General Information

SCOPE OF THE CONFERENCE

The 10th Joint MMM/Intermag Conference is sponsored jointly by the American Institute of Physics (PCI) 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 participants to meet their colleagues and discuss new, advanced and controversial developments.

BALTIMORE, MARYLAND

There's no better place to get acquainted with America-its historic past and exciting future-than in Baltimore. Baltimore offers a world of unique attractions, entertainment, fine dining, and one-of-a-kind experiences. Get your feet wet at the National Aquarium in Baltimore. Marvel at the American Visionary Arts Museum. Explore the city's amazing maritime heritage of tall ships and workboats as you stroll through the Inner Harbor, which is one of the top destinations in the City of Baltimore. It has been one of the major seaports in the United States since the 1700s, and started blossoming into the cultural center of the City in the1970s. Today you'll find a wide array of things to do - all within walking distance. For more information on what to see and do in Baltimore, please visit the Convention Bureau website at www.baltimore.org.

VISA REQUIREMENTS

Citizens of other countries must carry a valid passport and visa to enter the USA. Foreign participants should contact the United States Embassy, Consulate, or Office of Tourism in their home country AS SOON AS POSSIBLE to determine their particular visa requirements. **Participants requiring visas must initiate the application process many months in advance of their departure date**. If you need a personal letter of invitation to attend the Conference, contact 2007 Joint MMM/Intermag Conference, c/o Courtesy Associates, 2025 M Street, NW, Suite 800, Washington, DC, 20036; E-mail: 2007Joint@courtesyassoc.com; Fax: 202-973-8722. **Be sure to provide your complete mailing address so that a signed letter of invitation can then be mailed to you via standard mail service** since only an original copy (not faxed or e-mail version) will be accepted with your visa application. To determine if your passport is in order, and whether or not you require a visa, you must check locally with your country's embassy or consulate.

NOTE: **The Conference CANNOT contact or intervene with any U.S. Embassy or Consulate office abroad on your behalf.**

TRANSPORTATION

Baltimore-Washington International – BWI * 1-410-859-7111 * Hotel Direction: 12 miles Southeast * Driving Directions: From Baltimore-Washington International Airport: Take Baltimore/Washington Parkway North, 8 miles to Pratt Street, turn right. Proceed to President Street and turn right. Get into the right-hand lane and proceed straight. At stop sign, go straight. Hotel will be on your right.

• Estimated taxi fare: $23 USD (one way)

Washington, DC/National/ Reagan Airport – DCA

• 1-703-572-2700

• Hotel Direction: 45 miles North

• Driving Directions: From Reagan National Airport, Washington DC: Take George-Washington Parkway North to I-495 and proceed North to I-95 North. Follow I 95 North to I 395 to Pratt Street, turn right. Proceed on Pratt Street to President's Street. Turn right onto President's Street. Turn right onto Aliceanna. The hotel is on the right.

• Estimated taxi fare: $100 USD (one way)

Washington, DC/Dulles – IAD

• 1-703-417-8000

• Hotel Direction: 52 miles Northeast

• Driving Directions: From Washington Dulles International Airport: Take the Dulles Toll Road East to I-495 North. Proceed on I-495 North to I 95 North. Follow I 95 North to I 395 Downtown Baltimore to Pratt Street, turn right. Proceed on Pratt Street to President's Street, turn right onto President's Street. Turn right onto Aliceanna. The hotel is on the right.

• Estimated taxi fare: $125 USD (one way)

Airport shuttle service is a less expensive alternative to a taxi . One company is Supershuttle 1-800-BLUE VAN (258-3826). Call or check the website (www.supershuttle.com) for more information.

HOTEL

The Baltimore Marriott Waterfront is located at the center of the city's dining, shopping and sightseeing district, overlooking Baltimore's Inner Harbor. All guestrooms offer a water view. The special hotel room rates for 2007 Joint Conference attendees will be $143/single or double plus applicable taxes. In addition there are a limited number of government-rated rooms available for which a government I.D. must be presented upon check-in. However, should the Federal government per diem rate go up for 2007, you may find that the conference rate is lower.

The Hotel Room Reservation Form and a direct link to the Marriott's reservation system can be found on the 2007 Joint Conference homepage at www.magnetism.org. 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. You may book your room by going directly to the Baltimore Marriott Waterfront reservations web site link at: www.marriott.com/bwiwf. Please enter your desired reservation dates, then type in **magmaga** in the GROUP CODE box and click the FIND button. This will ensure that you receive the special 2007 Joint Conference group rates. If you choose to make your reservation by telephone (1-410-385-3000) or by fax (1-410-895-1900) be sure to mention this group code as well.

The hotel can serve all special needs, so please make your requests when you reserve your room. **You will receive confirmation of your hotel reservation by email** as long as you enter your correct email address on the reservation form**.** If you do not receive your confirmation within two weeks, please call the hotel to confirm your reservation, and ask for your confirmation number so that you can carry it with you when you come. Each Conference participant is responsible for making his/her own hotel reservation and for paying all personal bills upon checkout.

HELP KEEP YOUR CONFERENCE FEES DOWN: Costs for the Joint Conference meeting space are minimized by meeting pre-established targets for room occupancy at the Joint 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 Marriott Hotel for the 2007 Joint MMM/Intermag Conference **before the cutoff date of Monday, December 11th**.

Your hotel room reservation must be received by the Baltimore Marriott Waterfront no later than Monday, December 11th , in order for you to receive the special Joint Conference rates.

CONFERENCE REGISTRATION

You can register **in advance at a reduced rate** prior to Monday, December 11, 2006. You are encouraged to register via the secure web site, or you may also register by completely filling out the Advance Registration Form on the web site: **http://www.magnetism.org/.** Payment in **U.S. dollars** must be made by personal or corporate check (**drawn on a U.S. bank only**), or by MasterCard, Visa or American Express credit card. **Make checks payable to "Joint MMM/Intermag 2007." All 2007 Joint Conference attendees, including speakers, must pay registration fees.**

Onsite registration during the Conference will be at the higher rates listed below. After December 11th, only the higher registration fees will be accepted, and only at the Onsite Registration Desks at the Conference. **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.**

Registration Fees:

	Prior to October 7th	*After October 7th*
Full Registrant **Member**	$598	$678
Full Registrant **Non-Member**	$718	$798
Student/Unemployed Retiree	$298	$338

You are eligible to register at the Member rate **ONLY** if you belong to (at least) one of the Professional Societies which is listed on the web site **http://www.magnetism.org/**. If you are not a member of any of these societies, you must pay the Non-Member registration fee. Proof of Society membership will be checked at the Registration Desk.

Early Bird Registration Date of November 3, 2006: You will receive a printed copy of the Advance Program Book ONLY if you register prior to the Early Bird Deadline of Friday, November 3, 2006. A pdf version of the Advance Program is available online.

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received at YesEvents no later than Monday, December 11, 2006. Refunds of the original payment, less a $75 service fee, will be mailed following the Conference. **Substitutions may be made at any time, including onsite, for a registrant who cannot attend but has paid the registration fee in advance**.

The Conference Registration Desks, located in the Grand Ballroom Foyer on the 3rd Floor of the Baltimore Marriott Waterfront, will be open during the following hours:

Sunday, January 7th	4:00 PM – 8:00 PM
Monday, January 8th	6:30 AM - 4:00 PM
Tuesday, January 9th	7:00 AM – 2:30 PM
Wednesday, January 10th	7:00 AM – 2:30 PM
Thursday, January 11th	7:00 AM – 2:00 PM

CONFERENCE SYMPOSIA

During the Conference, there will be technical symposia on the topics

- Interfaces in Magnetic Tunnel Junctions
- Spin manipulation in semiconductors and metals for spintronics
- Magnetic MEMS technologies
- Driven domain wall dynamics
- Recent advances in modeling of magnetic and spin dependent properties
- Probing the magnetic structure of nanostructured exchange
- Bose-Einstein condensation and quantum magnets

Check the Program for specific times and locations.

SUNDAY EVENING TUTORIAL

On Sunday evening, January 7th, before the start of the technical program, there will be a tutorial session on ''Spin Torque'' in the Harborside Ballroom Salons C-E on the 4th Floor of the hotel. The aim of the tutorial is to provide a broad introduction to the physics of spin torque, geared toward the non- expert. The tutorial begins at 7:00 PM and each talk is 36 minutes long. The speakers are Tom Silva (NIST), Andrei Slavin (Oakland University), and Pieter Visscher (University of Alabama). Their presentations will focus on an introduction to spin torque (Silva), nonlinear microwave dynamics (Slavin), and large angle precession dynamics and visualizations (Visscher). The tutorial will be chaired by Carl Patton (Colorado State University).

IEEE MAGNETICS SOCIETY GENERAL MEETING

This meeting is open to all Joint Conference participants. Please come to learn about the IEEE Magnetics Society. The meeting will be held on Monday, January 8th , at 3:00-3:30 PM, just prior to the Plenary Session and Awards Ceremony. The location will be the Dover Room on the 4th Floor of the hotel.

PLENARY SESSION

Presentation of the IEEE Awards will be done at the Plenary Session on Monday, January 8th at 3:45 PM in the Harborside Ballroom on the 4th Floor of the hotel. The Finalists for the Best Student Presentation Award will also be acknowledged during this session. The keynote speaker is Samuel Bader of Argonne National Laboratory. His talk is titled: ''Opportunities in Nanomagnetism.''

Abstract: Nanomagnetism is the discipline dealing with magnetic phenomena specific to structures having dimensions in the submicron range. This talk addresses the challenges and scientific problems in this emerging area, including its fabrication strategies, and describes experiments that explore new spin-related behaviors in metallic systems as well as efforts to understand the observed phenomena. As a subfield of nanoscience, nanomagnetism shares many of the same basic organizing principles such as geometric confinement, physical proximity, and chemical self-organization. These principles are illustrated by means of examples drawn from the quests for ultrastrong permanent magnets, ultra-high-density magnetic recording media, and nanobiomagnetic sensing strategies. As a final example showing the synergetic relationships to other fields of science, the manipulation of viruses to fabricate magnetic nanoparticles is discussed. This work was supported by Department of Energy, Basic Energy Science under contract W-31-109-ENG-38.

Sam Bader received a B.S. (1967) and Ph.D. (1974) from UC-Berkeley. He then went to Argonne as a post-doc, in 1977 becoming a staff member. Presently he is a Senior Physicist and Group Leader of the Magnetic Films Group and an Associate Division Director of Argonne's Materials Science Division, and Scientific Director of the new Center for Nanoscale Materials He is co-author of 330 publications and appeared in the ISI 1981-97 ″most cited physicists″ listing. He is a Fellow of the AVS and the APS. He received the DOE-BES Award in Solid State Physics for work on coupled magnetic layers in 1992, the University of Chicago Award for Distin-

guished Performance at Argonne in 1994, and the AVS Thornton Award for ''surface and thin film magnetism'' in 2001. He is Editor of the *Journal of Magnetism and Magnetic Materials* and Associate Editor of *Applied Physics Letters*. He was chair of the APS Division of Materials Physics in 2004-2005.

PLENARY RECEPTION

Immediately following the Plenary Session and Awards Ceremony, there will be a Reception for all registered participants. This will be in lieu of the Bierstube on Monday evening, January 8th . The Reception will be held in the Harborside Ballroom Foyer on the 4th Floor of the hotel. All registered participants are invited to attend free of charge.

SPECIAL TUESDAY EVENING SESSION

There will be a special evening Symposium on Tuesday January 9th starting at 7:30 PM in the Harborside Ballroom Salons C-E on the 4th Floor of the hotel. The symposium is titled ''Magnetic Memories, Past and Present,'' and will cover a historical overview of magnetic memories, including bubble memories and MRAMs, intended for a general audience. The speakers for this symposium are William Doyle, Robert Fontana, and Brad Engel, and the session will be chaired by William Gallagher.

WOMEN'S NETWORKING RECEPTION

There will be a Networking Reception for women in the magnetism community on Wednesday January 10th beginning at 5:30 PM in the Kent Room located on the 4th Floor of the hotel. At the reception, there will be the opportunity to form dinner groups in order to get to know one another better. All graduate students, researchers and retirees are encouraged to attend. For questions, contact Patricia Sparks from Harvey Mudd College (sparks@HMC.edu).

BIERSTUBE AND COFFEE

Coffee service will be available on Tuesday through Thursday mornings from 7:00 AM – 9:30 AM in the Grand Ballroom on the 3rd Floor among the Exhibits and Poster Sessions. On Monday morning, when the exhibits are not open, the coffee service will be in the Grand Ballroom Foyer. On Sunday evening the **Bierstube** will be in the Harborside Ballroom Foyer on the 4th Floor from 5:00 PM – 8:00 PM. On Tuesday and Wednesday evenings, the **Bierstube** will be held from 5:00-6:30 PM in the **Exhibitor Pavilion** on the 3rd Floor.

WIRELESS ACCESS

Wireless Access will be available on Monday through Thursday in the Grand Ballroom on the 3rd Floor among the Exhibits and Poster Sessions. The Access Code and hours will be posted on signs in the Grand Ballroom.

PUBLICATIONS ROOM

The Publications Rooms for both the J. Appl. Phys. and the IEEE, where authors can check the status of their manuscripts, will be located in the Atlantic and Bristol Rooms located on the 4th Floor of the hotel. These rooms will be open and staffed as follows:

Monday, January 8th – Wednesday, January 10th	9:00 AM – 5:00 PM
Thursday, January 11th	9:00 AM – 2:00 PM

SPEAKER PRACTICE ROOM

Speakers are reminded that the Joint Conference is planning an all-electronic presentation format. Just prior to making their oral presentation, authors will attach their own laptop computers to digital projection equipment supplied by the Joint Conference. You should come prepared with your presentation in Microsoft PowerPoint format for a PC, or else on a MAC. Please take the time to test your computer with the in-house equipment provided in the Speaker Practice Room well before the day and time of your individual presentation. **Speakers may use either the Iron or James Room, located on the 4th Floor of the hotel, to practice their presentations**. Audiovisual equipment (LCD projector and screen) will be available there for authors to use from 8:00 AM until 5:00 PM on Monday through Thursday. Speakers are urged to use this facility to practice their presentation, either alone or with colleagues.

LCD PROJECTORS

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

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

POSTER SESSIONS

The Poster Sessions will be held in the Grand Ballroom (3rd Floor) on Monday from 8:00 AM–12:00 Noon and on Tuesday through Wednesday from 8:00 AM–12:00 Noon and 1:00 PM–5:00 PM; and on Thursday morning from 8:00 AM until 12:00 Noon. Authors should set up their materials at least half an hour before session start times. They must be by their posters from 8:00–9:00 AM and 11:00 AM-12:00 Noon for the morning sessions, and from 1:00-2:00 PM and 4:00-5:00 PM for the afternoon sessions. The surface area available for posters is 8' long by 4' high. Authors are reminded to remove all of their materials, excluding the push-pins that have been provided by the Conference, promptly at the end of their session. The Conference staff will discard materials that are not removed promptly, in order to prepare for the next session.

EXHIBITS

At the 2007 Joint Conference equipment suppliers, vendors and companies will have a rare opportunity **to interface with over 1300 magnetics researchers**, with wide ranging interests from magnetic recording phenom-

ena to biomagnetism. The 2007 Joint MMM/Intermag Conference will **place your company in direct contact with the scientific, physics and engineering community that needs your products and services** to stay at the forefront of research and technology.

Included in the exhibitor package is the opportunity for a 25-minute presentation in the Exhibitor Theater, multiple company listings onsite, in printed materials and on the Conference website.

The Exhibitor Pavilion

The Exhibitor Pavilion will be located in the Grand Ballroom on Tuesday through Thursday, January 9th-11th. All exhibitors receive an 8'x10' exhibit booth and are entitled to one 25-minute presentation in which to preview their latest products or services in the Exhibitor Theater on the Pavilion floor, as well as multiple listings onsite, in print and on the Conference website. *Please see below for additional corporate exposure opportunities.*

Companies interested in purchasing booth space should contact Roseann Kuryla, Exhibits Coordinator at Courtesy Associates at: e-mail: **2007joint @courtesyassoc.com**; Fax: 202-973-8722. The Exhibitor Prospectus is downloadable from the www.magnetism.org web site, and are also available in print upon request.

CORPORATE PROMOTIONAL OPPORTUNITIES

Companies interested in gaining unique exposure to the 2007 Joint Conference attendees will have the opportunity to promote different areas of the event, ranging from your company logo printed on registration bags and lanyards to hosting an Internet Lounge in the Exhibitor Pavilion. These opportunities are open to all. They will be listed on the 2007 Joint Conference website, and will be on a first-paid-first-served basis.

BEST STUDENT PRESENTATION AWARD

This year, there is a competition for the best student presentation at the Joint Conference to recognize and encourage excellence in graduate studies in the field of magnetism. This award is available to any full time graduate student who is expected to graduate within one year of the Joint Conference. The student's area of research may either be theoretical or experimental in any of the general technical and scientific areas normally presented as part of the Joint Conference. This award consists of a one year fellowship of $1000 for the award winner and a one year fellowship of $250 to each of the remaining finalists. The names of the finalists competing for the award are: Robert Compton, Xiaohua Lou, Ezana Negusse, Rajesh Chopdekar and Thomas Hauet. The presentations, which must be made by the finalist, will be evaluated at the Conference by the Student Award sub-committee and the winner will be announced shortly after the conclusion of Joint Conference.

Best 50th MMM Student Presentation Winner
Clarina dela Cruz
for her presentation:
"Evidence for strong spin-lattice coupling in multiferroic $R\mathrm{Mn}_2\ \mathrm{O}_5$ (*R*=Tb,Dy,Ho) *via thermal expansion anomalies."*
CONGRATULATIONS!

BEST POSTER PRESENTATIONS

There is also a competition for the best poster in each poster session at the Conference. These awards will be given to recognize excellence in research and presentation. There will be one award for each morning and each afternoon session.

