Engineering, Dalian University of Technology, Dalian, Liaoning, China; 2. School of Civil and Hydraulic Engineering, Dalian University of Technology, Dalian, Liaoning, China; 3. School of Civil Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

GS-09. Field Dependent Magnetic Anisotropy of Galfenol Thin Films. *D.A. Resnick*[1], A. McClure[2], P. Rugheimer[2] and Y.U. Idzerda[2] *1. Physics, Carroll University, Waukesha, WI; 2. Physics, Montana State University, Bozeman, MT*

GS-10. Magnetostriction and magnetic properties of Fe-Ga melt-spun ribbons. T. Saito[1] and *K. Sudo*[1] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan*

GS-11. Influence of annealing conditions on magnetic properties of $Ni_{50}Mn_{50-x}In_x$ Heusler-type alloys. *T. Miyamoto*[1], W. Ito[1], R.Y. Umetsu[2], T. Kanomata[3], K. Ishida[1] and R. Kainuma[1] *1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Insutitute for Materials Research, Tohoku University, Sendai, Japan; 3. Faculty of Engineering, Tohoku Gakuin University, Sendai, Japan*

GS-12. Effect of a 2D Magnetic Bias on The Maximization of Magnetostrictive Harvested Energy. *A. Adly*[1], D. Davino[2], A. Giustiniani[3] and C. Visone[2] *1. Electric Power and Machines Department, Cairo University, Giza, Egypt; 2. Engineering Department, University of Sannio, Benevento, Italy; 3. DIIIE, University of Salerno, Fisciano, Italy*

GS-13. Elastic moduli and magnetostriction of $Tb_6Co_xFe_{1-x}(Bi,Sb)_2$ ($0 \le x \le 0.375$). *M. Koehler*[1], L. Jia[1], D. McCarthy[1] and V. Keppens[1] *1. The University of Tennessee, Knoxville, TN*

GS-14. Favorable effect of Ho on the microstructure and magnetostriction of directionally solidified $Tb_{0.7}Dy_{0.3}Fe_{1.95}$ *J. Chelvane*[1], M. Palit[1], H. Basumatary[1], P. Subramanian[1] and C. Venkatasubramanian[1] *1. Defence Metallurgical Research Laboratory, Hyderabad, Andhra Pradesh, India*

GS-15. Optimization of the Processing Parameters for building in uniaxial magnetic anisotropy in Tension Annealed $Fe_{82}Ga_{18}$ Rods. *N.J. Jones*[1], J.B. Restorff[2], M. Wun-Fogle[2] and A.E. Clark[3] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Naval Surface Warfare Center, West Bethesda, MD; 3. Clark Associates, Adelphi, MD*

THURSDAY MORNING 10:00

GRAND HALL EAST

Session GT
EXCHANGE BIAS II (POSTER SESSION)

Paolo Vavassori, Chair

GT-01. Probing interfacial coupling of exchange biased films with broadband FMR. R. Magaraggia[1], K. Kennewell[1], *M. Kostylev*[1], R.L. Stamps[1], M. Ali[2], D. Greig[2], B. Hickey[2] and C. Marrows[2] *1. Department of Physics, University of Western Australia, Perth, WA, Australia; 2. Department of Department of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

GT-02. Effect of the exchange bias coupling strength on the magnetoimpedance response. *C. Garcia*[1], J.M. Florez[2], P. Vargas[2] and C.A. Ross[1] *1. Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Departamento de Fisica, Universidad Técnica Federico Santa María,, Valparaiso, Chile*

GT-03. Exchange bias of multiferroic $BiFeO_3$ epitaxial films prepared by chemical solution deposition. *H. Naganuma*[1], M. Oogane[1] and Y. Ando[1] *1. Tohoku University, Sendai, Japan*

GT-04. Studies of exchange bias in $Mn_{80}Ir_{20}/Co_{60}Fe_{20}B_{20}$ thin films by network analyzer ferromagnetic resonance. *J. Yang*[1], S. Cardoso[1,2], P.P. Freitas[1,2], T. Devolder[3] and M. Ruehrig[4] *1. Instituto de Sistemas e Computadores – Microsistemas e Nanotecnologias and Institute for Nanosciences and Nanotechnologies, R. Alves Redol 9, 1000-029 Lisbon, Portugal; 2. Physics Department, Instituto Superior Técnico – Universidade Técnica de Lisboa, 1049-001 Lisbon, Portugal; 3. Institut d'Electronique Fondamentale, UMR CNRS 8622, Uni. Paris-Sud, 91405 Orsay Cedex, France; 4. Siemens AG, Corporate Technology MM 1, Paul-Gossen-Strasse 100, 91052 Erlangen, Germany*

GT-05. Thickness Dependent Exchange Bias Effect in Magnetron Sputtered Ni-Mn-Sn Ferromagnetic Shape Memory Alloy Thin Films. R. Vishnoi[1] and *D. Kaur*[1] *1. Department of Physics and Centre of Nanotechnology, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India*

GT-06. Ni-O Bond Length, Electron Spin Localization and a Possible Mechanism of Exchange Bias Development/Loss in Small Ni-O Quantum Dots and Wires. *L.A. Pozhar*[1] *1. Physics, University of Idaho, Moscow, ID*

GT-07. Blocking temperature of γ-Mn-Ir / (Fe-Co, Co-Ni, Ni-Fe) exchange biased films with ultra-thin antiferromagnetic layer. *H. Takahashi*[1], M. Tsunoda[1] and M. Takahashi[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan*

GT-08. Compositional Dependence of K_{AF} in IrMn Thin Films. N.P. Aley[2] and *K. O'Grady*[1] *1. Physics, The University of York, York, United Kingdom; 2. Electronics and Electrical Engineering, Hosei University, Tokyo, Japan*

GT-09. Angular dependence of the easy axis of a SAF and GMR on the different cooling-field strength. *J. Son*[1], S. Lee[1], S. Kim[1] and J. Hong[1] *1. Materials Science and Engineering, Yonsei university, Seoul, Korea, Republic of*

GT-10. Improvement of perpendicular exchange bias in [Pd/Co]/FeMn thin films by tailoring the magnetoelastically-induced perpendicular anisotropy. *L. Lin*[1], N. Thiyagarajah[1], H. Joo[1], J. Heo[2], K. Lee[2] and S. Bae[1] *1. Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 2. Department of Physics, Dankook University, Cheonan, Korea, Republic of*

GT-11. Tuning the exchange bias training effect in polycrystalline FeNi/FeMn bilayers. M. Yang[1], J. Zhang[1], J. Ge[1], B. You[1], *X. Wu*[1], J. Du[1] and A. Hu[1] *1. Physics, Nanjing Unversity, Nanjing, Jiangsu, China*

GT-12. Spin frustration induced magnetic anisotropy in FeMn/Co/Cu(001). G. Chen[1], J. Zhu[1], F. Liu[1], J. Wu[2], Z. Qiu[2] and *Y. Wu*[1] *1. Physics department, Fudan university, Shanghai, China; 2. Physics department, U.C. Berkeley, Berkeley, CA*

GT-13. Characterization of submicron ring-shaped synthetic antiferromagnetically coupled elements. *C. Chen*[1], M. Shiao[1], Y. Lin[2], H. Tsai[2], L. Horng[2], J. Wu[2], M. Takahashi[3] and M. Tsunoda[3] *1. Nano/MEMS Shop, Instrument Technology Research Center, National Applied Research Laboratories, Hsinchu, Taiwan; 2. Taiwan SPIN Research Center, National Changhua University of Education,, Changhua, Taiwan; 3. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan*

GT-14. Exchange bias in magnetic nanoparticle coated by amorphous magnetic shell. *H.M. Nguyen*[1,2] and P. Hsiao[1] *1. Department of Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan; 2. Institute of Materials Science, Vietnamese Academy of Science and Technology, Hanoi, Viet Nam*

GT-15. Exchange bias effect in $NiO/NiFe_2O_4$ nanocomposites. W. Gong[1], W. Liu[1], *D. Li*[1], S. Guo[1], X. Liu[1] and Z. Zhang[1] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research and International Center for Materials Physics, Chinese Academy of Sciences, Shenyang, Liaoning, China*

THURSDAY MORNING 10:00

GRAND HALL EAST

Session GU
PATTERNED FILMS III: DOT ARRAYS (POSTER SESSION)

Marco Madami, Chair

GU-01. Magnetization dependence on temperature in exchange biased antidot arrays. *C. Garcia*[1,2], C.A. Ross[1], V. Vega[3], V. de la Prida[3] and B. Hernando[3] *1. Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Physics, Bogazici Univ, Istanbul, Turkey; 3. Departamento de Física, Universidad de Oviedo, Oviedo, Spain*

GU-02. Tailoring the Magnetization Reversal in Antidot Nanostructures using Lithographically Engineered Inhomogeneities. *D. Tripathy*[1], P. Vavassori[2,3] and A. Adeyeye[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Nanomagnetism Group, CIC nanoGUNE Consolider, San Sebastian, Spain; 3. CNISM and Dipartimento di Fisica, Universita` di Ferrara, Ferrara, Italy*

GU-03. Dependence of magnetization process on thickness of antidot films. K. Merazzo[1], *R. Perez del Real*[1], O. de Abril[1], A. Asenjo[1] and M. Vazquez[1] *1. Materials Science Institute of Madrid, CSIC, Madrid, Spain*

GU-04. Fabrication of $L1_0$-FePt Network Nanostructures by Porous Anodic Aluminum Oxide. I. Liu[1], *Y. Huang*[1], L. Wang[1] and C. Lai[1] *1. Materials Science and Engineering, National Tsing-Hua University, Hsinchu, Taiwan*

GU-05. Co/Pt multilayer dot switching experiments with sub-nanosecond pulse field. *N. Kikuchi*[1], Y. Suyama[1], S. Okamoto[1] and O. Kitakami[1] *1. IMRAM Tohoku University, Sendai, Japan*

GU-06. Nucleation size for dot arrays of Co-Pt based perpendicular films characterized by time dependence of coercivity. *H. Kataoka*[1,2], T. Shimatsu[1], K. Mitsuzuka[1], H. Aoi[1], N. Kikuchi[3] and O. Kitakami[3] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Fuji Electric Holdings Co., Ltd., Matsumoto, Nagano, Japan; 3. IMRAM, Tohoku University, Sendai, Miyagi, Japan*

GU-07. Influence of asymmetry disk on control over the existence of vortex in submicro-scaled Permalloy disks. *C. Huang*[1], K. Wu[1], P. Cheng[1], C. Wang[1], J. Wu[1] and L. Horng[1] *1. Department of Physics and Taiwan SPIN Research Center, National Changhua University of Education, Changhua, Taiwan*

GU-08. Magnetic nanodots fabrication by means of nano-indentation lithography. *S. Okamoto*[1], T. Hashimoto[1], N. Kikuchi[1], Z. Shen[1] and O. Kitakami[1] *1. IMRAM, Tohoku University, Sendai, Japan*

GU-09. Coupling strength with off-axial external field in magnetic tunnel junction cells. *C. Chao*[1], C. Kuo[1], C. Chen[2], L. Horng[1], T. Wu[3], S. Isogami[4], M. Tsunoda[4], M. Takahashi[4] and J. Wu[1] *1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Nano/Mems Shop, NARL Instrument Technology Research Center, Hsinchu, Taiwan; 3. Humanities and Sciences, National Yunlin University of Science and Technology, Yunlin, Taiwan; 4. Electronic Engineering, Tohoku University, Sendai, Japan*

GU-10. Domain-like behavior of magnetization process in magnetic checker pattern. *T. Komine*[1], Y. Tanaka[1] and R. Sugita[1] *1. Department of Media and Telecommunications Engineering, Ibaraki University, Hitachi, Ibaraki, Japan*

GU-11. Magneto-optical properties of two-dimensional magnetic garnet arrays. A. Emoto[1], T. Kosaka[1], T. Shioda[1], H. Ono[1] and *T. Ishibashi*[1] *1. Nagaoka University of Technology, Niigata, Japan*

GU-12. Synthetic Bi-component Magnetic Nanostructures. *S. Jain*[1] and A.O. Adeyeye[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

GU-13. Theory of collective magnonic response of closely packed 2D arrays of ferromagnetic nanoelements. *M. Dvornik*[1], P. Bondarenko[2], B.O. Ivanov[2] and V.V. Kruglyak[1] *1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom; 2. Institute of Magnetism, NASU, Kiev, Ukraine*

GU-14. Investigations on magnetic properties in ultrathin single crystal Fe rectangular arrays patterned by selective wet-etching. L. Sun[1,2], P. Wong[2,5], D. Niu[2], X. Zou[3], L. Lv[4], *Y. Zhai*[1,2], J. Wu[3], Y. Xu[2] and H. Zhai[4] *1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Electronics, University of York, York, United Kingdom; 3. Department of Physics, University of York, York, United Kingdom; 4. National Laboratory of Solid Microstructures, Nanjing University, Nanjing, China; 5. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

GU-15. Magnetization reversal in arrays of zigzag stripes. S. Neusser[1], *G. Dürr*[1], D. Grundler[1], S. Tacchi[2], M. Madami[2], G. Gubbiotti[2], M. Im[3], P. Fischer[3], M.O. Dvornik[4], F.Y. Ogrin[4] and V.V. Kruglyak[4] *1. Lehrstuhl für Physik funktionaler Schichtsysteme, Physik Department, Technische Universität München, Garching b. München, Germany; 2. CNISM, Unità di Perugia, Dipartimento di Fisica, Perugia, Italy; 3. Center for X-Ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. School of Physics, University of Exeter, Exeter, United Kingdom*

THURSDAY MORNING 10:00

GRAND HALL EAST

Session GV
SOFT FERRITE MATERIALS II (POSTER SESSION)

Raja Swaminathan, Chair

GV-01. Novel Developed MnZn Ferrite Mixed with Titanium (IV) Isopropoxide ($C_{12}H_{28}O_4Ti$) Polymer-bonded Magnetic Cores. K. Cheng[1], *K. Ding*[1], S. Ho[1], W. Fu[1], J. Wang[1] and S. Wang[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong*

GV-02. Magnetic and electrical properties of Mn-Zn ferrites synthesized by combustion method without subsequent heat treatments. *C. Fu*[1], M. Syue[2], F. Wei[2] and C. Chou[2] *1. Physics Department, National Taiwan University, Taipei, Taiwan; 2. Institute of Applied Mechanics, National Taiwan University, Taipei, Taiwan*

GV-03. Temperature and Frequency Characteristics of Low-loss MnZn Ferrite in a Wide Temperature Range. *K. Sun*[1], Z. Lan[1], Z. Yu[1], Z. Liu[1], X. Jiang[1] and M. Luo[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