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

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

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

Best 50th MMM Conference Poster Presentation Winners

Claudiu Daniel Stanciu, A. Kimel, F. Hansteen, A. Tsukamoto, A. Itoh, A.Kirilyuk, and T.Rasing
IMM, Radboud Univ. Nijmegen; Nijmegen, Netherlands
Temperature dependence of laser induced magnetization dynamics in a GdFeCo film: the role of angular momentum compensation

Matthew Moneck and J. Zhu
Electrical and Computer Eng., Carnegie Mellon Univ. Pittsburgh, PA, USA
Fabrication and testing of deep submicron ring shape vertical MRAM with enhanced magnetoresistance

Sylvia Florez, C. Krafft, and R. D. Gomez
Electrical and Computer Eng., Univ. of Maryland, College Park, MD, USA *Effects of artificial domain wall traps in pulsed-current induced domain wall motion in a spin valve device*

Zhi-pan Li, R. Morales, O. Petracic and I. K. Schuller
Physics Department, UC San Diego, La Jolla, CA, USA
Domain Size Relevance in Exchange Biased Nanostructures

Yosi Bason, L. Klein, C. H. Ahn, X. Hong, and J. T. Yau
Physics, Bar-Ilan Univ., Ramat Gan, Israel; Applied Physics, Yale Univ., New Haven CT, USA
Planar-Hall-Effect MRAM

R. R. Deshmukh, A.J. Moses, and F.J. Anayi
Engineering, Wolfson Centre for Magnetics Technology, Cardiff, Wales, UK
Behaviour of Three-Phase Inducting Motor with Variable in Stator Coil Winding Pitch

CONGRATULATIONS!

FUTURE CONFERENCES

52nd Conference on Magnetism and Magnetic Materials: November 5-9, 2007, Tampa, FL

INTERMAG Conference: May 4-8, 2008, Madrid, Spain

53rd Conference on Magnetism and Magnetic Materials: November 10-14, 2008, Austin, TX

2010 Joint MMM/Intermag Conference: January 17-21, 2010, San Francisco, CA

ADDITIONAL INFORMATION

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

SPECIAL FREE GMAG MEMBERSHIP OFFER FOR STUDENTS

Student members of the APS may join the Topical Group on Magnetism (GMAG) FREE for up to one year (until their next APS renewal and then $7 thereafter). Students who are not members of APS can also join APS for no cost the first year. Membership forms are available at the APS Membership Desk at the 2007 Joint Conference and on-line at http://www.aps.org/memb/joinaps.cfm .

SPECIAL FREE IEEE MEMBERSHIP OFFER FOR STUDENTS

If you are registered at the 2007 Joint MMM/Intermag Conference as a **Student** attendee, at the Student rate, you can obtain a FREE membership in the IEEE and the Magnetics Society by:

• Completing and returning an IEEE student membership application form.
• Completed **forms must be handed in at the IEEE Membership Desk at the Joint Conference to obtain this free Student Membership.**
• This offer is only valid at the 2007 Joint MMM/Intermag Conference.
• Submissions sent/received after the final day of the Joint Conference CANNOT be processed.
• This free student membership will run for the remainder of 2007.
• This free student membership is only available to students who are *NOT* currently members of the IEEE and the Magnetics Society.

IEEE Membership forms are also available online at http://services1.ieee.org/membersvc/member/mags_intro.htm

IEEE MAGNETICS SOCIETY

President: . . . . . Carl E. Patton
Vice President:. . . . . Randall Victora
Past President: . . . . . Kevin O'Grady
Executive Director: . . . . . Diane S. Melton

ELECTED IEEE MAGNETICS SOCIETY ADMINISTRATIVE COMMITTEE MEMBERS

Terms Expiring ***December 31, 2006*** . . . . . B. Dieny; R. Hasegawa; Y. Miura; D. Jiles; T. Dong Lee; K. Ounadjela; J-U Thiele; S. Ueno

Terms Expiring ***December 31, 2007*** . . . . . J. Chapman; W. Doyle; L. Folks; B. Hillebrands; H. Muraoka; M. Pardavi-Horvath; B. Terris; S. Wang

Terms Expiring ***December 31, 2008*** . . . . . G. Bertotti; J. Fidler; S. Majetich; M. Pasquale; C. Ross; T. Suzuki; D. Weller; R. Wood

ELECTED MMM ADMINISTRATIVE COMMITTEE MEMBERS

Advisory Committee for the 10th Joint MMM/ Intermag Conference

Chairman . . . . . R. Victora
Secretary . . . . . J. Childress
Executive Secretary/Treasurer . . . D. Melton
Term Expires **February 2007:** . . J. Borchers, R. Gomez, B. Gurney, V. Harris, D. Jonker, Y-K. Kim, L. H. Lewis, J. MacLaren, M. Pasquale, C. Ross, W. Yelon
Term Expires **December 2007:** . . J. Childress, E. D. Dahlberg, J. Fernandez-de-Castro, J. Fidler, C. Gutierrez, F. Hellman, R. McMichael, D. Reich, J. Rhyne, B. Terris
Term Expires **December 2008:** . . E. Cardelli, C.L. Chien, B. Hillebrands, Y. Idzerda, Y. Ijiri, R. Indeck, M. McHenry, H. Muraoka, K. O'Grady, P. Schiffer

Sponsoring Society Representatives

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CONFERENCE ORGANIZATION

Steering Committee 10^{th} Joint MMM-Intermag Conference

Chair . . . . . J. Borchers
Chairman Elect . . . . . D. Weller
Past Chair . . . . . R. Victora
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Program Co-Chairs . . . . . O. Heinonen, P. Schiffer
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Publications Co-chairs. . . . . M. McHenry (JAP), A. Hoffmann (IEEE)

Publications Editors	N. Abarra, J. Akerman, K. Coffey, M-C. Cyrille, H. Srikanth, F. Johnson, M. O'Shea, S. Sun, T. Thomson, M. Willard
Exhibits Chair	L. H. Lewis
Exhibits Coordinator	R. Kuryla
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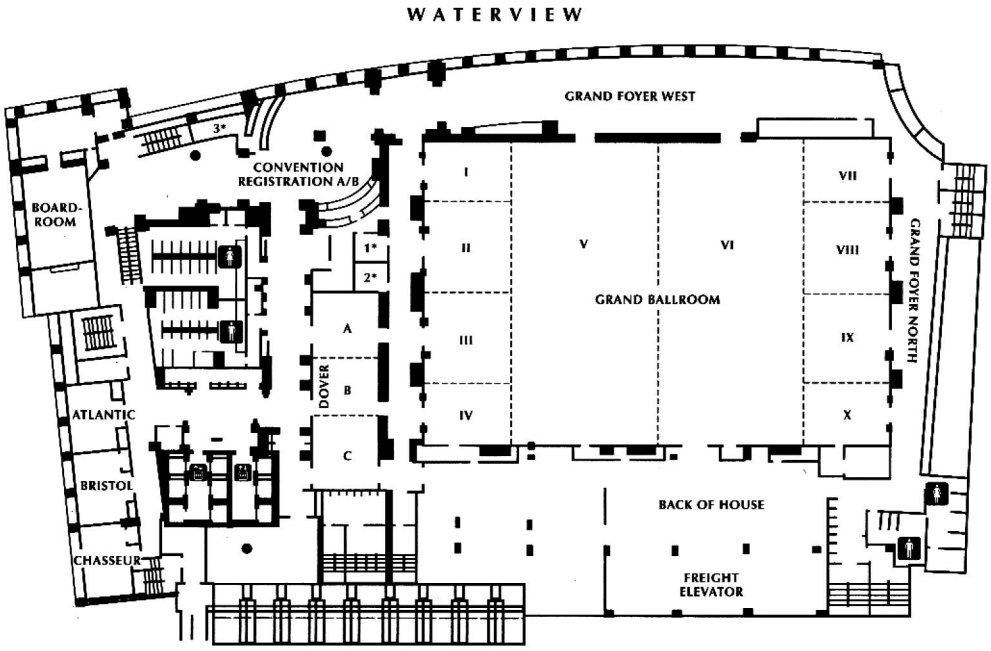
PCI Representative	M. Burke
Editor, J. Appl. Phys.	J. Viccaro
Editor, IEEE Trans. Mag.	R. Goldfarb
Conference Management	D. Melton, R. Kuryla, L. Seger, CourtesyAssociates
PCI Coordinator	J. Bennett

CONFERENCE PROGRAM

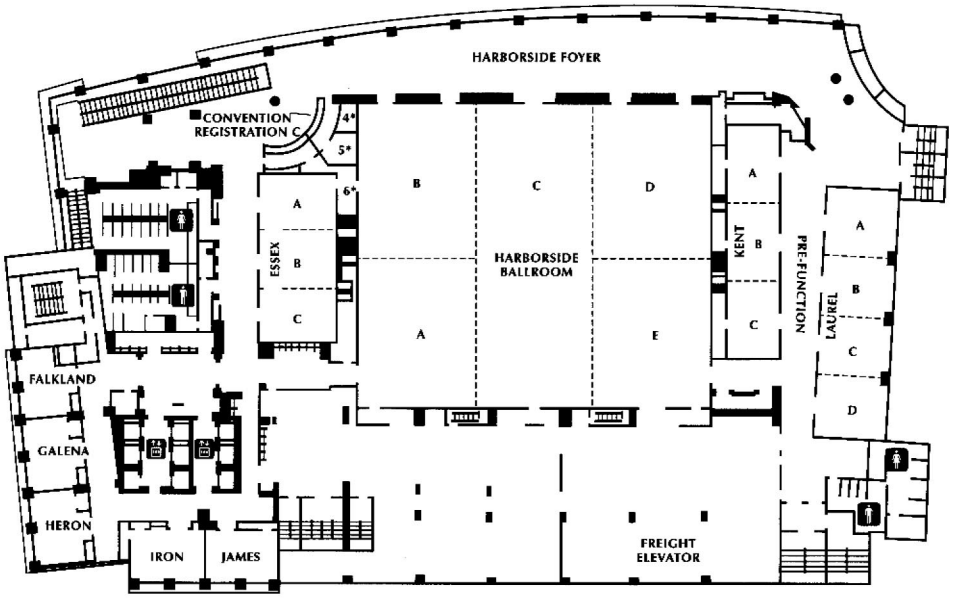
Sunday eve			
7:00 p.m.	XA	Tutorial on spin torque	Harborside C
Monday	AA	Symposium on spin manipulation in	Harborside C
9:00 a.m.		semiconductors and metals for spintronics	
	AB	Perpendicular recording: Writability	Harborside A
	AC	Colossal magnetoresistive oxides	Harborside B
	AD	Magnetic tunnel junctions I	Harborside D
	AE	Spin dynamics and relaxation I	Harborside E
	AF	$L1_0$ structures and related materials	Essex
	AG	Hysteresis modeling and thermal effects	Laurel
	AH	Magneto-optic and magneto-caloric materials	Dover
8:00 a.m.	AP	Magnetoelectronic devices	Grand Ballroom
	AQ	Recording systems: Channel	Grand Ballroom
	AR	Sensors and devices	Grand Ballroom
	AS	Ultrathin films and surface effects I	Grand Ballroom
	AT	Multilayer films and superlattices I	Grand Ballroom
	AU	Double perovskites and magnetic semiconductors	Grand Ballroom
	AV	Magnetic tunnel junctions and spin filtering	Grand Ballroom
	AW	Spin torque: Microwave oscillations	Grand Ballroom
	AX	Spin glasses, low-dimensional and strongly correlated systems	Grand Ballroom
	AY	Magnetic fluids and separation	Grand Ballroom
Monday	BA	Symposium on Bose Einstein	Harborside C
1:30 p.m.		condensation and quantum magnets	
	BB	Nanoparticle synthesis I	Harborside A
	BC	Exchange bias I	Harborside B
	BD	Spin transport in nanostructures	Harborside D
	BE	Numerical studies of domain walls	Harborside E
	BF	High frequency inductors	Essex
	BG	Instrumentation and measurement techniques I	Laurel
	BH	New applications I	Dover
3:45 p.m.	BX	PLENARY	Harborside
Tuesday	CA	Symposium on magnetic MEMS	Harborside C
9:00 a.m.		technologies	
	CB	Head-disk interface and tribology I	Harborside A
	CC	Patterned structures I	Harborside B
	CD	Spin torque: Microwave oscillations	Harborside D
	CE	Spin injection in semiconductors and metals I	Harborside E
	CF	Rare-earth magnets: Materials and processing	Essex
	CG	Critical phenomena: Superconductivity	Laurel
	CH	Molecular magnetic materials	Dover
8:00 a.m.			
	CP	Exchange bias II	Grand Ballroom
	CQ	Electronic structure I	Grand Ballroom
	CR	Magnetic tunnel junctions II	Grand Ballroom
	CS	Ferrites, garnets, particles, and composites	Grand Ballroom
	CT	Hysteresis modeling and continuum methods	Grand Ballroom
	CU	Micromagnetics: Applications I	Grand Ballroom
	CV	Micromagnetics: Fundamental aspects	Grand Ballroom
	CW	High frequency materials and devices	Grand Ballroom
	CX	Instrumentation and measurement techniques II	Grand Ballroom
Tuesday			
2:00 p.m.			
	DA	Symposium on recent advances in modeling of magnetic and spin dependent properties	Harborside C
	DB	Patterned media	Harborside A
	DC	Exchange bias III	Harborside B
	DD	Magnetic Tunnel Junctions (MgO) III	Harborside D
	DE	Ultrathin films and surface effects II	Harborside E
	DF	Oxide magnetic semiconductors I	Essex
	DG	4f,5f and strongly correlated systems	Laurel
	DH	Magnetic sensors (not magnetic recording)	Dover
1:00 p.m.			
	DP	Transformers and Inductors	Grand Ballroom
	DQ	Magneto-optic recording and alternative magnetic storage	Grand Ballroom
	DR	Nanoparticle synthesis II	Grand Ballroom
	DS	Nanoparticle arrays I	Grand Ballroom
	DT	Half-metallic ferromagnets I	Grand Ballroom
	DU	Magneto-caloric materials	Grand Ballroom
	DV	Patterned structures II	Grand Ballroom
	DW	Spin transport in spin valves and nanostructures	Grand Ballroom
	DX	Magneto-optic and magneto-elastic materials	Grand Ballroom
	DY	Hard magnetic films	Grand Ballroom
	DZ	Magnetization processes and magnetic characterization	Grand Ballroom
	DAA	Hard magnetic materials	Grand Ballroom
Tuesday eve			
7:30 p.m.			
	YA	Symposium on magnetic memories, past and present	Harborside
Wednesday			
9:00 am			
	EA	Symposium on interfaces in magnetic tunnel junctions	Harborside C
	EB	Perpendicular media	Harborside A
	EC	III-V magnetic semiconductors	Harborside B
	ED	Spin torque: Domain walls	Harborside D
	EE	Multiferroics: Bulk materials and theory	Harborside E
	EF	Electronic Structure II	Essex
	EG	Recording modeling, systems and theory	Laurel
	EH	Ferrites, garnets, and microwave materials I	Dover
8:00 am			
	EP	Superconductivity, Critical Phenomena	Grand Ballroom
	EQ	Exchange bias IV	Grand Ballroom
	ER	Magnetic tunnel junctions IV	Grand Ballroom
	ES	Spin injection in semiconductors and metals II	Grand Ballroom
	ET	Permanent magnet motors I	Grand Ballroom
	EU	New applications II	Grand Ballroom
	EV	Nanostructured films and patterned media	Grand Ballroom
	EW	Perpendicular and longitudinal recording	Grand Ballroom
	EX	Head materials, soft magnetic alloys and domains	Grand Ballroom
Wednesday			
2:00 p.m.			
	FA	Symposium on Probing the Magnetic Structure of Nanostructured Exchange	Harborside C
	FB	Magnetic memory and elements	Harborside A

	FC	Patterned structures III	Harborside B
	FD	Spin torque: Tunneling	Harborside D
	FE	Multilayer films and superlattices II	Harborside E
	FF	Drug delivery and separation	Essex
	FG	Magneto-elastic materials	Laurel
	FH	Magnetic microscopy and imaging I	Dover
1:00 p.m.			
	FP	Spin dynamics and relaxation II	Grand Ballroom
	FQ	Amorphous and nanocrystalline soft materials I	Grand Ballroom
	FR	Magnetoresistive oxides	Grand Ballroom
	FS	Biomedical applications of magnetic materials	Grand Ballroom
	FT	Magnetic semiconductors	Grand Ballroom
	FU	Motors I	Grand Ballroom
	FV	Itinerant magnetism	Grand Ballroom
	FW	Permanent magnet motors II	Grand Ballroom
	FX	Recording media and system integration	Grand Ballroom
	FY	Recording modeling and noise	Grand Ballroom
Thursday			
9:00 a.m.			
	GA	Symposium on driven domain wall dynamics in nanostructures	Harborside C
	GB	CPP-TMR & GMR read heads	Harborside A
	GC	Nanoparticle arrays II	Harborside B
	GD	Half-metallic ferromagnets II	Harborside D
	GE	Micromagnetics: Applications II	Harborside E
	GF	Magnetic biosensors	Essex
	GG	Giant magnetoimpedance	Laurel
	GH	Amorphous and nanocrystalline soft materials II	Dover
8:00 a.m.			
	GP	Spin dynamics and relaxation III	Grand Ballroom
	GQ	Oxide magnetic semiconductors II	Grand Ballroom
	GR	Multiferroic oxides	Grand Ballroom
	GS	Motors II	Grand Ballroom
	GT	Controls, actuators, and linear motors	Grand Ballroom
	GU	Magnetic microscopy and imaging II	Grand Ballroom
	GV	Head-disk interface and tribology II	Grand Ballroom
	GW	Ferrites, garnets, and microwave materials II	Grand Ballroom
	GX	New magnetic materials I	Grand Ballroom
Thursday			
2:00 p.m.			
	HA	Spin torque: Metallic systems	Harborside C
	HB	Multiferroics: Thin films and composites	Harborside A
	HC	Nanoparticle synthesis III	Harborside B
	HD	Head materials, soft magnetic films, and domains	Harborside D
	HE	Low dimensional systems/Spin glasses and frustration	Harborside E
	HF	Hyperthermia and magnetic fluids	Essex
	HG	Spin valves: Metallic and organic	Laurel
	HH	New magnetic materials II	Dover

Grand Ballroom



Harborside Ballroom



SUNDAY EVENING 7:00 HARBORSIDE C

Session XA
TUTORIAL ON SPIN TORQUE
Carl Patton, Session Chair

7:00

XA-01. Spin Torque for Dummies: A Bare-Bones Introduction to the Spin Momentum Transfer Effect. ***(Invited)*** *T. Silva[1] 1. Magnetics Group, NIST, Boulder, CO, USA*

7:36

XA-02. High-frequency phenomena induced by spin-torque. ***(Invited)*** *A. Slavin[1] 1. Physics, Oakland University, Rochester Hills, MI, USA*

8:12

XA-03. Spin torque switching. ***(Invited)*** *P.B. Visscher[1] 1. Physics and MINT Center, University of Alabama, Tuscaloosa, AL, USA*

MONDAY MORNING 9:00 HARBORSIDE C

Session AA
SYMPOSIUM ON SPIN MANIPULATION IN SEMICONDUCTORS AND METALS FOR SPINTRONICS
Michael Flatté, Session Chair

9:00

AA-01. Manipulating Nanomagnets Using Spin-Transfer Torques. ***(Invited)*** *D. Ralph[1] 1. Physics Department, Cornell University, Ithaca, NY, USA*

9:36

AA-02. Spin Transport and Scattering in Magnetic Semiconductor Heterostructures. ***(Invited)*** *N. Samarth[1] 1. Physics, Penn State University, University Park, PA, USA*

10:12

AA-03. Electrical Spin Detection in Semiconductors. ***(Invited)*** X. Lou[1], C. Adelmann[2], M. Furis[3], D.L. Smith[3], S.A. Crooker[3], C.J. Palmstrøm[2] and *P.A. Crowell*[1] *1. Physics and Astronomy, University of Minnesota, Minneapolis, MN, USA; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA; 3. National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM, USA*

10:48

AA-04. Generating Spin Currents in Semiconductors with the Spin Hall Effect. ***(Invited)*** *V. Sih*[1], W.H. Lau[1], R.C. Myers[1], V.R. Horowitz[1], A.C. Gossard[1] and D.D. Awschalom[1] *1. Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA, USA*

11:24

AA-05. Spin Hall effect in a diffusive conductor. ***(Invited)*** *S.O. Valenzuela*[1] *1. Massachusetts Institute of Technology, Cambridge, MA, USA*

MONDAY MORNING 9:00 HARBORSIDE A

Session AB
PERPENDICULAR RECORDING: WRITABILITY
Stephen Lee, Session Chair

9:00

AB-01. Novel Approaches Towards High Density CoCrPt-Oxide Perpendicular Recording Media. ***(Invited)*** *S. Piramanayagam*[1], J. Shi[1], S. Kumar[1], R. Sbiaa[1], C. Mah[1], C. Ong[1], J. Zhao[1], Y. Kay[1] and J. Zhang[1] *1. Data Storage Institute, Singapore, Singapore*

9:36

AB-02. Design and Optimization of Soft and Hard Regions of Exchange Coupled Composite Grains for future ECC Media. *W. Shen*[1], H. Zhao[1] and J. Wang[1] *1. MINT, Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

9:48

AB-03. New Experimental Approach to Composite Media Design. *E. Girt*[1], A. Dobin[1], B.F. Valcu[1], H.J. Richter[1], T.P. Nolan[1] and X. Wu[2] *1. seagate technology, fremont, CA, USA; 2. seagate technology, pittsburgh, PA, USA*

10:00

AB-04. Switching of Finite-Sized Composite-Media. *S. Mukherjee*[1] and L. Berger[2] *1. Seagate Research, Pittsburgh, PA, USA; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, USA*

10:12

AB-05. Simulation of Perpendicular Recording with a VSM. *H.J. Richter*[1] and B.F. Valcu[1] *1. Seagate Technology, Fremont, CA, USA*

10:24

AB-06. Write Head Design for Exchange Coupled Composite Media. *X. Shen*[1] and R.H. Victora[1] *1. Electrical engineering, University of Minnesota, Minneapolis, MN, USA*

10:36

AB-07. Effect of Writability on Spectral Rolloff in Perpendicular Recording. *M. Xiao*[1], P. Van der Heijden[1] and H. Rosen[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

10:48

AB-08. Writability Study of Perpendicular Exchange Spring Media. *N.F. Supper*[1], A. Berger[1], D.T. Margulies[1], M. Andreas[1] and E.E. Fullerton[1] *1. Hitachi, San Jose Research Center, San jose, CA, USA*

11:00

AB-09. Writer Flux Closure and Transition Degradation Mechanism in Perpendicular Recording. *J. Fernandez-de-Castro*[1], X. Shen[2], J. Xue[1] and Y. Zhou[1] *1. Seagate Technology, Bloomington, MN, USA; 2. Dept. of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

11:12

AB-10. Perpendicular head structures to improve the corner erasure robustness. *M. Mochizuki*[1], T. Okada[1], Y. Maruyama[1], Y. Hsu[2], T. Hamaguchi[1] and R. Wood[2] *1. Hitachi Global Storage Technologies, Ltd., Odawara-shi, Kanagawa-ken, Japan; 2. Hitachi Global Storage Technologies, Inc., San Jose, CA, USA*

11:24

AB-11. Analysis of write mechanism of a perpendicular head using the writer pole footprint technique. *V. Nandakumar*[1], O.G. Heinonen[2] and A. Vanderschans[3] *1. Recording Subsystem Organization, Seagate Technology, Bloomington, MN, USA; 2. Recording Heads Organization, Seagate Technology, Bloomington, MN, USA; 3. Seagate Technology, Bloomington, MN, USA*

11:36

AB-12. Experimental Study of Perpendicular Write Head Field Rise Time. *X. Xing*[1], A. Taratorin[1] and K.B. Klaassen[1] *1. Hitachi Research, San Jose, San Jose, CA, USA*

11:48

AB-13. Micromagnetics and eddy current effects in magnetic recording heads. *K. Takano*[1], X. Zhang[1], E. Salhi[1], L. Guan[1], M. Sakai[1], J. Smyth[1] and M. Dovek[1] *1. Bldg-3, Headway Technologies, Milpitas, CA, USA*

MONDAY MORNING 9:00

HARBORSIDE B

Session AC
COLOSSAL MAGNETORESISTIVE OXIDES

Samuel Bader, Session Chair

9:00

AC-01. Nodal quasiparticle in pseudogapped colossal magnetoresistive manganites. *(Invited)* *N. Mannella*[1] *1. Physics, Stanford University, Palo Alto, CA, USA*

9:36

AC-02. Charge, spin, orbital and lattice degrees of freedom in manganites. *P.U. Schlottmann*[1] *1. Department of Physics, Florida State University, Tallahassee, FL, USA*

9:48

AC-03. Extraordinary anisotropic magnetoresistance in manganite single crystals. *R. Li*[1], H. Wang[2], K. Miki[2] and B. Shen[3] *1. International Center for Young Scientists, National Institute for Materials Science, Ibaraki, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

10:00

AC-04. Ultrafast Hot Electron Dynamics in Manganites. *S.M. Thompson*[1], P.R. Abernethy[1], J.R. Wells[2], G.A. Gehring[2], J.R. Neal[2], H.J. Blythe[2], A.M. Fox[2], P.J. Phillips[3], N.Q. Vinh[3], D.A. Carder[3] and P.J. Wright[4] *1. Physics, University of York, York, United Kingdom; 2. Physics and Astronomy, University of Sheffield, Sheffield, United Kingdom; 3. FELIX Free Electron Laser Facility, FOM - Institute for Plasma Physics 'Rijnhuizen', Nieuwegein, Netherlands; 4. Micro Nanotechnology Labs, QinetiQ, Malvern, United Kingdom*

10:12

AC-05. A temperature dependent Magnetic Force Microscopy (MFM) study of the effect of strain on the magnetism of La(0.7)Sr(0.3)MnO3 films. *R.K. Kummamuru*[1], Y. Soh[1], L.E. Hueso[2] and N.D. Mathur[2] *1. Department of Physics and Astronomy, Dartmouth College, Hanover, NH, USA; 2. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, CB2 3QZ, United Kingdom*

10:24

AC-06. Electric-pulse-induced resistance switching in magnetoresistive manganite films grown by metalorganic chemical vapor deposition. *T. Nakamura*[1], K. Homma[1] and K. Tachibana[1] *1. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan*

10:36

AC-07. Scanning tunneling spectroscopy on $Pr_{0.68}Pb_{0.32}MnO_3$ single crystals. *S. Roessler*[1], S. Ernst[1], B. Padmanabhan[2], S. Elizabeth[2], H.L. Bhat[2], S. Wirth[1] and F. Steglich[1] *1. Physics, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Physics, Indian Institute of Science, Bangalore, India*

10:48

AC-08. Investigation of local magnetism at M sites in RMO_3 (R=La,Nd;M=Cr,Fe) antiferromagnetic perovskite oxides. F.M. Cavalcante[1], A.C. Junqueira[1], D.T. Leite[1], R.N. Saxena[1], J. Mestnik-Filho[1] and *A.W. Carbonari*[1] *1. CRPq, IPEN-CNEN/SP, Sao Paulo, Sao Paulo, Brazil*

11:00

AC-09. Magnetic correlations and spin dynamics in crystalline $La_{1-x}Ca_xMnO_3$ (x = 0, 0.1, 0.2, 0.3): Analysis of basic EPR parameters. *M. Auslender*[1], A.I. Shames[2], E. Rozenberg[2], G. Gorodetsky[2] and Y.M. Mukovskii[3] *1. Electrical and Computer Engineering, Ben-Gurion University, Beer Sheva, Israel; 2. Physics, BGU of the Negev, Beer-Sheva, Israel; 3. Moscow Steel and Alloys Institute, Moscow, Russian Federation*

11:12

AC-10. Lattice distortions, ferromagnetic clusters and phase separation in $La_{1-x}Pb_xMnO_3$: ESR study. *T. Phan*[1], R. Vincent[1], M. Phan[2], S. Yu[3] and N. Chau[4] *1. Department of Physics, University of Bristol, Bristol, United Kingdom; 2. Department of Aerospace Engineering, University of Bristol, Bristol, United Kingdom; 3. Department of Physics, Chungbuk National University, Cheongju, South Korea; 4. Center for Materials Science, University of Science, Hanoi, Viet Nam*

11:24

AC-11. Electronic phase separation and the CMR effect in $Pr_{1-x}Ca_xMnO_3$ films on (001) vicinal $SrTiO_3$ substrates. P. Moschkau[1], S. Schramm[1], J. Hoffmann[1], J. Fladerer[1], *C. Jooss*[1,2], L. Wu[2], R. Klie[2] and Y. Zhu[2] *1. Institute of Materials Physics, University of Goettingen, Goettingen, Germany; 2. Brookhaven National Laboratory, Upton, NY, USA*

11:36

AC-12. Study of magnetic phase coexistence in Manganites by Exchange-Bias. *M. Cerro*[1,2], F. Garcia[1], H. Westfahl Jr.[1], A.M. Gomes[3] and L. Ghivelder[3] *1. Laboratório Nacional de Luz Síncrotron, Campinas, São Paulo, Brazil; 2. Instituto de Física "Gleb Wataghin", Universidade Estadual de Campinas, Campinas, São Paulo, Brazil; 3. Instituto de Física, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil*

11:48

AC-13. Spin-polarized grain-boundary transport in reversibly strained $La_{0.7}$(Sr, Ca)$_{0.3}MnO_3$ polycrystalline films. *R. Gangineni*[1], K. Dörr[1], N. Konstantin[1] and S. Ludwig[1] *1. Institute of metallic materials, Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Saxony, Germany*

MONDAY MORNING 9:00 **HARBORSIDE D**

Session AD
MAGNETIC TUNNEL JUNCTIONS I
Alex Nazarov, Session Chair

9:00

AD-01. Competing spin dependent transport mechanisms in low resistance underoxidized magnetic tunnel junctions. *J. Ventura*[1], R. Ferreira[2], J. Teixeira[1], J.P. Araujo[1], Y. Pogorelov[1], J.B. Sousa[1] and P.P. Freitas[2] *1. IFIMUP, Porto, Portugal; 2. INESC-MN, Lisbon, Portugal*

9:12

AD-02. Magnetization dynamics in toggle magnetic tunnel junctions. *V. Korenivski*[1,2] and D.C. Worledge[1] *1. IBM T.J. Watson Research Center, Yorktown Heights, NY, USA; 2. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

9:24

AD-03. Influence of pinned-layer dispersion on magnetic tunnel junction switching distributions. *J.G. Deak*[1] *1. Advanced Technology, NVE Corporation, Eden Prairie, MN, USA*

9:36

AD-04. High Spin Stiffness for bcc Co. *S.J. Oset*[1,2] and W.H. Butler[2] *1. Physics, University of South Alabama, Mobile, AL, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA*

9:48

AD-05. Near infinite magnetoresistance realized in a F/I/S/I/F superconducting tunnel structure. *G. Miao*[1], T.S. Santos[1] and J.S. Moodera[1] *1. Francis Bitter Magnetic Laboratory, MIT, Cambridge, MA, USA*

10:00

AD-06. Tunneling spectroscopy of magnetic double barrier junctions. *A. Iovan*[1], K. Lam[1], S. Andersson[1], D.B. Haviland[1] and V. Korenivski[1] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

10:12

AD-07. Tunnel magnetoresistance reversal in interface engineered (La,Sr)MnO_3/$SrTiO_3$/Co magnetic tunnel junctions. *I.J. Vera Marún*[1] and R. Jansen[1] *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

10:24

AD-08. TUNNELING MAGNETORESISTANCE AND ELECTRON CURRENT IN LOW-BARRIER MAGNETIC TUNNELING JUNCTIONS. N.N. Beletskii[1,2], *G.P. Berman*[2], S.A. Borysenko[1], S.A. Wolf[3] and V.M. Yakovenko[1] *1. Usikov Institute of Radiophysics and Electronics, Kharkov, Ukraine; 2. Theoretical Division, MS B213, Los Alamos National Laboratory, Los Alamos, NM, USA; 3. Department of Physics and Material Science, University of Virginia, Charlottesville, VA, USA*

10:36

AD-09. Giant TMR over 100% at room temperature for junctions using epitaxial full-Heusler $Co_2FeAl_{0.5}Si_{0.5}$ electrodes. *N. Tezuka*[1,2], N. Ikeda[1], S. Sugimoto[1] and K. Inomata[2,3] *1. Tohoku University, Sendai, Japan; 2. CREST-JST, Kawaguchi, Japan; 3. NIMS, Tsukuba, Japan*

10:48

AD-10. Inelastic electron tunneling spectroscopy for MTJ heads. *T. Ken*[1], J. Murai[2], M. Oogane[3], T. Miyazaki[3], T. Tanaka[1], Y. Uehara[2] and T. Uzumaki[1] *1. Fujitsu Laboratories Ltd., Atsugi, Japan; 2. Fujitsu Ltd., Nagano, Japan; 3. Tohoku Univ., Sendai, Japan*

11:00

AD-11. Influence of Magnetic Barrier Layer on Epitaxial Oxide Magnetic Tunnel Junctions. *B.B. Nelson-Cheeseman*[1], R. Chopdekar[2,1], L. Alldredge[2,1] and Y. Suzuki[1] *1. Materials Science and Engineering, University of California - Berkeley, Berkeley, CA, USA; 2. Applied Physics, Cornell University, Ithaca, NY, USA*

11:12

AD-12. Influence of disorder on tunnel magnetoresistance. *V.M. Karpan*[1], P.X. Xu[2], K. Xia[2], I. Marushchenko[1], M. Zwierzycki[3] and P.J. Kelly[1] *1. University of Twente, Enschede, Netherlands; 2. State Key Laboratory for Surface Physics, Beijing, China; 3. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany*

11:24

AD-13. Tuning Magnetic Microstructures of Reference Layer of Magnetic Tunneling Junctions. *L. Yuan*[1], Y.S. Lin[1], D. Wang[2] and S.H. Liou[1] *1. Department of Physics & Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Seagate Technology, Bloomington, MN, USA*

11:36

AD-14. Magnetotransport and Soft X-Ray Magnetic Circular Dichroism in Magnetite Tunnel Junctions with Chromite Barrier Layers. ***R.V. Chopdekar***[1,2], M. Liberati[3], Y. Takamura[2], B.B. Nelson-Cheeseman[2], E. Arenholz[3], A. Doran[3], A. Scholl[3], L. Fitting[1], D.A. Muller[1] and Y. Suzuki[2] *1. Applied Physics, Cornell University, Ithaca, NY, USA; 2. Materials Science and Engineering, UC Berkeley, Berkeley, CA, USA; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA*

11:48

AD-15. Investigation of Co2FeSi full-Heusler alloy: structure, spin polarization and TMR effect. *Z. Gercsi*[1], A. Rajanikanth[2,1], Y.K. Takahashi[1], K. Hono[1,2], M. Kikuchi[3], N. Tezuka[4] and K. Inomata[1,4] *1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 3. Kojundo Chemical Laboratory Co. Ltd, Chiyoda, Japan; 4. Department of Materials Science, Graduate School of Engineering, Tohoku University, Chiyoda, Japan*

MONDAY MORNING 9:00 **HARBORSIDE E**

Session AE
SPIN DYNAMICS AND RELAXATION I
William Bailey, Session Chair

9:00

AE-01. Transient magnetic field induced dynamic coupling in patterned magnetic bilayers. *X. Zhu*[1], V. Metlushko[3], Z. Liu[2] and M.R. Freeman[2] *1. Seagate Research Center, Seagate Technology, Pittsburgh, PA, USA; 2. Department of Physics, University of Alberta, Edmonton, AB, Canada; 3. Department of Electric and Computer Engineering, University of Illinois at Chicago, Chicago, IL, USA*

9:12

AE-02. Size (aspect ratio) dependent damping of precessional dynamics in individual single domain nanomagnets. *A. Barman*[1,4], S. Wang[1], J. Maas[2], A.R. Hawkins[2], S. Kwon[3,5] and H. Schmidt[1] *1. School of Engineering, University of California Santa Cruz, Santa Cruz, CA, USA; 2. ECEn, Department, Brigham Young University, Provo, UT, USA; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. NanoCenter and Physics and Astronomy, University of South Carolina, Columbia, SC, USA; 5. School of Electrical Engineering, Seoul National University, Seoul, South Korea*

9:24

AE-03. Spin and Orbital Moment Dynamics of Fe/Gd Multilayers Studied Using an X-Ray Streak Camera. *A. Comin*[1], A.F. Bartelt[1], J. Feng[1], H. Shin[1,4], J.R. Nasiatka[1], T. Eimüller[2], B. Ludescher[3], G. Schütz[3], J. Schmalhorst[5], H.A. Padmore[1], A.T. Young[1] and A. Scholl[1] *1. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 2. Institut für Experimentalphysik IV, Ruhr-Universität Bochum, Bochum, Germany; 3. Max-Planck-Institut für Metallforschung, Stuttgart, Germany; 4. Department of Physics, Pohang University of Science and Technology, Pohang, South Korea; 5. Department of Physics, University of Bielefeld, Bielefeld, Germany*