GV-04. Effect of annealing temperature on magnetodielectric properties of NiFe1.8Mn0.2O4. *A.D. Sheikh*[1] and V.L. Mathe[1] *1. Department of Physics, University of Pune, Pune, India*

GV-05. Structural and magnetic properties of NiZn ferrite thin films prepared by RF magnetron sputtering. *Y. Liu*[1], Y. Li[1], H. Zhang[1] and D. Chen[1] *1. State Key Laboratory of Electronic Thin Film and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

GV-06. Structure and applied-field Mössbauer studies of NiCuZn ferrite. *Y. Li*[1], W. Kim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of*

GV-07. Effect of temperature and sintering time on properties of ferrite NiCuZn: Co sintered process Spark Plasma Sintering (SPS). *K. Zehani*[1], F. Mazaleyrat[1], V. Loyau[1], O. Pasko[1] and E. Labouré[2] *1. SATIE ENS CACHAN, Cachan, CACHAN, France; 2. LGEP, Gif sur Yvette, France*

GV-08. Influence of Reactive Atmosphere on Properties of Cobalt ferrite Thin Films Prepared using Pulsed-laser Deposition. *A. Raghunathan*[1], D.C. Jiles[1] and J.E. Snyder[1] *1. Wolfson Magnetics Research, Cardiff University, Cardiff, United Kingdom*

GV-09. Coexistence of spin glass behaviour and long-range ferrimagnetic ordering in La and Dy doped Co Ferrite. *K. Kamala Bharathi*[1], R.J. Tackett[2], C.E. Botez[2] and C.V. Ramana[1] *1. Mechanical Engineering, University of Texas, El Paso, Texas, El Paso, TX; 2. Department of Physics, University of Texas, El Paso, El Paso, TX*

GV-10. First-principles investigation of Zn (Cd) doping effects on the electronic structure and magnetic properties in $CoFe_2O_4$ *Y. Hou*[1], Y. Zhao[2], Z. Liu[1], H. Yu[1], X. Zhong[1], W. Qiu[1], D. Zeng[1] and L. Wen[1] *1. School of Materials Science and Engineering, South China University of Technology, Guangzhou, China; 2. Department of Physics, South China University of Technology, Guangzhou, China*

GV-11. Mössbauer spectroscopy and magnetic characteristics of Zn1-xCoxFe2O4 (x=0-1) nanoparticles. A. Ghasemi[1], V. Sepelak[2], X. Liu[1] and *A. Morisako*[1] *1. shinshu university, Nagano, Japan; 2. Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany*

GV-12. Magnetic behavior on In enhanced Fe doped nickel chromite with Mössbauer spectroscopy. *S. Hyun*[1], S. Park[2], I. Shim[1] and C. Kim[1] *1. Physics, Kookmin University, SEOUL, Korea, Republic of; 2. SUKWON Co. Ltd., Gumi-City, Gyeongbuk, Korea, Republic of*

GV-13. Few-domain magnetic states of the millimeter-size single crystals of $ErFeO_3$ and $TmFeO_3$ *L.T. Tsymbal*[1], Y. Bazaliy[2,3], S.V. Vasiliev[1], G.N. Kakazei[3,4] and V.I. Kamenev[1] *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*

GV-14. Microwave Complex Permeability and Permittivity of Nano-Ferrites. *M.N. Afsar*[1] and A. Sharma[1] *1. Electrical and Computer Engineering, Tufts University, Medford, MA*

GV-15. The high frequency absorption of PVC/Fe_2O_3 nanofibers produced by electrospinning technique. O. Chiscan[1], M. Goldenberg[1], I. Dumitru[1], V. Tura[1] and *A. Stancu*[1] *1. Department of Solid State and Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Iasi, Romania*

THURSDAY AFTERNOON 1:30

CENTENNIAL I

Session HA
SYMPOSIUM ON ATOMIC-SCALE MAGNETIC PHENOMENA AT SURFACES

Axel Enders, Chair

1:30

HA-01. Spin-dependent Quantum Interference Within a Single Magnetic Nanostructure. ***(Invited)*** *D. Sander*[1], H. Oka[1], P. Ignatiev[1], S. Wedekind[1], G. Rodary[1,2], L. Niebergall[1], V. Stepanyuk[1] and J. Kirschner[1] *1. MPI of Microstructure Physics, Halle, Germany; 2. LPNS CNRS UPR 20, Marcoussis, France*

2:06

HA-02. Topologically Protected Spin Textures at Metal Surfaces. ***(Invited)*** *G. Bihlmayer*[1] *1. Institut für Festkörperforschung & Institute for Advanced Simulation, Forschungszentrum Jülich and JARA, 52425 Jülich, Germany*

2:42

HA-03. Measuring spin relaxation times of single atoms with nanosecond time resolution. ***(Invited)*** *A. Heinrich*[1] *1. IBM Research, San Jose, CA*

3:18

HA-04. STM spin-excitation spectra on individual atoms vs XMCD ensemble measurements. ***(Invited)*** *H. Brune*[1] *1. Institute of Condensed Matter Physics, EPFL, Lausanne, Switzerland*

3:54

HA-05. Imaging magnetic interactions in nanostructures built from individual adatoms. ***(Invited)*** *J. Wiebe*[1], A.A. Khajetoorians[1], F. Meier[1], L. Zhou[1], B. Chilian[1], S. Lounis[2], S. Schuwalow[3], E.Y. Vedmedenko[1], S. Blügel[2], P.H. Dederichs[2], F. Lechermann[3] and R. Wiesendanger[1] *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. Institut für Festkörperforschung and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany; 3. I. Institute for Theoretical Physics, Hamburg University, Hamburg, Germany*

THURSDAY AFTERNOON 1:30

CENTENNIAL II

Session HB
MgO-BASED TUNNEL JUNCTIONS II

Guoxing Miao, Chair

1:30

HB-01. High emission power and narrow linewidth in CoFeB/MgO/CoFeB MTJ-based spin torque oscillator with a pseudo point contact structure. *(Invited)* *H. Maehara*[1], H. Kubota[2], T. Seki[2], K. Nishimura[1], H. Tomita[3], Y. Nagamine[1], K. Tsunekawa[1], D.D. Dyayaprawira[1], A. Fukushima[2], S. Yuasa[2], K. Ando[2] and Y. Suzuki[3] *1. Canon ANELVA Corp., Kawasaki, Kanagawa, Japan; 2. National Institude of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan; 3. Osaka Univ., Toyonaka, Osaka, Japan*

2:06

HB-02. Hybrid GMR/TMR devices with perpendicular spin polarizer for powerful and highly coherent spin transfer driven microwave emission. *A.V. Khvalkovskiy*[1,2], A. Dussaux[1], J. Grollier[1], V. Cros[1], A. Fert[1], A. Fukushima[3], K. Yakushiji[3], H. Kubota[3], S. Yuasa[3] and K. Ando[3] *1. Unite Mixte de Physique CNRS/Thales and Universite Paris Sud 11, Palaiseau, France; 2. A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russian Federation; 3. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

2:18

HB-03. Quantum interference effect in fully epitaxial Cr/ultrathin-Fe/MgO/Fe magnetic tunnel junctions at room temperature. *B. Do*[1], T. Nozaki[1] and Y. Suzuki[1] *1. Materials Physics, Graduate School of Engineering Science, Osaka Univ., Osaka, Japan*

2:30

HB-04. Spin Transfer Switching Efficiency in Magnetic Tunneling Junctions With Dual Barriers. *D. Apalkov*[1], S. Watts[1], V. Nikitin[1], D. Druist[1], E. Chen[1], X. Tang[1], A. Driskill-Smith[1] and D. Lottis[1] *1. Grandis Inc, Milpitas, CA*

2:42

HB-05. Magnetoresistance Effect in Tunnel Junctions with Perpendicularly Magnetized MnGa Film. *T. Kubota*[1], D. Watanabe[1], F. Wu[1], S. Mizukami[1], H. Naganuma[2], X. Zhang[1], M. Oogane[2], A. Sakuma[2], Y. Ando[2] and T. Miyazaki[1] *1. WPI Advanced Institute for Materials Research, Tohoku university, Sendai, Miyagi, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan*

2:54

HB-06. Interface-induced partial perpendicular anisotropy in V-capped and V-doped CoFeB. *A. Natarajarathinam*[1,3], Z.R. Tadisina[1,2], M. Pathak[1,4], S. Gupta[1,2], T. Mewes[1,4] and P.R. LeClair[1,4] *1. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL; 2. Metallurgical and Materials Engineering, University of Alabama, Tuscaloosa, AL; 3. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 4. Physics and Astronomy, University of Alabama, Tuscaloosa, AL*

3:06

HB-07. Magnetic Tunnel Junction with [Co/Pt] Perpendicular Magnetization Films. *Y. Wang*[1], D. Wang[1], S. Yang[1], C. Yen[1], C. Chien[1] and M. Kao[1] *1. Electronics and Optoelectronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan*

3:18

HB-08. Influence of oxidation conditions on indirect coupling in perpendicular magnetic tunnel junctions. *L.E. Nistor*[1], B. Rodmacq[1], S. Auffret[1], M. Marins de Castro[1], M. Chshiev[1], A. Schuhl[1] and B. Dieny[1] *1. SPINTEC, CEA/CNRS, Grenoble, France*

3:30

HB-09. Stack structures for realization of high annealing stability in perpendicular magnetic tunnel junctions with CoFe/Pd multilayer electrodes. *K. Mizunuma*[1], S. Ikeda[1,2], M. Yamanouchi[2], H. Yamamoto[3], H. Gan[2], K. Miura[3,2], R. Koizumi[1], F. Matsukura[1,2] and H. Ohno[1,2] *1. Laboratory for Nanoelectronics and Spintronics Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 3. Advanced Research Laboratory, Hitachi, LTD., Kokubunji, Tokyo, Japan*

3:42

HB-10. Noise spectroscopy in fully epitaxial Fe/MgO/Fe magnetic tunnel junctions. *F.G. Aliev*[1], D. Herranz[1], A. Gomez-Ibarlucea[1], C. Tiusan[2], F. Bonell[2] and S. Andrieu[2]*1. Dpto. Fisica Materia Condensada, Universidad Autonoma de Madrid, Madrid, Spain; 2. Institut Jean Lamour, Nancy Université, Nancy, France*

3:54

HB-11. Low frequency noise characteristics of sub-micron magnetic tunnel junctions. *B. Zhong*[1], Y. Chen[1,2], S. Garzon[1,3], J. Sun[4], T. Crawford[1] and R. Webb[1]*1. Physics, University of South Carolina, Columbia, SC; 2. Physics, Rutgers University, New Brunswick, NJ; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA; 4. IBM T.J.Watson Research Center, Yorktown Heights, NY*

4:06

HB-12. Voltage dependent exchange coupling in single crystal MgO based magnetic tunnel junction. R. Gangineni[1], P. Zermatten[1], M. Thornton[1], M. Delaye[1], L. Vila[2], G. Gaudin[1], C. Baraduc[1], *A. Schuhl*[1], B. Negulescu[3], A. Duluard[3], C. Tiusan[3], C. Bellouard[3], M. Hehn[3] and S. Andrieu[3]*1. SPINTEC, CEA/CNRS/UJF, Grenoble, France; 2. INAC/NM, CEA, Grenoble, France; 3. Physique des Materiaux, Institute Jean Lamour, Vandoeuvre les Nancy, France*

4:18

HB-13. Current Polarity Dependent Heating Asymmetry in Magnetic Tunnel Junctions. *E. Gapihan*[1,2], H. Jérémy[1], R.C. Sousa[1], Y. Dahmane[1], I.L. Prejbeanu[2], C. Ducruet[2], C. Portemont[2], K. Mackay[2], J. Nozières[2] and B. Dieny[1]*1. Spintec (UMR 8191 CEA/CNRS/UJF), Grenoble, France; 2. Crocus Technology, Grenoble, France*

THURSDAY AFTERNOON
1:30

CENTENNIAL III

Session HC
MAGNETIC RANDOM ACCESS MEMORY
Pedram Khalili, Chair

1:30

HC-01. Reduction of switching current by spin transfer effect in perpendicular magnetic anisotropy magnetoresistive devices. ***(Invited)*** *R. Sbiaa*[1], S. Lua[1], R. Law[1], H. Meng[1], L. Ribin[1] and H. Tan[1]*1. Data Storage Institute, A*STAR (Agency for Science Technology and Research), Singapore, Singapore*

2:06

HC-02. High tunnel magnetoresistance, low current switching and high thermal stability in 40-nm-diameter CoFeB/MgO-based magnetic tunnel junctions with perpendicular anisotropy. *K. Miura*[1,3], S. Ikeda[1,2], M. Yamanouchi[1], H. Yamamoto[3], K. Mizunuma[2], H. Gan[1], J. Hayakawa[3], R. Koizumi[2], M. Endo[2], S. Kanai[2], F. Matsukura[1,2] and H. Ohno[1,2]*1. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan*

2:18

HC-03. 100ps precessional spin-transfer switching of in-plane magnetized MRAM cell with perpendicular polarizer. C. Papusoi[1], S. Bandiera[1], M.M. Marins de Castro[1], Y. Dahmane[1], U. Ebels[1], S. Auffret[1], L. Buda-Prejbeanu[1], A. Vaysset[1], R. Sousa[1] and *B. Dieny*[1]*1. SPINTEC UMR CEA/CNRS/UJF/G-INP, CEA/Grenoble, INAC, Grenoble, France*

2:30

HC-04. Perpendicular magnetic anisotropy in magnetically annealed CoFeB. *J.J. Sapan*[1,3], K. Lee[4], J.J. Kan[2,3], E.E. Fullerton[1,3] and S.H. Kang[4]*1. Department of Electrical and Computer Engineering, University of California at San Diego, La Jolla, CA; 2. Department of Physics, University of California at San Diego, La Jolla, CA; 3. Center for Magnetic Recording Research, University of California at San Diego, La Jolla, CA; 4. Advanced Technology, Qualcomm Incorporated, San Diego, CA*

2:42

HC-05. High Speed Spin Torque Memory with Combined Perpendicular and In-Plane Polarizers. *G. Rowlands*[1], T. Rahman[4], J. Katine[5], A. Lyle[4], H. Zhao[4], J.G. Alzate[2], A. Kovalev[3], Y. Tserkovnyak[3], Z. Zeng[3], H. Jiang[3], K. Galatsis[2], P. Khalili Amiri[2], K.L. Wang[2], J. Wang[4] and I. Krivorotov[1] *1. Physics and Astronomy, University of California, Irvine, Irvine, CA; 2. Electrical Engineering, University of California, Los Angeles, Los Angeles, CA; 3. Physics and Astronomy, University of California, Los Angeles, Los Angeles, CA; 4. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 5. Hitachi Global Storage Technologies, San Jose, CA*