9:36

AE-04. Ultrafast optomagnetic switching and coherent control of magnetization. ***(Invited)*** *F. Hansteen*[1], C. Stanciu[1], A.V. Kimel[1], A. Kirilyuk[1] and T. Rasing[1] *1. Radboud University, Nijmegen, Netherlands*

10:12

AE-05. SPATIO-TEMPORAL INDUCTIVE PROBE IMAGING OF SPIN WAVE PROPAGATION IN NON-UNIFORM MAGNETIC FIELDS. *M.J. Kabatek*[1], M. Wu[1], K.R. Smith[1] and C.E. Patton[1] *1. Physics, Colorado State University, Fort Collins, CO, USA*

10:24

AE-06. Spin waves in highly damped NiFe: Crossover to underdamped dynamics with increasing wave vector. *M. Covington*[1] and T. Ambrose[1] *1. Seagate Research, Pittsburgh, PA, USA*

10:36

AE-07. Time- and frequency-resolved magneto-optics for the quantitative determination of homogeneity for magnetization dynamics at the nanometer scale. *T. Silva*[1], M. Schneider[1], J. Shaw[1] and T. Gerrits[1] *1. NIST, Boulder, CO, USA*

10:48

AE-08. Basic origin of ferromagnetic resonance linewidth in Fe-Ti-N thin films. *S.S. Kalarickal*[1,2], P. Krivosik[1,3], J. Das[1], K. Kim[1] and C.E. Patton[1] *1. Department of Physics, Colorado State University, Fort Collins, CO, CO, USA; 2. Institut für Experimentalphysik, Freie Universität, Arnimallee, D-14195, Berlin, Germany; 3. Slovak University of Technology, Bratislava, Slovakia*

11:00

AE-09. Dynamic Depinning of Magnetic Vortices. ***R.L. Compton***[1] and P.A. Crowell[1] *1. University of Minnesota, Minneapolis, MN, USA*

11:12

AE-10. Theory of ultrafast light-induced demagnetization in sp-d model. *L. Cywinski*[1] and L.J. Sham[1] *1. Department of Physics, University of California, San Diego, La Jolla, CA, USA*

11:24

AE-11. Element- and Layer-Resolved Magnetization Dynamics at Picosecond Resolution. ***(Invited)*** *D. Arena*[1], E. Vescovo[1], C. Kao[1], Y. Guan[2], L. Cheng[2] and W.E. Bailey[2] *1. National Synchrotron Light Source, Brookhaven National Lab, Upton, NY, USA; 2. Materials Science Program, Dept. of Applied Physics, Columbia University, New York, NY, USA*

MONDAY MORNING 9:00 — ESSEX

Session AF
$L1_0$ STRUCTURES AND RELATED MATERIALS

Timothy Klemmer, Session Chair

9:00

AF-01. In Situ Magnetic Orientation Controlled Deposition of $L1_0$ FePt Nanoparticles. *J. Qiu*[1], J. Bai[1] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

9:12

AF-02. Curie Temperatures of Annealed FePt Nanoparticle Systems. *C. Rong*[1], Y. Li[1] and J. Liu[1] *1. Department of Physics, University of Texas at Arlington, Arlington, TX, USA*

9:24

AF-03. Effect of capped layer on the microstructure and magnetic properties of FePt films. *S. Chen*[1,3] and P. Kuo[2,3] *1. Department of Materials Engineering, MingChi University of Technology, Taipei, Taiwan; 2. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 3. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan*

9:36

AF-04. Pre-annealing of CoPt disorder phase effect on ordering transformation. W.M. Liao[1], S.N. Hsiao[1], S.K. Chen[1], *F. Yuan*[2], H.W. Chang[2] and Y.D. Yao[2] *1. Materials Science and Engeering, Feng Chia University, Taichung, Taiwan; 2. Physics, Acdemia Sinica, taipei, Taiwan*

9:48

AF-05. Effect of Cu doping on the magnetic properties of CoPt nanowires. *J. Min*[1], B. An[1], J. Cho[1], H. Ji[1], S. No[1], Y. Kim[1], H. Liu[2], J. Wu[3], Y. Ko[4] and J. Chung[4] *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, South Korea; 3. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea; 4. AMCRCD and Department of Physics, Soongsil University, Seoul, South Korea*

10:00

AF-06. FePt Films Fabricated by Electro-deposition. *S. Thongmee*[1], J. Ding[1], J. Lin[2], D. Blackwood[1] and J. Yin[1] *1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Physics, National University of Singapore, Singapore, Singapore*

10:12

AF-07. L10 Fe-Pd by electrochemical deposition post-deposition annealing. *FM. Takata*[2,1], G. Pattanaik[1], W.A. Soffa[1], P.A. Sumodjo[3] and G. Zangari[1] *1. University of Virginia, Charlottesville, VA, USA; 2. Instituto Tecnológico de Aeronáutica, São José dos Campos, São Paulo, Brazil; 3. Universidade de São Paulo, São Paulo, São Paulo, Brazil*

10:24

AF-08. Fine tuning of coercivity in electrodeposited, Co-rich Co-Pt alloy films with perpendicular orientation. *X. Xu*[1,3], G. Pattanaik[2,3], J. Weston[4] and G. Zangari[2,3] *1. Chemical Engineering, Univ. Virginia, Charlottesville, VA, USA; 2. Materials Science and Engineering, Univ. Virginia, Charlottesville, VA, USA; 3. Cenger for Electrochemical Science and Engineering, Univ. Virginia, Charlottesville, VA, USA; 4. MINT Center, Univ. Alabama, Tuscaloosa, AL, USA*

10:36

AF-09. Influence of quenching rate on the microstructure and magnetic properties of melt-spun L10-FePt/Fe2B nanocomposite magnets. *W. Zhang*[1], K. Yubuta[1], P. Sharma[2], A. Inoue[1] and A. Makino[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Japan Science and Technology Agency, Sendai, Japan*

10:48

AF-10. Coercivity enhancement of melt spun FePt ribbons by Au addition. *C. Chang*[1], H. Chang[2], C. Chiu[1], W. Chang[1] and Y.D. Yao[2] *1. Physics, National Chung Cheng UniversityPhysics, Chia-Yi, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. National Chung Cheng University, Chia-Yi, Taiwan; 4. National Chung Cheng University, Chia-Yi, Taiwan; 5. Institute of Physics, Academia Sinica, Taipei, Taiwan*

11:00

AF-11. Preparation of Fe-Pt-Si amorphous ribbons and their coercivity after heat treatment. *T. Yamamoto*[1], A. Omori[1], A. Makino[1], A. Inoue[1] and Y. Hirotsu[2] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 2. The Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Osaka, Japan*

11:12

AF-12. Bulk FePt/Fe3Pt nanocomposite magnets prepared by spark plasma sintering. *C. Rong*[1], V. Nandwana[1], N. Poudyal[1], J. Liu[1] and T. Saito[2] *1. Department of Physics, University of Texas at Arlington, Arlington, TX, USA; 2. Department of Mechanical Science and Engineering, Chiba Institute of Technology, Chiba, Japan*

11:24

AF-13. Mechanism of magnetic anisotropy in hcp Co_3Pt alloy: density functional theory calculations for 2x2x1 concentration waves. *O.N. Mryasov[1] 1. Seagate Research, Seagate Technology LLC, Pittsburgh, PA, USA*

MONDAY MORNING 9:00 LAUREL

Session AG
HYSTERESIS MODELING AND THERMAL EFFECTS

Gergely Zimanyi, Session Chair

9:00

AG-01. Mapping the Temperature Dependence of the Metastable State Excitation Barriers in a Ferromagnetic Perovskite. *R.M. Roshko[1]* and C.A. Viddal[1] *1. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

9:12

AG-02. NUMERICAL EVALUATION OF ENERGY BARRIERS IN NANO-SIZED MAGNETIC ELEMENTS. *O. Chubykalo-Fesenko[1]*, E. Paz[1] and F. Garcia-Sanchez[1] *1. Material Science Institute of Madrid, Madrid, Spain*

9:24

AG-03. Magnetic anisotropy energy of FePt nanoparticles: free energy barrier for thermally activated switching. *C. Zhou[1]*, T.C. Schulthess[1] and O.N. Mryasov[2] *1. Center for Nanophase Materials Science, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. Seagate Research, Pittsburgh, PA, USA*

9:36

AG-04. Implementation of the Preisach-Stoner-Wohlfarth model. *G.R. Kahler[1]*, E. Della Torre[1] and E. Cardelli[2] *1. Institute for Magnetics Research, George Washington University, Ashburn, VA, USA; 2. University of Perugia, Perugia, Italy*

9:48

AG-05. Hysteretic memory effects in disordered magnets. H.G. Katzgraber[1] and *G.T. Zimanyi[2] 1. Theoretische Physik, ETH Zurich, Zurich, Switzerland; 2. Physics Department, University of California Davis, Davis, CA, USA*

10:00

AG-06. SIZE EFFECTS AND KINETIC BEHAVIOUR OF A RANDOM ANISOTROPY ISING SYSTEM. *C. Enachescu[1]* and A. Stancu[1] *1. Department of Solid State and Theoretical Physics, Alexandru Ioan Cuza University, Iasi, Romania*

10:12

AG-07. Estimation of exchange bias distribution in all-ferromagnetic bilayers. *O. Hovorka[1]* and G. Friedman[1] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA*

10:24

AG-08. Coherence Resonance in Stochastically Driven Hysteretic Systems. *M. Dimian[1]* and I. Mayergoyz[2] *1. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany; 2. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA*

10:36

AG-09. Nonlinear dynamics of the vortex core in magnetic dots. *M. Beleggia[1]*, L. Huang[1], M.A. Schofield[1] and Y. Zhu[1] *1. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY, USA*

10:48

AG-10. Critical Fields for Magnetization Switching of Perpendicular Media in the Presence of Spin Polarized Current. *M. Dimian[1] 1. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany*

11:00

AG-11. Effective Demagnetizing Factors of Complicated Particle Mixtures. *R. Skomski[1] 1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA*

11:12

AG-12. Proposal For A Demagnetization Function. *F. Thiel[1]*, A. Schnabel[1], S. Knappe-Grüneberg[1], D. Stollfuss[1] and M. Burghoff[1] *1. AG 8.2 Biosignals, Physikalisch-Technische-Bundesanstalt, Berlin, Germany*

11:24

AG-13. The effect of interlayer interaction and magnetic anisotropy on the magnetization relaxation in coupled magnetic layers. *H. Kachkachi[1]* and M. Dimian[2] *1. Universitè de Versailles St. Quentin, Versailles, France; 2. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany*

MONDAY MORNING 9:00 DOVER

Session AH
MAGNETO-OPTIC AND MAGNETO-CALORIC MATERIALS

Stefan Maat, Session Chair

9:00

AH-01. Surface plasmon resonance effects in the Magneto Optical activity of noble metal-ferromagnet ultrathin films. *A. Cebollada*[1,2], J. González-Díaz[1], A. García-Martín[1], G. Armelles[1], J. García-Martín[1], C. Clavero[1], R. Clarke[2], D. Kumah[2], R. Lukaszew[3] and J. Skuza[3] *1. Instituto de Microelectrónica de Madrid, Tres Cantos, Spain; 2. University of Michigan, Ann Arbor, MI, USA; 3. University of Toledo, Toledo, OH, USA*

9:12

AH-02. Optimization of magneto-optical response of FeF_2/Fe/FeF_2 sandwiches for microwave field detection. *R. Lopusnik*[1], E. Liskova[2], J. Correau[1], M. Veis[2], I. Harward[1], S. Widuch[1,3], P. Maslankiewicz[1,3], S. Demirtas[1], Z. Celinski[1] and S. Visnovsky[2] *1. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Institute of Physics, Charles University, Prague, Czech Republic; 3. Department of Solid State Physics, August Chelkowski Institute of Physics, University of Silesia, Katowice, Poland*

9:24

AH-03. Mixed-Cation Designs of Magnetic Perovskites for Faraday Rotation at IR Wavelengths. *G.F. Dionne*[1,2], A.R. Taussig[2], M. Bolduc[2] and C.A. Ross[2] *1. Lincoln Laboratory, MIT, Lexington, MA, USA; 2. Department of Materials Science and Engineering, MIT, Cambridge, MA, USA*

9:36

AH-04. Magnetic Anisotropies in (210)-oriented Bismuth-substituted Iron Garnet Thin Films. *I. Nistor*[1], C. Holthaus[1], S. Tkachuk[1], C. Krafft[2] and I.D. Mayergoyz[1,3] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Sciences, College Park, MD, USA; 3. UMIACS, University of Maryland, College Park, MD, USA*

9:48

AH-05. Room-temperature photo-induced magnetization biasing hysteresis loop in ferrite for a long time. *E.Z. Katsnelson*[1] and M.M. Chervinskii[2] *1. Physics & Astronomy, Northwestern University, Evanston, IL, USA; 2. Electromagnetic Measurement, D.I. Mendeleev Institute for Metrology, S. Peterburg, Russian Federation*

10:00

AH-06. IS THE FIRST-ORDER MO EFFECT REALLY PROPORTIONAL TO THE MAGNETIZATION? *M. Guillot*[1], Z. Fang[2], X. You[3], Y. Jie Hui[4] and W. Xing[5] *1. High Magnetic Field Laboratory, CNRS/MPI, GRENOBLE cedex 9, France; 2. Physics department, Teacher's College, Qingdao University, Qingdao, China; 3. China Center for Advanced Science and Technology Beijing, Nanjing University, Nanjing 210093, China; 4. Department of Physics, Luoyang Teacher's College, Louyang 471022, China; 5. National High Magnetic Field Laboratory, Thallahassee, FL, USA*

10:12

AH-07. Properties of Microstructure on Amorphous Film of Rare Earth-Transition Metal Alloy for Ultra-High Density Recording. *M. Murakami*[1] *1. AV Core Technology Development Center, Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan*

10:24

AH-08. Magnetooptical Effect in Room-Temperature-Deposited Cobalt/Lead Zirconate Titanate (PZT) Nanocomposite Thick Films by Aerosol Deposition Method. *J. Park*[1] and J. Akedo[1] *1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

10:36

AH-09. Role of Ge in bridging ferromagnetism in giant magnetocaloric $Gd_5(Ge_{1-x}Si_x)_4$ *D. Haskel*[1], Y. Lee[2], B.N. Harmon[2], Z. Islam[1], J.C. Lang[1], G. Srajer[1], Y. Mudryk[3], K.A. Gschneidner Jr.[3] and V.K. Pecharsky[3] *1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 2. Ames Laboratory, Iowa State University, Ames, IA, USA; 3. Ames Laboratory and Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA*

10:48

AH-10. Magnetocaloric effect in soft magnetic amorphous alloys. *V. Franco*[1], J.S. Blazquez[1], M. Millan[1], J.M. Borrego[1], C.F. Conde[1] and A. Conde[1] *1. Department of Condensed Matter Physics, Sevilla University, Sevilla, Spain*

11:00

AH-11. Magneto-Caloric Effect and Microstructural Studies in $Gd_{1-x}(Si_{0.5}Ge_{0.5})_x$ Alloys. *M. Manivel Raja*[1], D.M. Rajkumar[1], R. Gopalan[1], R. Balamuralikrishnan[1] and V. Chandrasekharan[1] *1. Defence Metallurgical Research Laboratory, Hyderabad - 500 058, Andhra Pradesh, India*

11:12

AH-12. Ferromagnetism induced by hydrogen insertion into antiferromagnetic Gd5Ge4 compound. *A.M. Carvalho*[1], C.S. Alves[2], C.C. Colucci[2], F.F. Gonçalves[2], D.L. Rocco[1], A.A. Coelho[1] and S. Gama[1] *1. Applied Physics, Universidade Estadual de Campinas, Campinas, São Paulo, Brazil; 2. Mechanical Engineering, Universidade Estadual de Maringá, Maringá, Paraná, Brazil*

11:24

AH-13. Investigation on magneto-structural transformation in Ni-Mn-Ga Heusler alloy for magneto-caloric applications. *B.D. Ingale*[1,2], R. Gopalan[1], M. Manivel Raja[1], S. Ram[2] and V. Chandrasekaran[1] *1. Advanced Magnetics Group, Defence Metallurgical Research Laboratory, Hyderabad - 500 058, Andhra Pradesh, India; 2. Materials Science Centre, Indian Institute of Technology, Kharagpur - 721 302, West Bengal, India*

11:36

AH-14. Heat capacity and magnetocaloric effects in polycrystalline $Gd_{1-x}Sm_xMn_2Si_2$ compounds. *P. Kumar*[1], N.K. Singh[1], K.G. Suresh[1], A.K. Nigam[2] and S.K. Malik[2] *1. Physics, Indian Institute of Technology, Mumbai, Maharastra, India; 2. Tata Institute of Fundamental Research, Mumbai, Maharastra, India*

11:48

AH-15. Negative and positive magnetocaloric effect in Ni-Mn-Sn. *L. Giudici*[1,3], C.P. Sasso[1], M. Pasquale[1], T. Lograsso[2] and D. Schlagel[2] *1. Materiali, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. 111 Metals Development, Material and Engineering Physics, Ames Laboratory, Ames, IA, USA; 3. Fisica, Politecnico di Torino, Torino, Italy*

MONDAY MORNING 8:00 **GRAND BALLROOM**

Session AP
MAGNETOELECTRONIC DEVICES (POSTER SESSION)

Bernard Dieny, Session Chair

AP-01. A Novel Spin Torque Driven Microwave Oscillator Design with Extensive Frequency Tunability. *X. Zhu*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon Univ., Pittsburgh, PA, USA*

AP-02. Bipolar spin switcher using Aharnov-Bohm ring with embedded double quantum dots. *K. Chen*[1], M. Liu[1], S. Chen[1] and C. Chang[1] *1. Department of Physics, National Taiwan University, Taipei, Taiwan*

AP-03. Rashba spin interferometer. *M. Liu*[1], S. Chen[1], K. Chen[1] and C. Chang[1] *1. Department of Physics, National Taiwan University, Taipei, Taiwan*

AP-04. Magnetoresistance in Spin-Polarized Transport through a Carbon Nanotube. *T. Kim*[1], C. Lee[1] and B. Lee[2] *1. School of Physics, Seoul National University, Seoul, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea*