2:54

HC-06. Scaling Study of Spin-Torque Switching and Energy Barriers in Integrated ST-MRAM Arrays. *N. Rizzo*[1], F.B. Mancoff[l], R. Whig[1], J.J. Sun[1], K. Smith[1], K. Nagel[1], D. Houssameddine[1] and J.M. Slaughter[1] *1. Everspin Technologies, Chandler, AZ*

3:06

HC-07. MTJ-based Orthogonal Spin Transfer MRAM. *D. Backes*[1], D. Bedau[1], H. Liu[1], J. Langer[2] and A.D. Kent[1] *1. Department of Physics, New York University, New York, NY; 2. Singulus Technologies AG, Kahl am Main, Germany*

3:18

HC-08. Low Writing Energy and Sub Nano-Second Spin Torque Transfer Switching of in-plane Magnetic Tunnel Junction for STT-RAM. *H. Zhao*[1], Y. Zhang[1], P.K. Amiri[2], G. Rowlands[3], Z. Zeng[4], J. Katine[5], H. Jiang[4], K. Galatsis[2], K.L. Wang[2], I.N. Krivorotov[3] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Department of Electrical Engineering, University of California, Los Angeles, Los Angeles, CA; 3. Department of Physics and Astronomy, University of California, Irvine, Irvine, CA; 4. Department of Physics and Astronomy, University of California, Los Angeles, Los Angeles, CA; 5. Hitachi Global Storage Technologies, San Jose, CA*

3:30

HC-09. Switching Error Rates for Perpendicular Spin Torque Device. *W. Butler*[1], T. Mewes[1], C. Mewes[1], P.B. Visscher[1], S. Russeck[2], R. Heindl[2] and W. Rippard[2] *1. MINT Center, University of Alabama, Tuscaloosa, AL; 2. National Institute of Standards and Technology, Boulder, CO*

3:42

HC-10. Drift of probability of spin-torque switching in MgO-MTJs. *A. Fukushima*[1], T. Seki[1], K. Yakushiji[1], H. Kubota[1], S. Yuasa[1] and K. Ando[1] *1. Spintronics Research Center, AIST, Tsukuba, Ibaraki, Japan*

3:54

HC-11. Development of a Methanol Based Reactive Ion Etching Process for High Density Spin Transfer Torque RAM Devices. *M.T. Moneck*[1] and J. Zhu[1] *1. Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

4:06

HC-12. Thermal stability and switching distributions in STT-RAM. *S.M. Watts*[1], R. Kawakami[1], D. Apalkov[1], E. Chen[1], A. Driskill-Smith[1] and V. Nikitin[1] *1. Grandis, Inc., Milpitas, CA*

4:18

HC-13. Variation-aware Device Modeling and Design for Embedded STT-MRAM Array. *X. Zhu*[1] and S. Kang[1] *1. Qualcomm Incorporation, San Diego, CA*

THURSDAY AFTERNOON 1:30 — CENTENNIAL IV

Session HD
MULTI-LAYERED FILMS AND SUPERLATTICES II

Rafael Morales, Chair

1:30

HD-01. Optimization of Co/Pt Multilayers for Spin-Transfer-Driven Domain Wall Motion. *S. Emori*[1], S.H. Salinas[1] and G.S. Beach[1] *1. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA*

1:42

HD-02. Observation of Perpendicular Magnetic Anisotropy in Ultrathin Co/CoO Multilayer. *L.Y. Zhu*[1], D. Elbert[2] and C.L. Chien[1] *1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD; 2. Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, MD*

1:54

HD-03. Magnetization reversal and "forced" exchange-bias of exchange-coupled ferromagnetic bilayers with competing in-/out-of-plane anisotropies. *D. Navas*[1,2], J. Torrejon[3], F. Béron[3], C. Redondo[2], B. Sierra[2], F. Castano[2], K.R. Pirota[3] and C.A. Ross[1] *1. Materials Science and Engineering Department, MIT, Cambridge, MA; 2. Quimica-Fisica, Universidad del Pais Vasco (UPV), Leioa, Pais Vasco, Spain; 3. Instituto de Fisica Gleb Wataghin, Universidade Estadual Campinas, Campinas, Sao Paulo, Brazil*

2:06

HD-04. TEM Studies on RTA treated FePt-based Exchange Coupled Composite Media. *J. Lee*[1], D. Makarov[2], C. Brombacher[2], B. Dymerska[1], M. Fuger[1], D. Suess[1], M. Albrecht[2] and J. Fidler[1] *1. Institute of Solid State Physics, Vienna Univ. of Tech., Vienna, Austria; 2. Institute of Physics, Chemnitz University of Technology, Chemnitz, Germany*

2:18

HD-05. Properties of epitaxially grown, compositionally modulated L10 FePt45Rh5/FePt25Rh25 multilayers. *H. Lee*[1], H. Sato[1], J. Yu[1], P.R. LeClair[1], G.J. Mankey[1], H. Ambaye[2] and V. Lauter[2] *1. Physics, MINT, The University of Alabama, Tuscaloosa, AL; 2. Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, TN*

2:30

HD-06. Temperature dependent interlayer coupling in Co/Ni perpendicular spin valves. *S. Mohseni*[1], R.K. Dumas[2], S.R. Sani[1], J. Persson[1] and J. Åkerman[1,2] *1. Department of Microelectronics and Applied Physics, Royal Institute of Technology (KTH), Stockholm, Sweden; 2. Department of Physics, University of Gothenburg, Gothenburg, Sweden*

2:42

HD-07. Electron states, magnetic moments and magnetic anisotropy in Ni/Co(111) multilayers and overlayers. *F. Gimbert*[1] and L. Calmels[1] *1. CEMES, Toulouse, France*

2:54

HD-08. Topological coupling in Ni/FeF_2/NiFe trilayers. *R. Morales*[1,2], M. Brown[3], J. Fitzgerald[3], I.V. Roshchin[4], J.M. Alameda[5] and I.K. Schuller[3] *1. Chemical-Physics Department, University of Basque Country, Leioa, Vizcaya, Spain; 2. IKERBASQUE, Basque Foundation for Science, Bilbao, Vizcaya, Spain; 3. Physics Department, University of California San Diego, La Jolla, CA; 4. Department of Physics and Astronomy, Texas A & M University, College Station, TX; 5. Physics Department, University of Oviedo-CINN, Oviedo, Asturias, Spain*

3:06

HD-09. First-Principle Description of Magnonic Pd_nFe_m Multilayers. *P. Manchanda*[1], P.K. Sahota[1], R. Skomski[2], P.S. Anil Kumar[3] and A. Kashyap[1,2] *1. Condensed Matter Theory Group, LNM Institute of IT, Jaipur, Rajasthan, India; 2. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 3. Department of Physics, Indian Institute of Science, Banglore, India*

3:18

HD-10. First-principles study of magnetic properties in Fe/V, FeCo/V, Co/V and Co/Ru multilayers. *C. Mewes*[1], W.F. Egelhoff[2], T. Mewes[1], W.H. Butler[1], S. Gupta[3] and E. Chen[4] *1. Center for Materials for Information Technology / Department of Physics & Astronomy, University of Alabama, Tuscaloosa, AL; 2. Magnetic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD; 3. Center for Materials for Information Technology / Metallurgical and Materials Engineering, University of Alabama, Tuscaloosa, AL; 4. Grandis Incorporated, Milpitas, CA*

3:30

HD-11. Synthesis and High Frequency Characterization of Co/Pd multilayered nanowire arrays. *S. Pathak*[1], M. Sharma[1], M. Sharma[1] and A. Basu[1] *1. Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi, Delhi, India*

3:42

HD-12. Structural and magnetic properties of La0.7Sr0.3MnO3 thin films integrated onto Si(100) substrates with SrTiO3 as buffer layer. M. Belmeguenai[1], *S. Mercone*[1], C. Adamo[2], P. Moch[1], D. Schlom[2] and P. Monod[3] *1. LPMTM (CNRS-UPR 9001), Université Paris 13, Villetaneuse, France; 2. Department of Materials Science and Engineering, Cornell University, Ithaca, New York, NY; 3. LPEM, UPR A0005 CNRS, ESPCI, Paris, France*

3:54

HD-13. Field sensitivity of ellipsoidal magnetoresistive sensors. *M.T. Bryan*[1], M.A. Bashir[1], J.S. Claydon[2], G. Burnell[2], C.H. Marrows[2], T. Schrefl[3] and D.A. Allwood[1] *1. Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 3. St. Poelten University of Applied Sciences, St. Poelten, Austria*

4:06

HD-14. Persistent interlayer coupling by an antiferromagnetic spacer above its Néel temperature (a Monte Carlo study). S. Park[1], C. Carlsen[1], G. Schneider[1] and *T.M. Giebultowicz*[1] *1. Physics, Oregon State University, Corvallis, OR*

4:18

HD-15. Structural and magnetic properties of $TbFe_2/Fe_3Ga$ heterostructures grown by sputtering. *R. Ranchal*[1], V. González-Martín[1], C. Aroca[2] and E. López[1] *1. Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. ISOM & Dpto. Física Aplicada, E. T. S. I. Telecomunicación, Universidad Politécnica de Madrid, Madrid, Spain*

THURSDAY AFTERNOON
1:30

REGENCY V

Session HE
MICROWAVE FERRITES, GARNETS, AND APPLICATIONS

Yang-ki Hong, Chair

1:30

HE-01. Self-biased microstrip junction circulator at Ku band. *J. Wang*[1], A. Yang[2], Y. Chen[2], Z. Chen[2], A.L. Geiler[2], S.M. Gillette[1], V.G. Harris[1,2] and C. Vittoria[1,2] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Center for microwave Magnetic Materials and Integrated Circuites, Northeastern University, Boston, MA*

1:42

HE-02. Broadband GHz Co_2Z hexaferrite ($Ba_3Co_2Fe_{24}O_{41}$)-glass composite Bluetooth antenna. *J. Lee*[1], Y. Hong[1], S. Bae[1], J. Jalli[1], G.S. Abo[1], J. Park[1], W. Seong[2], S. Park[2], W. Ahn[2], G. Kim[2], F. Yang[3] and A. Yu[3] *1. Department of Electrical and Computer Engineering and MINT Center, The University of Alabama, Tuscaloosa, AL; 2. Research and Development Center, E.M.W.Co., Ltd, Seoul, Korea, Republic of; 3. Electrical Engineering Department, The University of Mississippi, University, MS*

1:54

HE-03. Hexagonal barium ferrite thin film-based millimeter wave phase shifters. *Z. Wang*[1], Y. Song[1], Y. Sun[1], J. Bevivino[1], M. Wu[1], V. Veerakumar[2], T.J. Fal[2] and R.E. Camley[2] *1. Department of Physics, Colorado State University, Fort Collins, CO; 2. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO*

2:06

HE-04. Embedded Ferrite Magnetics for Transformer, Inductor, and Choke Applications. *M.P. McGrath*[1], S. Dalmia[1], L. Harrison[1], A. Pham[1], K. Nguyen[1] and H. Li[1] *1. Planarmag Inc., W. Sacramento, CA*

2:18

HE-05. M and Y-type Hexaferrite Characterization for Phase Shifter Applications. *A. Wise*[1], J. Rocks[1], M.E. McHenry[1], D.E. Laughlin[1], S. Yoon[2], C. Vittoria[2] and V.G. Harris[2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Center for Microwave Magnetics Materials and Integrated Circuits and Department of Electrical and Computer Engineering, Northeastern University, Boston, MA*

2:30

HE-06. Low loss Co_2Z ($Ba_3Co_2Fe_{24}O_{41}$)-glass composite for gigahertz antenna application. *J. Lee*[1], Y. Hong[1], S. Bae[1], J. Jalli[1], G.S. Abo[1], J. Park[1], W. Seong[2], S. Park[2], W. Ahn[2], R. Syslo[1] and N. Neveu[1] *1. Department of Electrical and Computer Engineering and MINT Center, The University of Alabama, Tuscaloosa, AL; 2. Research and Development Center, E.M.W. Co., Ltd., Seoul, Korea, Republic of*

2:42

HE-07. In-plane c-axis oriented barium ferrite films with both low loss and high remanent magnetization. *Y. Song*[1], Y. Sun[1] and M. Wu[1] *1. Department of Physics, Colrorado State University, Fort Collins, CO*

2:54

HE-08. Spin-spray Deposited NiZn-Ferrite Films Exhibiting μ_r'>50 at GHz Range. *O.I. Obi*[1], M. Liu[1], J. Lou[1], S. Stoute[1], X. Xing[1], J. Warzywoda[2], A. Sacco, Jr[2] and N.X. Sun[1] *1. Electrical and Comp. Engineering, Northeastern University, Boston, MA; 2. Chemical Engineering, Northeastern University, Boston, MA*

3:06

HE-09. Soft magnetic SrFe7Sn2.5Zn2.5O19 hexaferrite for GHz antenna applications. *S. Bae*[1], Y. Hong[1], J. Lee[1], J. Park[1], J. Jalli[1], G.S. Abo[1], W. Seong[2], S. Park[2] and W. Ahn[2] *1. Department of Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 2. R & D Center, EMW, Seoul, Korea, Republic of*

3:18

HE-10. Interface phase stability of MBE grown BaFe12O19 films on SiC. *V.K. Lazarov*[1,2], P.J. Hasnip[2], Z. Cai[3], K. Yoshida[1] and K.S. Ziemer[3] *1. York JEOL Nanoscience Centre, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom; 3. Chemical Engineering Department, Northeastern University, Boston, MA*

3:30

HE-11. Epitaxial Growth of Thick Y-type Hexaferrite Films via Liquid Phase Epitaxy Seeded by Nanoparticles. *Z. Chen*[1], A. Daigle[1], A. Yang[1], C. Vittoria[1] and V. Harris[1] *1. Center for Microwave Magnetics Materials and Integrated Circuits and Department of Electrical and Computer Engineering, Northeastern University, Boston, MA*

3:42

HE-12. Magnetic and microwave absorption properties of W-type Ba(ZnxCo1-x)2Fe16O27 hexaferrite platelets. *Z. Zi*[1,3], J. Dai[1,2], Q. Liu[1], H. Liu[1], X. Zhu[2] and Y. Sun[2] *1. School of Physics and Electronic Information, Huaibei Normal University, Huaibei, Anhui, China; 2. Key Laboratory of Materials Physics, Institute of Solid State of Physics, Hefei, Anhui, China; 3. Department of Physics and Electronic Engineering, Hefei Normal University, Hefei, Anhui, China*

3:54

HE-13. Tuning the structure and magnetic properties of single phase nanocrystalline Dysprosium-iron garnet (DyIG). *M. Guillot*[1], C. Chinnasamy[2], J. Grenèche[3] and V. Harris[4] *1. CNRS, Grenoble, France; 2. Electron Energy Corporation,, Landisville PA 17538, PA; 3. Université du Maine, CNRS, Laboratoire Physique Etat Condensé, UMR 6087,, Le Mans, France; 4. Center for Microwave Magnet Materials & Integrated Circuits, Boston, MA*