AP-05. A paramagnetic solid-state MASER driven by spin injection. *S.M. Watts*[1] and B.J. van Wees[1] *1. Department of Applied Physics and Materials Science Center, University of Groningen, Groningen, Netherlands*

AP-06. Magnetic Content Addressable Memory. *W. Wang*[1] and Z. Jiang[1] *1. Electrical Engineering, University of Wisconsin - Milwaukee, Milwaukee, WI, USA*

AP-07. Ferromagnetic Resonance Based Three-dimensional Magnetic Random Access Memory for areal densities above 10 Terabit-per-square-inch. *S. Khizroev*[1,2], N. Amos[2], R. Ikkawi[2], R. Chomko[1,2] and D. Litvinov[3] *1. Electrical Engineering, University of California, Riverside, Riverside, CA, USA; 2. Center for Nanoscale Magnetic Devices, Florida International University, Miami, FL, USA; 3. Electrical and Computer Engineering, University of Houston, Houston, TX, USA*

AP-08. Four-state magnetoresistance in epitaxial CoFe-based magnetic tunnel junction. *T. Uemura*[1], T. Marukame[1], K. Matsuda[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

AP-09. Magnetic Tunnel Transistor with Epitaxial Spin Valve Base. *A. Spitzer*[1], J. Vigroux[1], J. Moser[1] and G. Bayreuther[1] *1. Department of Physics, University of Regensburg, Regensburg, Germany*

AP-10. Tunable giant magnetoresistance in Wheatstone-bridge devices. *F.J. Castano*[1], I.A. Colin[1], W. Jung[1], D. Morecroft[1] and C.A. Ross[1] *1. Depart. of Material Science and Engineering, MIT, Cambridge, MA, USA*

AP-11. Digital Magneto Resistance in Ferromagnetic Resonant Tunneling Diodes. *C. Ertler*[1] and J. Fabian[1] *1. Institute for Theoretical Physics, University of Regensburg, Regensburg, Germany*

AP-12. 3-bit Gray Counter based on Magnetic-Tunnel-Junction Elements. *S. Lee*[1], J. Kim[1], H. Yang[1], G. Lee[1], S. Lee[1] and H. Shin[1] *1. Dep. of Information Electronics Engineering, Ewha W. University, Seoul, South Korea*

MONDAY MORNING 8:00 **GRAND BALLROOM**

Session AQ
RECORDING SYSTEMS: CHANNEL (POSTER SESSION)

Ksenija Lakovic, Session Chair

AQ-01. A Capacity Approaching Pipelined Low Complexity Turbo Equalizer for Perpendicular Magnetic Recording Channels. H.S. Alhussien[1] and *J. Moon*[1] *1. CDS Lab., Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

AQ-02. A MAP based algorithm for joint estimation of transition jitter and timing error. *X. Zhang*[1] and R. Negi[2] *1. Agere Systems, Allentown, PA, USA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

AQ-03. Performance Evaluation of Partial Response Targets for Perpendicular Recording using Field Programmable Gate Arrays. *S. Jeon*[1], X. Hu[1], L. Sun[2] and B. Vijaya Kumar[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Marvell Semiconductor, Longmont, CO, USA*

AQ-04. BER Performance of PRML system in Perpendicular Magnetic Recording Channel with Thermal Decay. *N. Shinohara*[1], H. Osawa[1], Y. Okamoto[1], Y. Nakamura[1], A. Nakamoto[2], K. Miura[2], H. Muraoka[2] and Y. Nakamura[2] *1. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

AQ-05. A new post-processing technique based on error pattern analysis in PRML channel. Y. Okamoto[1], *H. Sugai*[1], Y. Nakamura[1], H. Osawa[1], H. Aoi[2], H. Muraoka[2] and Y. Nakamura[2] *1. Graduate School of Science and Engineering, Ehime University, Matsuyama, Ehime, Japan; 2. RIEC, Tohoku University, Sendai, Miyagi, Japan*

AQ-06. Biased PRML scheme for transition noise dominant perpendicular recording channels. *X. Zhang*[1] and R. Negi[2] *1. Agere Systems, Allentown, PA, USA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

AQ-07. Performance and Implementation Comparisons of DFE and PRML Detectors with and without Noise Prediction. *L.P. Rao*[1], M.Q. Le[2], J.P. Keane[3] and P.J. Hurst[1] *1. Electrical and Computer Engg., UCDavis, Davis, CA, USA; 2. Broadcom Corporation, Irvine, CA, USA; 3. Agilent Technologies, Palo Alto, CA, USA*

AQ-08. A Reduced-Complexity Iterative Receiver Based on Simulated Annealing for Coded Partial-Response Channels. Z. Qin[1], K. Cai[1] and *X. Zou*[1] *1. MRC Division, Data Storage Institute, Singapore, Singapore*

AQ-09. Kalman Filter Timing Acquisition for Large Frequency Drift. J. Xie[1] and *B. Kumar*[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

AQ-10. A New Class of Quasi-Cyclic Codes Targeting Dominant Error Patterns. J. Park[1] and *J. Moon*[1] *1. CDS Lab., Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

AQ-11. Novel RLL (VR2)-ECC Concatenation System for High Density Magnetic Recording. *J. Lu*[1] and K.G. Boyer[1] *1. Sun Microsystems, Louisville, CO, USA*

AQ-12. Modifying Viterbi Algorithm to Handle Inter-Track Interference in Bit-Patterned Media. *S. Nabavi*[1], B. Kumar[1] and J. Zhu[1] *1. ECE, Carnegie Mellon University, Pittsburgh, PA, USA*

AQ-13. Non-Linear Read Channel Model for Signal Processing of Bit-Patterned Recording Structure. *J. Lee*[1] *1. Samsung Electronics Co., LTD., Suwon, Kyeonggi-Do, South Korea*

AQ-14. A Study of Iterative Decoding for Perpendicular Magnetic Recording Channel using Patterned Media. *Y. Nakamura*[1], M. Nishimura[1], Y. Okamoto[1], H. Osawa[1], H. Aoi[2], H. Muraoka[2] and Y. Nakamura[2] *1. Graduate School of Science and Engineering, Ehime University, Matsuyama, Ehime, Japan; 2. RIEC, Tohoku University, Sendai, Miyagi, Japan*

AQ-15. Novel Soft Feedback Equalisation Method for Multi-level Magnetic Recording. *P. Shah*[1], M. Ahmed[1], M. Ambroze[1], C. Tjhai[1] and P.J. Davey[1] *1. School of Computing, Communications and Electronics, University of Plymouth, Plymouth, United Kingdom*

MONDAY MORNING 8:00 — GRAND BALLROOM

Session AR
SENSORS AND DEVICES (POSTER SESSION)
Alan Edelstein, Session Chair

AR-01. Shielded-loop type on-chip magnetic field probe to evaluate radiated emission from thin-film noise suppressor. *M. Yamaguchi*[1], S. Koya[1], H. Torizuka[1], Y. Shimada[1], S. Aoyama[2] and S. Kawahito[2] *1. Electrical and Communication Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Research Institute of Electronics, Shizuoka University, Hamamatsu, Shizuoka, Japan*

AR-02. One Dimensional AGMI Sensor With $Co_{66}Fe_4Si_{15}B_{15}$ Ribbon As Sensing Element. *K. Pradap*[1], C. Kim[1,3], S.S. Yoon[2], C-O. Kim[1,3] and K. Kim[2] *1. CNU, Dejeon, South Korea; 2. Andong National University, Daejeon, South Korea; 3. Research Center for Advanced Magnetic Materials(ReCAMM), Daejeon, South Korea*

AR-03. Hematite based novel nanoscale magnetic gas sensor: Gas selectivity and temperature dependence. *A. Punnoose*[1], K. Reddy[1], A. Thurber[1] and J. Hays[1] *1. Physics, Boise State University, Boise, ID, USA*

AR-04. Magnetic Properties of Spin Valves Having Extremely Thin MoN Underlayer. J. Kim[1] and *S. Jo*[1] *1. School of Electronic Engineering, Soongsil University, Seoul, South Korea*

AR-05. Wireless magnetic motion capture system – compensatory tracking of positional error caused by mutual inductance -. *S. Hashi*[1], M. Toyoda[1], S. Yabukami[2], K. Ishiyama[3], Y. Okazaki[1] and K. Arai[4] *1. Department of Materials Science and Technology, Gifu University, Gifu, Japan; 2. Department of Electrical Engineering and Information Technology, Tohoku Gakuin University, Tagajo, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 4. The Research Institute for Electric and Magnetic Materials, Sendai, Japan*

AR-06. Compositional Dependence of the Magnetomechanical Effect in Substituted Cobalt Ferrite for Magnetoelastic Stress Sensors. *C. Lo*[1] *1. Center for NDE, Iowa State University, Ames, IA, USA*

AR-07. Thin film micro-transformer integrated on silicon for signal isolation. *N. Wang*[1], T. O'Donnell[1], S. Roy[1], S. Kulkarni[1], P. Mccloskey[1] and C. O'Mathuna[1] *1. Tyndall National Institute, Cork, Ireland*

AR-08. IrMn/ CoFe exchange-coupled multilayers for RF integrated inductors. *R. Jiang*[1], C. Lai[1] and N. Shams[1] *1. Materials Science and Engineering, National Tsing Hu University, HsinChu, Taiwan*

AR-09. Tensor nature of permeability and its effects in the simulation of inductive magnetic devices. *L. Li*[1], D. Lee[1], S.X. Wang[1], K. Hwang[2], Y. Min[2], M. Mao[3], T. Schneider[3] and R. Bubber[3] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA; 2. Intel Corporation, Chandler, AZ, USA; 3. Veeco Instruments Fremont, Fremont, CA, USA*

AR-10. Investigation on Magnetostrictive Micro Devices. *G. Scheerschmidt*[1], K.J. Kirk[1] and G. McRobbie[2] *1. Microscale Sensors, University of Paisley, Paisley, United Kingdom; 2. School of Computing, University of Paisley, Paisley, United Kingdom*

MONDAY MORNING 8:00 **GRAND BALLROOM**

Session AS
ULTRATHIN FILMS AND SURFACE EFFECTS I (POSTER SESSION)

Jian Shen, Session Chair

AS-01. STM/MFM study of Fe ultrathin film on MgO(001) in ultra-high vacuum. *J. Lee*[1,2], M. Dreyer[1,2], C. Krafft[2] and R. Gomez[1,2] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Science, College Park, MD, USA*

AS-02. Growth and magnetism of ultra-thin Fe films on Pt (110). *J. Park*[1,2] and Y. Lee[1] *1. Physics, Hanyang university, Seoul, South Korea; 2. KRISS, Daejen, South Korea*

AS-03. Temperature effect on the magnetic properties of compositionally modulated ultrathin Fe/Al nano-structures. *R. Brajpuriya*[1], S. Tripathi[1], A. Sharma[1], D. Jain[1], V. Ganeshan[1], T. Shripathi[1] and S. Chaudhari[1] *1. UGC-DAE Consortium for Scientific Research, Indore, M.P., India*

AS-04. Non-collinear magnetic coupling in tri-layer ultra-thin films of Fe and Ni on Cu(100). C. Andersson[1], *O. Karis*[1], J. Hunter Dunn[2,1] and D. Arvanitis[1] *1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. MAX-lab, Lund University, Lund, Sweden*

AS-05. Ferromagnetic resonance study of Fe/Mn/Fe trilayers. *F. Pelegrini*[1], B.R. Segatto[2] and E.C. Passamani[2] *1. Instituto de Fisica, Universidade Federal de Goias, Goiania, Goias, Brazil; 2. Departamento de Física, Universidade Federal do Espírito Santo, Vitória, Espírito Santo, Brazil*

AS-06. Morphology dependent capping layer effects in ultra-thin Co films and nanoparticles. *C. Clavero*[1], J. García-Martín[1], A. Cebollada[1], G. Armelles[1], E. Navarro[3] and Y. Huttel[2] *1. IMM-CSIC, Tres Cantos, Madrid, Spain; 2. ICMM-CSIC, Cantoblanco, Madrid, Spain; 3. UCM, Madrid, Madrid, Spain*

AS-07. Magnetic properties and microstructure of ultrathin Co/Si(111) films. *H. Chang*[1], J.S. Tsay[2], F.T. Yuan[1], Y.C. Hung[3], W.Y. Chan[1], W.B. Su[1] and Y.D. Yao[1] *1. Institute of Physics, Academia Sinica, Taipei, 11509, Taiwan; 2. Department of Physics, National Taiwan Normal University, Taipei, 116, Taiwan; 3. Department of Physics, National Chune Cheng University, Chia-Yi, Taiwan*

AS-08. Effect of epitaxial strain on structure and magnetic properties of ultra-thin FeCo films. *S. Mitani*[1] and K. Takanashi[1] *1. IMR Tohoku University, Sendai, Japan*

AS-09. Microstructure of Co/X (X=Cu, Ag, Au) Epitaxial Thin Films Grown on Al_2O_3(0001) Substrates. *M. Ohtake*[1], Y. Akita[1] and M. Futamoto[1] *1. Department of Electrical, Electronic, and Communication Engineering, Faculty of Science and Engineering, Chuo University, Tokyo, Japan*

AS-10. Ferromagnetic resonance properties of diluted-moment [Ni81Fe19]1-xCux magnetic thin films. *Y. Guan*[1], P.G. Burke[2] and W.E. Bailey[1] *1. Materials Science Program, Department of Applied Physics, Columbia University, New York, NY, USA; 2. Department of Materials Science and Engineering, Lehigh University, Bethlehem, PA, USA*

AS-11. Calculation of spin wave mode response induced by a coplanar microwave line. *K. Kennewell*[1], M. Kostylev[1] and R.L. Stamps[1] *1. School of Physics, University of Western Australia, Crawley, WA, Australia*

AS-12. Effects of substrate orientation on the magnetic properties of GaMnAs. *W. Lee*[1], Y. Chen[2], J. Huang[2], P. Huang[2], C. Kuo[3] and T. Chin[2] *1. Materials Science Center, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Department of Materials Science & Engineering, National Chiao Tung University, Hsinchu, Taiwan*

MONDAY MORNING 8:00 GRAND BALLROOM

Session AT
MULTILAYER FILMS AND SUPERLATTICES I (POSTER SESSION)

Chih-Huang Lai, Session Co-chair
Minn-Tsong Lin, Session Co-chair

AT-01. Observation of magnetic configurations in antiferromagnetically-coupled films with perpendicular anisotropy by transport measurements. *L.Y. Zhu*[1] and C.L. Chien[1] *1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

AT-02. Stripes in a thin-film ferromagnet. *D. Clarke*[1], O.A. Tretiakov[1], O. Tchernyshyov[1] and V.I. Nikitenko[2,3] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA; 2. NIST, Gaithersburg, MD, USA; 3. Institute of Solid State Physics, Chernogolovka, Russian Federation*

AT-03. Multidomain states in ferromagnetic multilayers with perpendicular anisotropy. *U.K. Rossler*[1], N.S. Kiselev[2], I.E. Dragunov[2] and A.N. Bogdanov[1,2] *1. IFW Dresden, Dresden, Germany; 2. Donetsk Institute for Physics and Technology, Donetsk, Ukraine*

AT-04. A transition of interlayer coupling from antiferromagnetic to ferromagnetic observed at low temperature in CoFe/Bi/Co trilayers. *J. Hsu*[1,2] and Z. Xue[1] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National TaiwanUniversity, Taipei, Taiwan*

AT-05. Magnetic properties of $Tb_{100-y}Gd_y$/X multilayers (X = Ti, Si) with different thicknesses of the magnetic layers. *G.V. Kurlyandskaya*[1,2], A.V. Svalov[2], V.O. Vaskovskiy[2] and J.M. Barandiaran[1] *1. Department of Electricity and Electronics, Basque Country University, Leioa, Bizkaia, Spain; 2. Department of Physics, Ural State University, Ekaterinburg, Russian Federation*

AT-06. Dynamic Properties of Gd/Co Multilayer Structures. *S. Demirtas*[1], R. Lopusnik[1], A.A. Faulkner[1], M.J. Wenger[1], I. Harward[1], M.R. Hossu[2], A.R. Koymen[2], Z. Celinski[1] and R.E. Camley[1] *1. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Department of Physics, University of Texas at Arlington, Arlington, TX, USA*

AT-07. Tunable Spin Waves in K-component Fibonacci Antiferromagnetic/ Nonmagnetic Multilayers. X. Zhang[1], *R. Peng*[1], S. Kang[2], L. Cao[1], Z. Tang[1], Z. Wang[1], Z. Zhao[1] and M. Wang[1] *1. National Laboratory of Solid State Microstructures, Nanjing, China; 2. Center for Materials for Information Technology, The University of Alabama, Tuscaloosa, AL, USA*

AT-08. *Ab initio* investigations on atomistic behaviors and magnetic properties in Fe-Cu multilayer system. *C. Kim*[1] and Y. Chung[1] *1. Materials Science and Engineering, Hanyang University, Seoul, South Korea*

AT-09. Photo-Induced Interlayer Exchange Coupling of Fe/Si/Fe Trilayer Structure. *S. Ueda*[1], Y. Iwasaki[1,2], Y. Uehara[1,3] and S. Ushioda[1,4] *1. RIKEN Photodynamics Research Center, Sendai, Japan; 2. Core Component Business Group, Sony Corporation, Tagajo, Miyagi, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 4. Japan Advanced Institute of Science and Technology, Ishikawa-ken, Japan*

AT-10. Temperature Controlled Exchange Coupling in Co/Ru Multilayers Alloyed at the Interfaces. *C.J. Kinane*[1,2], L.A. Michez[1], C.H. Marrows[1], B.J. Hickey[1], T.R. Charlton[2] and S. Langridge[2] *1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Chilton, Oxford, United Kingdom*

AT-11. Antiferromagnetic interlayer coupling through thin MgO layer in γ-Fe_2O_3/MgO/Fe(001) multilayers. *H. Yanagihara*[1], Y. Toyoda[1] and E. Kita[1] *1. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan*

AT-12. Perpendicular interlayer coupling through oscillatory RKKY interaction between Co/Pt multilayer and Co/TbCo bilayer. *M. Lin*[1] and C. Lai[1] *1. Materials Science and Engineering, National Tsing Hu University, HsinChu, Taiwan*