4:06

HE-14. Microwave PSK encoder based on shock excitation of magnetization precession in a yttrium iron garnet film. *C.L. Ordóñez-Romero*[1], O. Kolokoltsev[2], N. Qureshi[2], O. Cortes-Pérez[2], G. López-Maldonado[2] and M. Avendaño-Alejo[2] *1. Solid State, Instituto de Física, Universidad Nacional Autónoma de México., Mexico City, Mexico; 2. CCADET, Universidad Nacional Autónoma de México, Mexico City, Mexico*

4:18

HE-15. Epitaxial Growth of Thick $NiFe_2O_4$, $LiFe_5O_8$ and $BaTiO_3$ Films using Chemical Vapor Deposition for Microwave Device Applications. *Y.A. Wang*[1,2], N. Li[1], T.M. Klein[1] and A. Gupta[1,2] *1. MINT Center, University of Alabama, Tuscaloosa, AL; 2. Chemistry, University of Alabama, Tuscaloosa, AL*

THURSDAY AFTERNOON 1:30 — REGENCY VI

Session HF
STRUCTURE AND PROPERTIES OF HARD MAGNETIC MATERIALS

Matthew Kramer, Chair

1:30

HF-01. The influence of excess Nd on the microstructure and magnetic properties of high-performance NdFeB permanent magnet thick films. *D.T. O'Brien*[1], Y. Zhang[1], D. Givord[1] and N.M. Dempsey[1] *1. Institut Néel - CNRS, Grenoble, France*

1:42

HF-02. Characterization and minimization of stresses in NdFeB films destined for MEMS application. *Y. Zhang*[1], D.T. O'Brien[1], D. Givord[1], N.M. Dempsey[1], D. Ettelt[2], C. Coutier[2] and P. Rey[2] *1. Institut Néel - CNRS, Grenoble, France; 2. DIHS, CEA-LETI, Grenoble, France*

1:54

HF-03. Microstructural evolution of triple junction and grain boundary phases of Nd-Fe-B sintered magnet by post-sintering annealing step. *T. Kim*[1], S. Lee[1], D. Kim[2] and T. Jang[3] *1. Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Korea Institute of Materials Science, Changwon, Korea, Republic of; 3. Hybrid Engineering, Sunmoon University, Asan, Korea, Republic of*

2:06

HF-04. First principles study on the crystal field parameters for Dy-doped Nd-Fe-B magnets. *S. Tanaka*[1], H. Moriya[2], H. Tsuchiura[1], A. Sakuma[1], M. Divis[3] and P. Novak[4] *1. Applied Physics, Tohoku University, Sendai, Japan; 2. Mechanical Engineering Research Laboratory, Hitachi Ltd., Ibaraki, Ibaraki, Japan; 3. Condensed Matter, Charles University, Prague, Czech Republic; 4. Institute of Physics of ASCR, Prague, Prague, Czech Republic*

2:18

HF-05. Demagnetizing effects in granular hard magnetic bodies. C. Navau[1], *D. Chen*[2,1], A. Sanchez[1] and N. Del-Valle[1] *1. Universitat Autonoma de Barcelona, Barcelona, Spain; 2. ICREA, Barcelona, Spain*

2:30

HF-06. Optimizing magntic properties in sintered MRE-Fe-B magnets (MRE=Nd+La+Dy). *W. Tang*[1], Y. Wu[1], K.W. Dennis[1], N.T. Oster[1], M.J. Kramer[1], I.E. Anderson[1] and B.W. McCallum[1] *1. Ames Lab of DOE, Ames, IA*

2:42

HF-07. Magnetic properties of $(Sm,Y)_5Fe_{17}$ melt-spun ribbons. *T. Saito*[1] and D. Hamane[2] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan*

2:54

HF-08. Magnetization and high temperature $(BH)_{max}$ of ferromagnetic low temperature phase MnBi. *J. Park*[1], Y. Hong[1], S. Bae[1], J. Lee[1], G.S. Abo[1], J. Jalli[1], C. Choi[2], J. Lee[2], S. Kim[3], O.N. Mryasov[4], B. Choi[5], S.C. Erwin[6], R. Syslo[1] and N. Neveu[1] *1. Department of Electrical and Computer Engineering and MINT Center, The University of Alabama, Tuscaloosa, AL; 2. Korea Institute of Materials Science, Changwon, Kyung-Nam, Korea, Republic of; 3. Department of Physics and Astronomy, Mississippi State University, Mississippi State, MS; 4. Department of Physics & Astronomy and MINT Center, The University of Alabama, Tuscaloosa, AL; 5. Department of Physics and Astronomy, University of Victoria, Victoria, BC, Canada; 6. Center for Computational Materials Science, Naval Research Laboratory, Washington, DC*

3:06

HF-09. Structural and magnetic properties of rapidly quenched $(Sm,Zr)(Fe,Co)_ZB_X$ (X= 0-1, Z= 9-11). *Y. Horiuchi*[1] and S. Sakurada[1] *1. R&D Center, Toshiba Corporation, Kawasaki, Japan*

3:18

HF-10. Hard-magnetic properties of Fe_3Se_4 powder. *D. Li*[1], W.J. Ren[1], W. Liu[1], M. Tong[1] and Z.D. Zhang[1] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, and International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*

3:30

HF-11. Fe-Rich Layered Permanent-Magnet Structures. *A. Kashyap*[1,2], R. Skomski[2], P. Manchanda[1], J.E. Shield[3] and D.J. Sellmyer[2] *1. Condensed Matter Theory Group, LNM Institute of IT, Jaipur, Rajasthan, India; 2. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 3. Department of Mechanical Engineering and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE*

3:42

HF-12. Anisotropy of Heavy-Transition Metal Dopants in Co. *V. Sharma*[1], P. Manchanda[1], R. Skomski[2], A. Kashyap[1,2] and D.J. Sellmyer[2] *1. Condensed Matter Theory Group, LNM Institute of IT, Jaipur, Rajasthan, India; 2. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE*

3:54

HF-13. On the magnetization reversal of the oxide based exchange spring magnets. D. Roy[1], C. Shivakumara[2] and *P. Kumar[1] 1. Department of Physics, Indian Institute of Science, Bangalore, Karnataka, India; 2. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, Karnataka, India*

4:06

HF-14. Coherent and incoherent nucleation fields as well as nucleation modes for composite magnetic material with perpendicular anisotropy. *G. Zhao[1,3]*, N. Bo[1] and H. Zhang[2] *1. College of Physics and Electronic Engineering, Sichuan Normal University, Chengdu, Sichuan, China; 2. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 3. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiangsu, China*

4:18

HF-15. Magnetization reversal mechanism of Nd-Fe-B films with perpendicular magnetic anisotropy. *X. Liu*[1], G. Ishida[1] and A. Morisako[1] *1. Shinshu University, Nagano, Nagano, Japan*

THURSDAY AFTERNOON 1:30

REGENCY VII

Session HG
MAGNETIC NANOPARTICLE SYNTHESIS II
Miguel Garcia, Chair

1:30

HG-01. Magnetic nanoparticles with bulk-like properties. ***(Invited)*** *X. Batlle*[1], N. Pérez[1], P. Guardia[1], O. Iglesias[1], A. Labarta[1], F. Bartolomé[2], L.M. García[2], J. Bartolomé[2], A.G. Roca[3], M.P. Morales[3] and C.J. Serna[3] *1. Dept. Fundamental Physics and Institute of Nanoscience and Nanotechnology (IN2UB), University of Barcelona, Barcelona, Spain; 2. ICMA-CSIC/Univ. Zaragoza, Zaragoza, Spain; 3. ICMM-CSIC, Madrid, Spain*