AT-13. Synthesis and magnetic properties of multilayered Fe/Au nanowires. *J. Lee*[1], J. Cho[1], J. Min[1], B. An[1], M. Cho[1], S. No[1], Y. Kim[1], H. Liu[2] and J. Wu[3] *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, South Korea; 3. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea*

AT-14. Ti layer thickness dependent magnetic properties of annealed Ti/Ni multilayers near solid state amorphization temperature. *P. Bhatt*[1,2], S.M. Chaudhari[2], V.R. Reddy[2] and M. Fahlman[1] *1. Department of Science and Technology, Linköping University, SE-601 74 Norrköping, Sweden; 2. UGC-DAE Consortium for Scientific Research, University Campus, Khandwa Road, Indore, 452017 M.P., India*

AT-15. XMCD studies of the enhancement of Fe spin moment in $[Fe_{70}Co_{30}/Pd]_n$ super-lattice films with high saturation magnetization. *K. Noma*[1], H. Kanai[1], Y. Uehara[1], T. Nakamura[2], K. Nomura[3], S. Doi[3] and N. Awaji[3] *1. Advanced Head Technology Dept., Fujitsu Ltd., Nagano, Japan; 2. SPring-8, JASRI, Hyogo, Japan; 3. Nano-Electronic Materials Research and Engineering Lab., Fujitsu Laboratories Ltd., Atsugi, Japan*

AT-16. On the Physics of Magnetic Anisotropy in Co/Pd Multilayer Thin Films. *D. Smith*[1,3], E. Chunsheng[1,2], S. Zhang[1,4], T. Lee[1,5], S. Khizroev[6] and D. Litvinov[1,2] *1. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical and Computer Engineering, University of Houston, Houston, TX, USA; 3. Materials Engineering, University of Houston, Houston, TX, USA; 4. Chemical and Biomolecular Engineering, University of Houston, Houston, TX, USA; 5. Chemistry, University of Houston, Houston, TX, USA; 6. Electrical Engineering, University of California - Riverside, Riverside, CA, USA*

AT-17. Annealing Study of Co/Pd Magnetic Multilayers for Applications in Bit-Patterned Media. *E. Chunsheng*[1], J.O. Rantschler[1], S. Zhang[1], D. Smith[1], D. Weller[3], S. Khizroev[2] and D. Litvinov[1] *1. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical and Computer Engineering, Florida International University, Miami, FL, USA; 3. Seagate Technology, Pittsburgh, PA, USA*

AT-18. Instability of a twisted phase in Fe_3O_4/Mn_3O_4 superlattice. R. Su[1], *K. Kuo*[1], D.S. Lee[1] and G. Chern[1] *1. SPIN Research Center and Physics Department, National Chung Cheng University, Chia-Yi, Taiwan*

AT-19. The Reversible Susceptibility Tensor of Synthetic Antiferromagnets. D. Cimpoesu[1,2], A. Stancu[2] and *L. Spinu*[3] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Faculty of Physics, Al. I. Cuza University, Iasi, Romania; 3. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA*

AT-20. Reversible Susceptibility Studies of Magnetization Switching in FeCoB Synthetic Antiferromagnets. *C. Radu*[1], E. Girt[2], G. Ju[3], D. Cimpoesu[4], A. Stancu[5] and L. Spinu[1] *1. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Seagate Technology, Fremont, CA, USA; 3. Seagate Technology, Pittsburgh, PA, USA; 4. Advanced Materials Research Institute, University of New Orlans, New Orleans, LA, USA; 5. Faculty of Physics, Al. I. Cuza University, Iasi, Romania*

AT-21. The effect of interdiffusion on microstructure and magnetic properties of annealed Fe/Pt multilayer thin films. *S. Oh*[1], P.D. Nguyen[1], B. Lee[1], C. Lee[1], B. Koo[1], T. Shimozaki[2] and T. Okino[3] *1. School of Nano & Advanced Materials Engineering, Changwon National University, Changwon, South Korea; 2. Center for Instrumental Analysis, Kyushu Institute of Technology, Kitakyushu, Japan; 3. Department of Applied Mathematics, Faculty of Engnieering, Oita University, Oita, Japan*

AT-22. Ferromagnetic resonance study of magnetic phases in FeNi/Al/FeMn/Al and FeMn/Al/FeNi/Al multilayers. *F. Pelegrini*[1], D.R. de Jesus[1], J.F. Borges[2], V.P. Nascimento[3] and E.B. Saitovitch[3] *1. Instituto de Fisica, Universidade Federal de Goias, Goiania, Goias, Brazil; 2. Departamento de Física, Universidade Estadual de Ponta Grossa, Ponta Grossa, Paraná, Brazil; 3. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Rio de Janeiro, Brazil*

MONDAY MORNING 8:00 — GRAND BALLROOM

Session AU
DOUBLE PEROVSKITES AND MAGNETIC SEMICONDUCTORS (POSTER SESSION)

Volker Rose, Session Co-chair
Sudakar Chandran, Session Co-chair

AU-01. Growth and properties of thin films of the ferromagnetic double perovskite La_2NiMnO_6 H. Guo[1], J. Burgess[1], E. Ada[1], S. Street[1], *A. Gupta*[1], T.G. Calvarese[2] and M.A. Subramanian[2] *1. MINT Center and Department of Chemistry, University of Alabma, Tuscaloosa, AL, USA; 2. DuPont Central Research and Development, Wilmington, DE, USA*

AU-02. ON THE ORIGIN OF THE REDUCED MAGNETORESISTANCE OF ELECTRON DOPED Fe-Mo DOUBLE PEROVSKITES. D. Rubi[1] and *J. Fontcuberta*[1] *1. Instituto de Ciencia de Materiales de Barcelona, Bellaterra, Barcelona, Spain*

AU-03. Sr2CrOsO6: a half-semiconductor. *Y. Krockenberger*[1,2], K. Mogare[1], M. Reehuis[3,1], M. Tovar[3], M. Jansen[1], G. Vaitheeswaran[4], V. Kanchana[4], F. Bultmark[5], A. Delin[4], F. Wilhelm[6], A. Rogalev[6], A. Winkler[2] and L. Alff[2] *1. Solid State Research, Max Planck Institute, Stuttgart, Germany; 2. Department for material research, Darmstadt University of Technology, Darmstadt, Germany; 3. Hahn-Meitner-Institut Berlin, Berlin, Germany; 4. Department of Materials Science and Engineering, Royal Institute of Technology (KTH), Stockholm, Sweden; 5. Department of Physics, University of Uppsala, Uppsala, Sweden; 6. European Synchrotron Radiation Facility (ESRF), Grenoble, France*

AU-04. Key role of Re orbital moment in the magnetic properties of Re-based double perovskites. *J.M. De Teresa*[1], D. Serrate[1], J.M. Michalik[1,2], J. Blasco[1], R. Ibarra[1,3], C. Kapusta[2] and M. Sikora[2,4] *1. Instituto de Ciencia de Materiales de Aragon, CSIC-Universidad de Zaragoza, Zaragoza, Spain; 2. Faculty of Physics and Applied Computer Sciences, AGH University of Science and Technology, Cracow, Poland; 3. Instituto de Nanociencia de Aragon, Universidad de Zaragoza, Zaragoza, Spain; 4. European Synchrotron Radiation Facility, Grenoble, France*

AU-05. Investigation of the local Re and Fe magnetic moments in Ca_2FeReO_6 double perovskite through the metal-to-insulator transition. *C. Azimonte*[1,2], E. Granado[1,2], J.C. Cezar[3], H. Tolentino[4], J. Gopalakrishnan[5] and K. Ramesha[5] *1. Instituto de Física "Gleb Wataghin", UNICAMP, Campinas, SP, Brazil; 2. Laboratório Nacional de Luz Síncrotron, Campinas, SP, Brazil; 3. European Synchrotron Radiation Facility, Grenoble, France; 4. Laboratoire de Cristallographie, Grenoble, France; 5. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India*

AU-06. sp-d exchange interaction in Mn : ZnO DMS. *E. Chikoidze*[1,2], Y. Dumont[1], W. Pacuski[3] and J. Von Bardeleben[4] *1. GEMAC, CNRS, MEUDON, France; 2. Material Science Department, Tbilisi State University, Tbilisi, Georgia; 3. Institute of Experimental Physics, Warsaw University, Warszawa, Poland; 4. Institut des Nanosciences de Paris (INSP), CNRS-Universités Paris 6&7, Paris, France*

AU-07. Evidence for Room Temperature Ferromagnetism in $Cu_xZn_{1-x}O$ from Magnetic Studies in $Cu_xZn_{1-x}O/CuO$ Composite. M.S. Seehra[1], *P. Dutta*[1], V. Singh[1] and I. Wender[2] *1. Physics Department, West Virginia University, Morgantown, WV, USA; 2. Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA, USA*

AU-08. Magnetic Interactions in n-type ZnMnO thin films: an electron paramagnetic resonance study. *H.J. von Bardeleben*[1], A. BenMahmoud[2], J.L. Cantin[1], A. Mauger[3] and E. Chikoidze[4] *1. INSP, University Paris 6, Paris, France; 2. LaPhyMNE, Faculté des Sciences, Gabes, Tunisia; 3. MIPU / CNRS, Paris, France; 4. GEMC, CNRS, Meudon, France*

AU-09. Room temperature x-ray magnetic circular dichroism of cobalt-doped zinc oxide. K. Nielsen[1], S. Bauer[1], *S.T. Goennenwein*[1], M. Opel[1], J. Cezar[2], D. Schmeisser[3] and R. Gross[1] *1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. European Synchrotron Radiation Facility, Grenoble, France; 3. Brandenburgische Technische Universität Cottbus, Cottbus, Germany*

AU-10. Kinetically-controlled epitaxial growth and properties of ferromagnetic $Ge_{1-x}Mn_x$ thin films. *S. Yada*[1], M. Tanaka[1,2] and S. Sugahara[3] *1. Department of Electronic Engineering, The University of Tokyo, Tokyo, Japan; 2. SORST, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan*

AU-11. Role of oxygen and annealing in room temperature ferromagnetism of 1D GeMn nanostructures. *O. Kazakova*[1], J.S. Kulkarni[2] and J.D. Holmes[2] *1. NPL, Teddington, United Kingdom; 2. UCC, Cork, Ireland*

AU-12. N-type magnetic semiconductor MnGeAs2 thin film: MBE growth and magnetic properties. *S. Cho*[1,4], J. Choi[1], S. Choi[2], Y. Hwang[1], J.B. Ketterson[4] and Y. Kim[5] *1. Physics, University of Ulsan, Ulsan, Ulsan, South Korea; 2. Electronics and Telecommunications Research Institute, Taejon, Taejon, South Korea; 3. Department of Physics and Astronomy, Northwestern University, Evanston, IL, USA; 4. Nanodevice Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 5. Department of Electrophysics, Kwangwoon University, Seoul, South Korea*

MONDAY MORNING 8:00 **GRAND BALLROOM**

Session AV
MAGNETIC TUNNEL JUNCTIONS AND SPIN FILTERING (POSTER SESSION)

Jeff Parker, Session Chair

AV-01. Current and Resistance Noise Mechanisms in High TMR MgO-based Magnetic Tunnel Junctions. *A. Gokce*[1], E.R. Nowak[1], G.X. Miao[2], A. Gupta[2], K. Tsunekawa[3] and D. Djayaprawira[3] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 3. Canon Anelva Corporation, Tokyo, Japan*

AV-02. Differential conductance measurements of fully epitaxial bcc-Co(001)/MgO(001)/Co(001) magnetic tunnel junctions. *S. Nishioka*[1], M. Mizuguchi[1], M. Shiraishi[1], Y. Suzuki[1,2], R. Matsumoto[2,1], A. Fukushima[2] and S. Yuasa[2] *1. Osaka University, Osaka, Japan; 2. AIST, Ibaraki, Japan*

AV-03. Transmission Electron Microscopy study of the Fe(001)/MgO(001) interface for magnetic tunnel junctions. *C. Wang*[1], A. Kohn[1], S. Wang[2], R.C. Ward[2] and A.K. Petford-Long[3] *1. Materials Department, Oxford University, Oxford, United Kingdom; 2. Physics Department, Clarendon Laboratory, Oxford University, Oxford, United Kingdom; 3. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA*

AV-04. Grain-to-grain epitaxy as a prerequisite for the high magnetoresistance in polycrystalline MgO-based magnetic tunnel junction. Y. Nagamine[1], *Y. Choi*[1], K. Tsunekawa[1] and D.D. Djayaprawira[1] *1. Electron Device Equipment Division, Canon ANELVA corporation, Fuchu-shi, Tokyo, Japan*

AV-05. MTJ elements with MgO barrier using RE-TM amorphous layers for perpendicular MRAM. T. Hatori[1], H. Ohmori[1], M. Tada[1] and *S. Nakagawa*[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan*

AV-06. Microfabrication of magnetic tunnel junctions using CH_3OH ion etching. *Y. Otani*[1,2], H. Kubota[1], A. Fukushima[1], H. Maehara[3], T. Osada[3], S. Yuasa[1] and K. Ando[1] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Graduate School of Pure and Applied Science, Tsukuba University, Tsukuba, Ibaraki, Japan; 3. Electron Device Equipment Division, Canon ANELVA Corporation, Fuchu, Tokyo, Japan*

AV-07. The structure of the Fe/MgO(111) interface and its implications for the magneto-transport properties of tunnel junction devices. *V.K. Lazarov*[1], A. Kohn[1], S.H. Cheung[2], S.A. Chambers[2], M. Weinert[3] and M. Gajdardziska-Josifovska[3] *1. Materials, University of Oxford, Oxford, United Kingdom; 2. Pacific Northwest National Laboratory, Richland, WA, USA; 3. Physics Department and Lab for Surface studies, University of Wisconsin-Milwaukee, Milwaukee, WI, USA*

AV-08. Large Exchange Bias and High Blocking Temperature of MgO-Barrier-MTJs With $L1_2$-Ordered Mn_3Ir. *K. Komagaki*[1], K. Yamada[1], K. Noma[1], H. Kanai[1], K. Kobayashi[1], Y. Uehara[1], M. Tsunoda[2] and M. Takahashi[2] *1. Advanced Head Technology Dept., FUJITSU LIMITED, Nagano, Japan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

AV-09. Ab initio study on tunneling conductance in magnetic tunnel junctions of half-metallic full-Heusler alloys with MgO barrier. *Y. Miura*[1], Y. Oba[1], K. Nagao[1] and M. Shirai[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

AV-10. Effect of work function in Co/Al2O3/CoGd magnetic tunnel junctions. *T. Moriyama*[1], J.Q. Xiao[1], Q. Wen[2] and H.W. Zhang[2] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. School of Micro-electronic and Solid-electronic, University of Electronic Science and Technology of China, Chengdu, China*

AV-11. SPECTROSCOPY OF A THREE-DIMENSIONAL DISORDER BY SPIN-DEPENDENT RESONANT TUNNELING. *H. Jaffres*[1], V. Garcia[2], M. Marangolo[2], M. Eddrief[2], V. Etgens[2] and J. George[1] *1. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 2. Institut des nanoSciences de Paris, Université Paris 6 & 7, Paris, France*

AV-12. Tuneable magnetism and tunnelling spin polarization of $Co_{80-x}Fe_xB_{20}$ alloys. *P.V. Paluskar*[1], J.T. Kohlhepp[1], H.J. Swagten[1] and B. Koopmans[1] *1. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

AV-13. Room Temperature Spin Filtering in CoFe2O4 Tunnel Barriers. *M.G. Chapline*[1] and S.X. Wang[2] *1. Western Digital, Fremont, CA, USA; 2. Material Science and Enginerring, Stanford University, Stanford, CA, USA*

AV-14. Near 100% Spin Filtering with EuO Tunnel Barriers. *T. Santos*[1] and J.S. Moodera[1] *1. Francis Bitter Magnet Lab, MIT, Cambridge, MA, USA*

AV-15. Transport characteristics and magnetoresistance with EuS spin filter tunnel barriers. *T. Nagahama*[1,2], T.S. Santos[1] and J.S. Moodera[1] *1. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA, USA; 2. Nano-electronics Research Institute, AIST, Tsukuba, Ibaraki, Japan*

MONDAY MORNING 8:00 **GRAND BALLROOM**

Session AW
SPIN TORQUE: MICROWAVE OSCILLATIONS (POSTER SESSION)

David Abraham, Session Chair

AW-01. Electrical measurement of spin-wave interactions between closely-spaced spin transfer nano-oscillators. *M. Pufall*[1], W.H. Rippard[1], S. Kaka[2], S.E. Russek[1] and J.A. Katine[3] *1. NIST, Boulder, CO, USA; 2. Seagate Technology, Pittsburgh, PA, USA; 3. Hitachi Global Storage Technologies, San Jose, CA, USA*

AW-02. Spin Transfer Dynamics in CoFeB Spinvalves. *W.H. Rippard*[1], M. Pufall[1], M.L. Schneider[1], K. Gerello[1] and S. Russek[1] *1. NIST, Boulder, CO, USA*

AW-03. Phase Locked Spin Torque Oscillators: Impact of Device Variability and Time Delay. *J. Persson*[1], Y. Zhou[1] and J. Åkerman[1] *1. Department of Microelectronics and Applied Physics, Royal Institute of Technology, Kista, Sweden*

AW-04. Magnetization Dynamics in CoFe/AlO/Py and CoFe/MgO/Py Magnetic Tunnel Junctions. *G. Finocchio*[1], L. Torres[2], G. Consolo[1], M. Carpentieri[1], A. Romeo[1] and B. Azzerboni[1] *1. University of Messina, Messina, Italy; 2. Departamento de Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*

AW-05. Relaxation time and current pulse durations on spin-transfer magnetization switching in MgO-based magnetic tunnel junctions. *C. Lee*[1], J. Lee[2,5], L. Ye[2,5], M. Weng[4,5], Y. Chen[5], J. Su[3,5], Y. Huai[6], Z. Diao[6], Y. Ding[6], A. Panchula[6] and T. Wu[4,5] *1. General Education Center, National Yunlin University of Science and Technology, Touliu, Taiwan; 2. Graduate school of Engineering Science & Technology, National Yunlin University of Science and Technology, Touliu, Taiwan; 3. Department of Electrical Engineering, National Yunlin University of Science and Technology, Touliu, Taiwan; 4. Graduate School of Optoelectronics, National Yunlin University of Science and Technology, Touliu, Taiwan; 5. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Touliu, Taiwan; 6. Grandis Inc., Milpitas, CA, USA*

AW-06. Estimation of spin transfer torque effect and thermal effect of magnetization reversal in CoFeB/MgO/CoFeB magnetoresistive tunneling junctions. *M. Yoshikawa*[1], T. Ueda[1], H. Aikawa[1], E. Kitagawa[1], M. Nakayama[1], T. Kai[1], K. Nishiyama[1], T. Nagase[1], T. Kishi[1], S. Ikegawa[1] and H. Yoda[1] *1. Corporate Research & Development Center, TOSHIBA Corporation, Kawasaki, Japan*

AW-07. Current-Driven Domain Wall Dynamics. *B. Krueger*[1], M.A. Bolte[2], G. Meier[2], U. Merkt[2] 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*

AW-08. Effect of ac current on the current-induced domain wall motion. *W. Kim*[1], K. Lee[2] and T. Lee[1] *1. Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Department of Materials Science and Engineering, Korea University, Seoul, South Korea*

AW-09. Current driven hysteresis in magnetic nano-contacts. *A. Konovalenko*[1], V. Korenivski[1], I.K. Yanson[2] and Y.G. Naidyuk[2] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden; 2. B. Verkin Institute for Low Temperature Physics and Engineering, National Academy of Sciences of Ukraine, Kharkiv, Ukraine*

AW-10. Mode-hopping of current-driven excitations in spin-valve point-contacts. Q. Mistral[1], M. van Kampen[2], T. Devolder[1], P. Crozat[1], *J. Kim*[1], C. Chappert[1], L. Lagae[2] and G. Borghs[2]*1. Institut d'Electronique Fondamentale, CNRS/Université Paris-Sud, Orsay, France; 2. IMEC, Leuven, Belgium*

AW-11. Spin-torque in non-coplanar structures $F_1/P/F_2/P/F_3$ *D. Gusakova*[1], A. Vedyayev[1] and U. Ebels[1]*1. SPINTEC, URA 2512 CEA/CNRS, CEA - Grenoble, Grenoble, France*

AW-12. Magnetization reversal induced by spin-transfer torque from a FePt perpendicular spin polarizer. *T. Seki*[1], S. Mitani[1], K. Yakushiji[1] and K. Takanashi[1]*1. Institute for materials research, Tohoku University, Sendai, Japan*

AW-13. Current-Induced Magnetic Excitations in Nanopillar Spin-Valve Systems with Twin Free-Layers. *J. Lee*[1,4], K. Shin[4], S. Choe[2], K. Lee[3] and C. You[1]*1. physics, Inha. university, In-Cheon, South Korea; 2. Physics, Seoul university, Seoul, South Korea; 3. Advanced material engineering, Korea university, Seoul, South Korea; 4. Nano-device research center, Korea Institute of Science and Technology, Seoul, South Korea*

AW-14. Current-Induced switching study of the canting model for ferrimagnet thin films. *A. Canizo-Cabrera*[1], V. Garcia-Vazquez[2] and T. Wu[1]*1. Taiwan SPIN Research Center, National Yunlin University of Science & Technology, Touliu, Yunlin, Taiwan; 2. Instituto de Fisica Luis Rivera Terrazas, Universidad Autonoma de Puebla, Puebla, Puebla, Mexico*

AW-15. Spin transfer torque effect in AgCo granular films. *Y. Luo*[1], M. Esseling[1], M. Münzenberg[2] and K. Samwer[1]*1. I.Phys. Institute, University Göttingen, Göttingen, Germany; 2. IV.Phys. Institute, University Göttingen, Göttingen, Germany*

MONDAY MORNING 8:00 **GRAND BALLROOM**

Session AX
SPIN GLASSES, LOW-DIMENSIONAL AND STRONGLY CORRELATED SYSTEMS

(POSTER SESSION)
Henri Jansen, Session Chair

AX-01. Composition Dependence of Magnetic Behavior in Mixed Magnetic Mn/Ni Dichloride Monohydrate. *G.C. DeFotis*[1], T.M. Owens[1], W.M. May[1], J.H. Boyle[1], E.S. Vos[1], Y. Matsuyama[1] and A.T. Hopkinson[1]*1. Chemistry, College of William and Mary, Williamsburg, VA, USA*

AX-02. Channel Width Effect on Spin-Orbit Coupling Parameter in a Two-Dimensional Electron Gas. *J. Kwon*[1], H. Koo[1], J. Eom[1,2], J. Chang[1] and S. Han[1]*1. Korea Instiute of Science and Technology, Seoul, South Korea; 2. Sejong University, Seoul, South Korea*

AX-03. Broken spin-Hall accumulation symmetry by external magnetic field. *S. Chen*[1], M. Liu[1], K. Chen[1] and C. Chang[1]*1. Department of Physics, National Taiwan University, Taipei, Taiwan*

AX-04. Multiple Delocalization of Electrons and Persistent Currents in Random n-mer Mesoscopic Rings Threaded by A Magnetic Flux. R. Zhang[1], Z. Tang[1], *R. Peng*[1], L. Cao[1], Z. Wang[1], D. Li[1], M. Wang[1] and S. Kang[2]*1. National Laboratory of Solid State Microstructures, Nanjing, China; 2. Center for Materials for Information Technology, Tuscaloosa, AL, USA*

AX-05. Fermionic formulation for the Hopfield Ising spin-glass in a transverse field. *S.G. Magalhaes*[1], C.J. Kipper[1], F.M. Zimmer[1] and P.R. Krebs[2]*1. Departamento de Física, Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil; 2. Instituto de Física e Matemática, Universidade Federal de Pelotas, Pelotas, Rio Grande do Sul, Brazil*

AX-06. Composition dependence of the critical temperatures in 3d Heisenberg ±J spin glass. *A.D. Beath*[1] and D.H. Ryan[1]*1. Physics Department and the Centre for the Physics of Materials, McGill University, Montreal, QC, Canada*

AX-07. Magnetovolume effect and magnetic transition in Gd_5Si_4 Z. Altounian[1] and *X. Liu*[1]*1. physics department, McGill University, Montreal, QC, Canada*

AX-08. Super heavy, possible non-Fermi liquid system $CeNi_9Ge_4$ at very high fields and low temperatures. C.R. Rotundu[1], Y. Takano[1] and *B. Andraka*[1]*1. Physics, University of Florida, Gainesville, FL, USA*

AX-09. Heat capacity of pyrochlore $Pr_2Ru_2O_7$ *M. Tachibana*[1], Y. Kohama[2], T. Atake[2] and E. Takayama-Muromachi[1]*1. National Institute for Materials Science, Tsukuba, Ibaraki, Japan; 2. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan*

AX-10. Multiple magnetic transitions and magnon gap-like characteristics in the high purity TbB_4 single crystal. *J. Rhyee*[1,2], J. Kim[2] and B. Cho[2,3]*1. Crystal growth gr., Max-Plank Institute for Solid State Research, Stuttgart, Germany; 2. Dept. of Materials Sci. and Eng., Gwnagju Institute of Sci. and Tech., Gwang-Ju, South Korea; 3. Center for strongly correlated materials research, Seoul National University, Seoul, South Korea*

AX-11. Structure and thermal expansion anomaly study on Nd(Fe,Mo)12Nx. H. Du[1], Y. Shan[1], *J. Yang*[1] and Y. Yang[1]*1. School of Physics, Peking University, Beijing, China*

MONDAY MORNING 8:00 — GRAND BALLROOM

Session AY
MAGNETIC FLUIDS AND SEPARATION (POSTER SESSION)
Norman Wereley, Session Chair

AY-01. Synthesis of Magnetic Activated Carbons For Removal of Environmental Endocrine Disrupter. *H. Nagata*[1], S. Nakamura[1], A. Nakahira[1] and K. Fukunishi[2] *1. Osaka Pref Univ, Osaka, Japan; 2. Futaba Shoji Co. LTD, Osaka, Japan*

AY-02. Magnetic behavior of magnetic ionic liquid [Bmim][$FeCl_4$]. S. Lee[1], S. Ha[1], *C. You*[3] and Y. Koo[1,2] *1. ERC for Advanced Bioseparation Technology, Inha University, Incheon, South Korea; 2. Department of Biological Engineering, Inha University, Incheon, South Korea; 3. Department of Physics, Inha University, Incheon, South Korea*

AY-03. Magnetooptical properties of ionic magnetic fluids. G.D. Benicio[1], K.L. Miranda[2], P.P. Sartoratto[2], F. Pelegrini[1] and *A.F. Bakuzis*[1] *1. Instituto de Fisica, Universidade Federal de Goias, Goiania, GO, Brazil; 2. Instituto de Quimica, Universidade Federal de Goias, Goiania, GO, Brazil*

AY-04. Magnetic field-induced fluid flow and its effects on resistance spot nugget formation process. *Y. Li*[1,2], Z. Lin[1], J. Ni[2] and G. Chen[1] *1. Shanghai Jiao Tong University, Shanghai, China; 2. University of Michigan, Ann Arbor, MI, USA*

AY-05. How to SPION Glass Transitions Using Magnetic Nanoparticles. *P. Bidwell-Hanson*[1], L. Radu[1], S. DeLong[1], M. Concha[1], D. Caruntu[1], J. Wiley[1], C.J. O'Connor[1] and C. Kumar[2] *1. Chemistry, University of New Orleans, New Orleans, LA, USA; 2. Nanofabrication, Center for Advanced MicroDevices, Baton Rouge, LA, USA*

AY-06. Field-flow-fractionation of nucleic acids and proteins under large-scale gradient magnetic fields. *M. Iwasaka*[1] *1. Faculty of Engineering, Chiba University, Chiba, Japan*

AY-07. Numerical Research on the Behavior of Magnetic Fluid under the External Forces. *G. Park*[1] and K. Seo[1] *1. Electrical Engineering, Pusan National University, Busan, South Korea*

AY-08. 3-D Modeling of High Gradient Magnetic Separation from Biological Fluids. *H. Chen*[1,5], D. Bockenfeld[3], M.D. Kaminski[4], D. Rempfer[3] and A.J. Rosengart[1,2] *1. Neurology, The University of Chicago, Chicago, IL, USA; 2. Surgery, The University of Chicago, Chicago, IL, USA; 3. Mechanical, Material and Aerospace Engineering, Illinois Institute of Technology, Chicago, IL, USA; 4. Chemical Engineering Division, Argonne National Laboratory, Argonne, IL, USA; 5. Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, USA*

MONDAY AFTERNOON 1:30 — HARBORSIDE C

Session BA
SYMPOSIUM ON BOSE-EINSTEIN CONDENSATION AND QUANTUM MAGNETS
Marcelo Jaime, Session Chair

1:30

BA-01. Bose-Einstein condensation in Quantum Magnets. ***(Invited)*** *V. Zapf*[1], D. Zocco[1,5], C.D. Batista[2], M. Jaime[1], N. Harrison[1], T. Murphy[3], E. Palm[3], S. Tozer[3], A. Lacerda[1] and A. Paduan-Filho[4] *1. National High Magnetic Field Laboratory, Los Alamos National Lab, Los Alamos, NM, USA; 2. Condensed Matter Theory Group, Los Alamos National Lab, Los Alamos, NM, USA; 3. NHMFL, Tallahassee, FL, USA; 4. Universidade de Sao Paulo, Sao Paulo, Brazil; 5. University of California at San Diego, La Jolla, CA, USA*

2:06

BA-01. Quantum spin liquid in a two-dimensional antiferromagnet. ***(Invited)*** *M.B. Stone*[1], I. Zaliznyak[2], C.L. Broholm[3,4], D.H. Reich[3], O. Tchernyshyov[3], T. Hong[3], P. Vorderwisch[5] and N. Harrison[6] *1. Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. Brookhaven National Laboratory, Upton, NY, USA; 3. Johns Hopkins University, Baltimore, MD, USA; 4. NIST Center for Neutron Scattering, Gaithersburg, MD, USA; 5. Hahn-Meitner Institut, Berlin, Germany; 6. National High Magnetic Field Laboratory, Los Alamos, NM, USA*

MONDAY AFTERNOON 1:30 — HARBORSIDE A

Session BB
NANOPARTICLE SYNTHESIS I
Oksana Chubykalo-Fesenko, Session Chair

1:30

BB-01. Surface spin disorder and interparticle interaction in Fe_3O_4 nanoparticles probed by electron magnetic resonance spectroscopy and magnetometry. *S. Pal*[1], P. Dutta[1], M.S. Seehra[1], N. Shah[2] and G.P. Huffman[2] *1. Physics, West Virginia University, Morgantown, WV, USA; 2. Consortium for Fossil Fuel Science, University of Kentucky, Lexington, KY, USA*

1:42

BB-01. Magnetic Properties of Heterostructured Au-Co Nanoparticles. *Y. Xu*[1] and J. Wang[1] *1. MINT Center & Dept. of Electrical and Computer Engineering, University of MInnesota, Minneapolis, MN, USA*

1:54

BB-02. Square root temperature dependence of coercive field over an anomalously large range of temperature and grain size. *R.K. Das*[1], S. Tongay[1], A.F. Hebard[1], A. Gupta[2] and D. Kumar[2] *1. Physics, University of Florida, Gainesville, FL, USA; 2. Department of Mechanical and Chemical Engineering, North Carolina A & T State University, Greensboro, NC, USA*

2:06

BB-03. Antiferromagnetic MnO nanoparticles with an Mn_3O_4 ferrimagnetic shell. *G.F. Rodriguez*[1], K. An[2], T. Hyeon[2], N. Agarwal[3], D.J. Smith[3] and A.E. Berkowitz[1] *1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. National Creative Research Center for Oxide Nanocrystalline Materials and School of Chemical and Biological Engineering, Seoul National University, Seoul, South Korea; 3. Center for Solid State Science and Department of Physics and Astronomy, Arizona State University, Tempe, AZ, USA*

2:18

BB-04. Size Dependent Magnetic Properties of Polyethylene Glycol Coated Iron Nanoparticles. *S. Balakrishnan*[1], M.J. Bonder[1], D. Gallo[1] and G. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA*

2:30

BB-05. Static and dynamic magnetic properties of "dumbbell" and "flower" shaped Au-Fe_3O_4 nanoparticles. *N. Frey*[1], S. Srinath[1], H. Srikanth[1], C. Wang[2] and S. Sun[2] *1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. Department of Chemistry, Brown University, Providence, RI, USA*

2:42

BB-06. The Effect of the Surface on the Energy Barriers of Magnetic Nanoparticles as Multispin Systems. *R.F. Evans*[1], O. Chubykalo-Fesenko[2], R. Yanes[2], H. Kachkachi[3] and R.W. Chantrell[1] *1. Department of Physics, University Of York, York, England, United Kingdom; 2. Instituto de Ciencia de Materiales de Madrid, Madrid, Cantoblanco, Spain; 3. University of Versailles, Versailles, France*

MONDAY AFTERNOON
1:30

HARBORSIDE B

Session BC
EXCHANGE BIAS I
Sujoy Roy, Session Chair

1:30

BC-01. On the method of exchange bias measurement. *O. Hovorka*[1], A. Berger[2] and G. Friedman[1] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

1:42

BC-02. Numerical investigation of finite size effects on exchange biased nanostructures. M. Gabor[1], *V. Baltz*[1], A. Bollero[1], T. Jourdan[2], J. Sort[3], B. Rodmacq[1], F. Lançon[2] and B. Dieny[1] *1. DRFMC, SPINTEC (URA CEA/CNRS 2512), Grenoble, France; 2. DRFMC, SP2M/L_Sim, Grenoble, France; 3. ICREA and Universitat Autonoma de Barcelona, Bellaterra, Spain*

1:54

BC-03. Size dependent scaling of perpendicular exchange bias in nanostructures. *M. Albrecht*[1], I.L. Guhr[1], O. Hellwig[2], S. van Dijken[3] and G. Malinowski[3] *1. Department of Physics, University of Konstanz, Konstanz, Germany; 2. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA, USA; 3. SFI Trinity Nanoscience Laboratory, Trinity College, Dublin, Ireland*

2:06

BC-04. Field evolution of tilted vortex cores in exchange biased ferromagnetic dots. K. Guslienko[1] and *A. Hoffmann*[1] *1. Argonne National Laboratory, Argonne, IL, USA*

2:18

BC-05. Spin Twisting Anisotropy in Antiferromagnet/Ferromagnet Bilayer Domain Walls. *R.D. Shull*[1], A.J. Shapiro[1], V.S. Gornakov[2], V.I. Nikitenko[1,2], Y.P. Kabanov[2], O.A. Tikhomirov[2], S.V. Urazhdin[2], F.Y. Yang[3] and C.L. Chien[3] *1. National Institute of Standards and Technology, Gaithersburg, MD, USA; 2. Institute of Solid State Physics, Chernogolovka, 142432 Moscow District, Russian Federation; 3. Physics Department, The Johns Hopkins University, Baltimore, MD, USA*

2:30

BC-06. Asymmetry in the hysteresis loops of systems with both exchange-bias and shape anisotropy. *H. Jang*[1], P.A. Crowell[1] and E.D. Dahlberg[1] *1. Physics, University of Minnesota, Minneapolis, MN, USA*

2:42

BC-07. The complementary nature of coercivity enhancement and exchange bias in a general ferro-antiferromagnet (F-AF) exchange coupled system. *C. Liu*[1], M. Sun[1] and H. Fujiwara[2] *1. Department of Mathematics and MINT Center, The University of Alabama, Tuscaloosa, AL, USA; 2. Department of Physics and MINT Center, The University of Alabama, Tuscaloosa, AL, USA*

MONDAY AFTERNOON 1:30 HARBORSIDE D

Session BD
SPIN TRANSPORT IN NANOSTRUCTURES
Bruce Gurney, Session Chair

1:30

BD-01. X-ray Microscopy of Local Anisotropic Magnetoresistance. *M.A. Bolte*[1], R. Eiselt[1], H. Ziehlke[1], U. Merkt[1], G. Meier[1], D. Kim[2] and P. Fischer[2] *1. Institute of Applied Physics and Center for Microstructure Research, University of Hamburg, Hamburg, Germany; 2. Center for X-ray Optics, LBL, Berkeley, CA, USA*

1:42

BD-02. On-chip electrical detection of magnetization dynamics of a single nanoscale ferromagnet. *M.V. Costache*[1], S.M. Watts[1], M. Sladkov[1], C.H. van der Wal[1] and B.J. van Wees[1] *1. Physics of Nanodevices, University of Groningen, Groningen, Groningen, Netherlands*