2:06

HG-02. Synthesis of Manganese Ferrite Nanocubes as Contrast Agents for Magnetic Resonance Imaging (MRI). *Y. Xu*[1], S. Palchoudhury[1], Y. Qin[2] and Y. Bao[1] *1. Chemical and Biological Engineering, University of Alabama, Tuscaloosa, AL; 2. Alabama Institute for Manufacturing Excellence, Tuscaloosa, AL*

2:18

HG-03. Synthesis of Multiple Platinum Attached Iron Oxide Nanoparticles. *S. Palchoudhury*[1], Y. Xu[1] and Y. Bao[1] *1. Chemical and Biological Engineering, The University of Alabama, Tuscaloosa, AL*

2:30

HG-04. Morphological and Magnetic Characterizations of Fe, Co and FeCo Nano-plates and Nanoparticles Prepared by Surfactants-Assisted Ball Milling. *N. Poudyal*[1], C. Rong[1] and J. Liu[1] *1. University of Texas at Arlington, Arlington, TX*

2:42

HG-05. Synthesis and characterization of air-stable Fe/Au nanoparticles. S.N. Ahmad[1], *S.A. Shaheen*[1] and G. Strouse[2] *1. Physics, Florida State University, Tallahassee, FL; 2. Chemistry, Florida State University, Tallahassee, FL*

2:54

HG-06. Magnetic properties of Au_{core}-Co_{shell} nanoparticles. *T. Wen*[1] and K.M. Krishnan[1] *1. Department of Materials Science and Engineering, University of Washington, Seattle, WA*

3:06

HG-07. Collective magnetic behavior of α-Fe nanoparticles with systematically controlled volume fraction. *T. Ogawa*[1], H. Kura[1] and M. Takahashi[1] *1. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

3:18

HG-08. Temperature and size dependence of magnetic and electron magnetic resonance parameters of Fe nanoparticles embedded in amorphous SiO_2 matrix. *V. Singh*[1], M. Seehra[1], F. Huggins[2], N. Shah[2] and G.P. Huffman[2] *1. Physics, West Virginia University, Morgantown, WV; 2. Chemical and Materials, University of Kentucky, Lexington, KY*

3:30

HG-09. Electron Magnetic Resonance Line Shape of Bio-Mimetic Magnetic Nanoparticles. *R.J. Usselman*[1] and S.E. Russek[1] *1. National Institute of Standards and Technology, Boulder, CO*

THURSDAY AFTERNOON 1:30 LEARNING CENTER

Session HH
ORDERED ALLOYS II
Katayun Barmak, Chair

1:30

HH-01. Observation of the interfacial ferromagnetic state of epitaxially grown ordered FeRh thin films. *R. Fan*[1], C.J. Kinane[1], T.R. Charlton[1], S. Langridge[1], R. Dorner[2], M. Ali[2], M.A. de Vries[2], C.H. Marrows[2], D.A. Arena[3], B.K. Tanner[4] and G. Nisbet[5] *1. ISIS, STFC, Didcot, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 3. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY; 4. Department of Physics, Durham University, Durham, United Kingdom; 5. Diamond Light Source Ltd, Harwell Science and Innovation Campus, Didcot, United Kingdom*

1:42

HH-02. Structural characterization of $L1_0$-orderd FeNi films grown on Au-Cu-Ni ternary alloy layers. *T. Kojima*[1], M. Mizuguchi[1], T. Koganezawa[2], K. Osaka[2], M. Kotsugi[2] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. JASRI/SPring-8, Hyogo, Japan*

1:54

HH-03. Interpretation of Ferromagnetic Signal in FeRh Thin Films. *H. Lee*[1], S. Jang[2,3], S. Hyun[3], H. Lee[3], J. Lee[4], Y. Kim[4] and S. Kwon[2] *1. Advanced Materials Lab, Central R&D Institute, Samsung Electro-Mechanics, Suwon, Korea, Republic of; 2. Materials Science and Engineering, Pohang University of Science and Technology, Pohang, Korea, Republic of; 3. Division of Nano-Mechanical Systems Research, Korea Institute of Machinery and Materials, Daejeon, Korea, Republic of; 4. Materials Science and Engineering, Korea University, Seoul, Korea, Republic of*

2:06

HH-04. Anisotropy Measurements of FePt Thin Films. *H. Richter*[1], O. Hellwig[1], S. Florez[1], C. Brombacher[2], M. Albrecht[2] and B.T. Terris[1] *1. Research, Hitachi Global Storage Technologies, San Jose, CA; 2. Institute of Physics, Chemnitz University of Technology, Chemnitz, Germany*

2:18

HH-05. Nanostructured MnGa Films with Record High Room Temperature Coercivity. *C. Zha*[1,2], R.K. Dumas[3], J.W. Lau[4], S. Mohseni[2], S. Sani[2], . Monsen[1], J. Nogués[5] and J. Åkerman[2,3] *1. Department of Physics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; 2. Department of Microelectronics and Applied Physics, Royal Institute of Technology (KTH), Stockholm, Sweden; 3. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 4. Metallurgy Division, National Institute of Standards and Technology, Gaithersburg, MD; 5. Institució Catalana de Recerca i Estudis Avançats (ICREA) and Centre d'Investigació en Nanociència i Nanotecnologia (ICN-CSIC), Campus Universitat Autònoma de Barcelona, Bellaterra, Spain*

2:30

HH-06. Coalescence-free L10 ordering of embedded CoPt nanoparticles. *F. Tournus*[1], N. Blanc[1], A. Tamion[1] and V. Dupuis[1] *1. LPMCN, CNRS & Univ. Lyon 1, Villeurbanne, France*

2:42

HH-07. Structure and magnetic properties of FePd-alloy epitaxial thin films grown on MgO single-crystal substrates with different orientations. *O. Yabuhara*[1], M. Ohtake[1], K. Tobari[1], F. Kirino[2] and M. Futamoto[1] *1. 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*

2:54

HH-08. Highly chemical ordered $L1_1$ CoPt (111) films with perpendicular anisotropy grown on glass substrates. *Y. Yang*[1], J. Chen[1] and G. Chow[1] *1. National University of Singapore, Singapore, Singapore*

3:06

HH-09. Dot arrays of $L1_0$ type FePt ordered alloy perpendicular films fabricated by low-temperature sputter film deposition. *T. Shimatsu*[1], Y. Inaba[2], H. Kataoka[1,2], J. Sayama[3], H. Aoi[1], O. Kitakami[4] and S. Okamoto[4] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Fuji Electric Holdings Co., Ltd., Matsumoto, Nagano, Japan; 3. Central Research Laboratory, Hitachi, Ltd., Kanagawa, Japan; 4. IMRAM, Tohoku University, Sendai, Miyagi, Japan*

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HH-10. Fabrication of $L1_0$-ordered FePt granular media by using in-line sputtering system. I. Takekuma[1], J. Sayama[1], K. Nakamura[1], *H. Nemoto*[1] and K. Tanahashi[1] *1. Central Research Lab., Hitachi, Ltd., Odawara, Kanagawa, Japan*

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*Indicates student finalist