1:54

BD-03. Ballistic Anisotropic Magnetoresistance in Electrodeposited Co Nanocontacts. *A. Sokolov*[1,2], C. Zhang[2,3], E.Y. Tsymbal[1,2], J. Redepenning[2,3] and B. Doudin[4] *1. Department of Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE, USA; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska - Lincoln, Lincoln, NE, USA; 3. Department of Chemistry, University of Nebraska - Lincoln, Lincoln, NE, USA; 4. Institut de Physique et de Chimie des Matériaux de Strasbourg (IPCMS), Strasbourg, France*

2:06

BD-04. EXTRAORDINARY HALL EFFECT IN CoPt:SiO2 COMPOSITE THIN FILMS. *J. Moritz*[1], M. Miron[1], I.l. Prejbeanu[1], B. Rodmacq[1] and B. Dieny[1] *1. SPINTEC, Grenoble, France*

2:18

BD-05. Confirmation of "Atom Pumping-up Mechanism" in Fe/Ta Film for the Fabrication of Ferromagnetic Nano-bridge. *M. Doi*[1], Y. Abe[1], K. Miyake[1], H.N. Fuke[2], M. Takagishi[2], H. Iwasaki[2] and M. Sahashi[1] *1. Electronic Engineering, Tohoku University, Sendai, Japan; 2. Corporate R&D Center, TOSHIBA Corporation, Kawasaki, Japan*

2:30

BD-06. Tuning magnetoresistance response of nanocontacts by electrode design. *G. Sarau*[1], S. Gliga[1], R. Hertel[1] and C.M. Schneider[1] *1. Institute of Solid State Research (IFF), Research Center Jülich, Jülich, Germany*

2:42

BD-07. Extra-ordinary Hall effect and weak localization effect in self-assembled epitaxial magnetic Ni nanocrystallites embedded in TiN matrix. *T.K. Nath*[1], P. Khatua[2] and A.K. Majumdar[3] *1. Physics & Meteorology, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India; 2. Dept. of Physics, IIT Kanpur, Kanpur, U.P., India; 3. Dept. of Physics, IIT Kanpur, Kanpur, U.P., India*

MONDAY AFTERNOON 1:30 HARBORSIDE E

Session BE
NUMERICAL STUDIES OF DOMAIN WALLS
Peter Visscher, Session Chair

1:30

BE-01. AC current induced domain wall motion. *Y. Nakatani*[1] and T. Ono[2] *1. Department of Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan; 2. Kyoto University, Uji, Kyoto, Japan*

1:42

BE-02. Incoherent rotation and domain wall collisions in thin film rectangular magnetic stripes. *A. Prabhakar*[1] *1. Electrical Engineering, Indian Institute of Technology, Chennai, India*

1:54

BE-03. Temperature dependence of domain wall properties in FePt: elliptical and linear walls. *D. Hinzke*[1], P. Asselin[2], O.N. Mryasov[2], U. Nowak[1] and R.W. Chantrell[1] *1. Physics, University of York, York, United Kingdom; 2. Seagate Research, 1251 Waterfront Place, Pittsburgh, PA, USA*

2:06

BE-04. Domain wall switching: optimizing the energy landscape. *Z. Lu*[1], P.B. Visscher[1] and W.H. Butler[1] *1. Physics, University of Alabama, Tuscaloosa, AL, USA*

2:18

BE-05. Micromagnetics of the Decreasing Domain Wall Mobility in Permalloy Nanowires. *A. Kunz*[1] and B. Kaster[1] *1. Physics, Marquette University, Milwaukee, WI, USA*

2:30

BE-06. Thermal effects on domain wall motion along thin ferromagnetic wires. *E. Martinez*[1], L. Lopez-Diaz[2], L. Torres[2], C. Tristan[2] and O. Alejos[3] *1. Electromechanics Engineering, University of Burgos, Burgos, Spain; 2. Applied Physics, University of Salamanca, Salamanca, Spain; 3. Electricity and Electronics, University of Valladolid, Valladolid, Spain*

2:42

BE-07. Various-type oscillatory transitions of magnetic domain walls during their dynamic motion in ferromagnetic nanowires. *J. Lee*[1], S. Choi[1], K. Lee[1], D. Jeong[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul 151-744, South Korea*

MONDAY ESSEX
AFTERNOON
1:30

Session BF
HIGH FREQUENCY INDUCTORS
Donald Gardner, Session Chair

1:30

BF-01. Integrated On-Chip Inductors with Magnetic Films. *D.S. Gardner*[1], G. Schrom[1], P. Hazucha[1], F. Paillet[1], T. Karnik[1] and S. Borkar[1] *1. Intel Corp., Santa Clara, CA, USA*

BF-02. WITHDRAWN

1:42

BF-03. The Influence of Ferrite Characteristics on the Inductance of Coils with Rod Cores. M. Albach[1], A. Stadler[1] and *M. Spang*[1] *1. Chair of Electromagnetic Fields, Friedrich-Alexander University Erlangen-Nuremberg, Erlangen, Germany*

1:54

BF-04. A new type of highly compact planar inductor. C. Dudek[1,2], F. Duverger[1], M. Ledieu[1] and *O. Acher*[1] *1. Departement Matériaux, CEA, Monts, France; 2. UMR LEMA, Université François Rabelais, Tours, France*

2:06

BF-05. Permeability and magnetic properties of ferromagnetic NiFe(Py)/FeCoBSi bi-layers for high frequency applications. A. Gerber[1], C. Schmutz[1], J. McCord[2] and *E. Quandt*[1] *1. smart materials, caesar, Bonn, Germany; 2. IFW, Dresden, Germany*

2:18

BF-06. MEMS-Based Inductively Coupled RFID Transponder for Implantable Wireless Sensor Applications. H. Lu[1], C. Goldsmith[2], L. Cauller[3] and *J. Lee*[1] *1. Electrical Engineering, University of Texas at Dallas, Richardson, TX, USA; 2. MEMtronics Corp., Plano, TX, USA; 3. School of Behavioral and Brain Sciences, University of Texas at Dallas, Richardson, TX, USA*

2:30

BF-07. Improvement of soft magnetic properties of Si/NiFe/FeCoB thin films at GHz band frequency range by multilayer configuration. *A. Hashimoto*[1], S. Nakagawa[1] and M. Yamaguchi[2] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan; 2. Dept. of Electrical and Communication Engineering, Tohoku Unversity, Sendai, Miyagi, Japan*

MONDAY AFTERNOON 1:30 LAUREL

Session BG
INSTRUMENTATION AND MEASUREMENT TECHNIQUES I
Fabio Da Silva, Session Chair

1:30

BG-01. Characterization of a Novel Magnetic Tracking System. *J.T. Sherman*[1], J.K. Lubkert[2], R.S. Popovic[3] and M.R. DiSilvestro[1] *1. Global Concept Development, DePuy Orthopaedics, Inc., Warsaw, IN, USA; 2. Purdue University, West Lafayette, IN, USA; 3. Microsystems Institute, EPFL, Lausanne, Switzerland*

1:42

BG-02. Indirect Measurement of the Position of a Bar Magnet using a Hall Sensor Array. *U. Marschner*[1] and W. Fischer[1] *1. Semiconductor and Microsystems Technology Laboratory, Dresden University of Technology, Dresden, Germany*

1:54

BG-03. Demonstration of ultra-high MOKE sensitivity for nano-magneto-optics using dual layer nanofabrication process. *S. Wang*[1], A. Barman[1,4], J. Maas[2], A.R. Hawkins[2], S. Kwon[3,5] and H. Schmidt[1] *1. School of Engineering, University of California, Santa Cruz, Santa Cruz, CA, USA; 2. ECEn, Brigham Young University, Provo, UT, USA; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. USC NanoCenter and Department of Physics and Astronomy, University of South Carolina, Columbia, SC, USA; 5. School of Electrical Engineering, Seoul National University, Seoul, South Korea*

2:06

BG-04. The transverse magneto-optical Kerr effect using mixed s- and p-polarized incident light. *D.A. Allwood*[1], S. Basu[1], P. Seem[2] and R.P. Cowburn[2] *1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics, Imperial College London, London, United Kingdom*

2:18

BG-05. Angular dependent X-ray magnetic circular dichroism using total electron yield. *C. Sanchez-Hanke*[1] *1. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA*

2:30

BG-06. Off-specular polarised neutron reflectivity investigation of periodic magnetic rings. *F.Y. Ogrin*[1], S.M. Weekes[1], R. Cubitt[2], B. Toperverg[2], A. Wildes[2], A. Drew[3], W. Jung[4], C.A. Ross[4] and R. Menon[5] *1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom; 2. Institut Laue-Langevin, Grenoble, France; 3. Department of Physics, University of Fribourg, Fribourg, Switzerland; 4. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA; 5. Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, USA*

2:42

BG-07. Fabry-Perot Open Resonator Technique for Dielectric Permittivity and Loss Tangent Measurements of Yttrium Iron Garnet. *S. Chen*[1,2] and M.N. Afsar[1,2] *1. Electrical and Computer Engineering, Tufts University, Medford, MA, USA; 2. High Frequency Materials Measurement and Information Center, Tufts University, Medford, MA, USA*

MONDAY AFTERNOON 1:30 DOVER

Session BH
NEW APPLICATIONS I
Lawrence Bennett, Session Chair

1:30

BH-01. Mach-Zehnder Interferometric Switch Utilizing Faraday Rotation. *R. Bahuguna*[1], M. Mina[1] and R.J. Weber[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA, USA*

1:42

BH-02. Magnetic measurement of moisture content of grains. *K. Tsukada*[1] and T. Kiwa[1] *1. Electrical and Electronic Engineering, Okayama University, Okayama, Japan*

1:54

BH-03. Soft magnetic devices applied for low zero excursion (10-2/h) four mode RLG. *C. Huanfu*[1] and Z. Hong[1] *1. Computer Science and Technology, Guangdong University of Finance, Guangzhou, Guangdong, China*

2:06

BH-04. Analysis of Minor Hysteresis Loops for Neutron Irradiation and Plastic Deformation in Fe Metal. *S. Takahashi*[1], Y. Kamada[1], H. Kikuchi[1], S. Kobayashi[1], N. Ebine[2], K. Ara[1] and M. Suzuki[2] *1. NDE&Science Research Center, Iwate University, Morioka, Japan; 2. Department of Reactor Safety Research, Japan Atomic Energy Agency, Tokai, Japan*

2:18

BH-05. Magnetically driven formation of non-magnetic monodisperse emulsions. *D.S. Halverson*[1] and G. Friedman[1] *1. ECE department, Drexel University, Philadelphia, PA, USA*

2:30

BH-06. MAGNETORHEOLOGICAL BYPASS DAMPER EXPLOITING FLOW THROUGH A DUCT CONTAINING A POROUS MATERIAL. W. Hu[1], E. Cook[1] and *N.M. Wereley*[1] *1. Aerospace Engineering, University of Maryland, College Park, MD, USA*

2:42

BH-07. Modeling and Design of the Permanent Magnet Thrust Bearing. H. Yang[1] and *R. Zhao*[1] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, Zhejiang, China*

MONDAY AFTERNOON 3:45 — HARBORSIDE

Session BX
PLENARY SESSION
Julie Borchers, Session Chair

TUESDAY MORNING 9:00 — HARBORSIDE C

Session CA
SYMPOSIUM ON MAGNETIC MEMS TECHNOLOGIES
Thomas Schrefl, Session Chair

9:00

CA-01. Microscale Magnetic Power Generation: Past, Present, and Future. ***(Invited)*** *D.P. Arnold*[1] *1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA*

9:36

CA-02. Wireless magnetoelastic physical, chemical and biological sensors. ***(Invited)*** *C. Grimes*[1] *1. Department of Electrical Engineering, The Pennsylvania State University, University Park, PA, USA*

10:12

CA-03. Materials optimization for magnetic MEMS application. ***(Invited)*** *M. Gibbs*[1] *1. Centre for Advanced Magnetic Materials & Devices, University of Sheffield, Sheffield, United Kingdom*

10:48

CA-04. Magnetic Templates for Nanometer Scale Manipulation and Assembly. ***(Invited)*** *J. Moreland*[1], D. Porpora[2], W. Krauser[3] and V.M. Bright[3] *1. NIST, Boulder, CO, USA; 2. Physics, Colorado School of Mines, Golden, CO, USA; 3. Mechanical Engineering, University of Colorado, Boulder, CO, USA*

11:24

CA-05. Magnetic Micro-Machines for Novel Applications. ***(Invited)*** *M. Nakano*[1], F. Yamashita[4], T. Honda[2], J. Yamasaki[2], K. Ishiyama[3], J. Fiedler[5], T. Yanai[1] and H. Fukunaga[1] *1. Electronics and Electrical Engineering, Nagasaki University, Nagasaki, Japan; 2. Kyushu Institute of Technology, Kitakyushu, Japan; 3. Tohoku University, Sendai, Japan; 4. Matsushita Electric Industrial Co. Ltd., Daito, Japan; 5. Vienna University of Technology, Vienna, Austria*

TUESDAY MORNING 9:00 — HARBORSIDE A

Session CB
HEAD-DISK INTERFACE AND TRIBOLOGY I
Jing Gui, Session Chair

9:00

CB-01. Absolute Slider Fly-Height Measurement Without Touch-Down. *L. Zhu*[1], C. Yang[1], Y. Fu[1] and E.T. Cha[1] *1. Husko Inc., Milpitas, CA, USA*

9:12

CB-02. Slider Dynamics on Patterned Media in Hard Disk Drives. *V. Gupta*[1] and D.B. Bogy[1] *1. Mechanical Engineering, University of California, Berkeley, CA, USA*

9:24

CB-03. Mean-Plane Spacing Limit and Slider Technology for Fully Stable Head-Disk Interface Under Various Working Conditions. *B. Liu*[1], S. Yu[1], M. Zhang[1] and L. Gonzaga[1] *1. Data Storage Institute, Singapore, Singapore*

9:36

CB-04. Dynamics of Partial Contact Head Disk Interface. *D. Chen*[1] and D.B. Bogy[1] *1. Computer Mechanics Laboratory, University of California at Berkeley, Berkeley, CA, USA*

9:48

CB-05. Slider – Disk – Head Stack Assembly Modeling in Hard Disk Drives Using Model Order Reduction Technique. *V. Gupta*[1] and D.B. Bogy[1] *1. Mechanical Eng, University of California, Berkeley, Berkeley, CA, USA*

10:00

CB-06. A Novel HDD "Component-Level" Operational-Shock Measurement Method. *B.H. Thornton*[1], T. Eguchi[2] and M. Suk[1] *1. Advanced Technology, Hitachi GST, San Jose, CA, USA; 2. Research & Development Group, Hitachi, Ltd., Ibaraki, Japan*

10:12

CB-07. Advances of optical n&k testing of magnetic heads with imaging spectroscopic ellipsometry. *M. Vaupel*[1], S. Yunfeng[2] and Y. Zhimin[2] *1. Nanofilm Technologie GmbH, Goettingen, Germany; 2. Data Storage Institute DSI, Singapore, Singapore*

10:24

CB-08. Robustness under Mechanical Stress of IrMnCr heads. *T. Ohtsu*[1], K. Kataoka[1], M. Torigoe[2], H. Tanaka[2], S. Sasaki[2], D. Hsiao[3], D. Heim[3], S. Lou[3] and C. Fox[3] *1. Hitachi Global Storage Technologies Japan, Ltd., Odawara, Kanagawa, Japan; 2. Storage Technology Research Center, Hitachi, Ltd., Odawara, Kanagawa, Japan; 3. Hitachi Global Storage Technologies, Inc., Sanjose, CA, USA*

10:36

CB-09. Study of lubricant pickup at the head-disk interface under laser irradiation. *J. Zhang*[1], R. Ji[1], J. Xu[2], J. Ng[2], B. Xu[1], H. Yuan[1], S. Piramanayagam[1] and T. Liew[1] *1. Data Storage Institute, Singapore, Singapore; 2. Institute of Materials Research & Engineering, Singapore, Singapore*

10:48

CB-10. Flyability Failures Due to Siloxanes at the Head-Disk Interface Revisited: The Real Cause. *X. Guo*[1], V. Raman[1], T. Karis[1] and Y. Yao[2] *1. Hitachi GST, San Jose, CA, USA; 2. Hitachi GST, Singapore, Singapore*

11:00

CB-11. Lubricant Depletion due to Laser Heating in Heat-Assisted Magnetic Recording. *L. Wu*[1] *1. ME, University of Nebraska-Lincoln, Lincoln, NE, USA*

11:12

CB-12. Lifshitz-van der Waals and Lewis acid-base Approach for Analyzing Surface Energy of Molecularly Thin Lubricant Films. *H. Chen*[1], L. Li[2], P.M. Jones[2], Y. Hsia[2] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Mechanical Integration and Tribology, Seagate Technology, Pittsburgh, PA, USA*

11:24

CB-13. Evaluation of Spreading Characteristics of Submonolayer Lubricant Films on Magnetic Disks Using Molecular Dynamics Simulation. *Y. Tagaya*[1], K. Fukuzawa[2,3], H. Zhang[4] and Y. Mitsuya[2] *1. Mechanical Science and Engineering, Nagoya University, Nagoya, Aichi, Japan; 2. Micro/Nano Systems Engineering, Nagoya University, Nagoya, Aichi, Japan; 3. JST-PRESTO, Kawaguchi, Saitama, Japan; 4. Complex Systems Science, Nagoya University, Nagoya, Aichi, Japan*

11:36

CB-14. Molecular Adhesion Model for the Bridged State of a Magnetic Recording Slider. *T. Karis*[1] and X. Guo[1] *1. Hitachi Global Storage Technologies, San Jose, CA, USA*

TUESDAY MORNING 9:00 — HARBORSIDE B

Session CC
PATTERNED STRUCTURES I
Dieter Weller, Session Chair

9:00

CC-01. Highly Ordered Arrays of Magnetic Nanostructures over Macroscopic Areas. S.M. Weekes[1], *F.Y. Ogrin*[1], J.D. Apweiler[1] and T.N. Evershed[1] *1. Physics, University of Exeter, Exeter, United Kingdom*

9:12

CC-02. Large-scale Magnetic Nanoring Arrays by Interference Lithography and Electrochemical Deposition. W. Lee[1], R. Ji[1], U. Gösele[1] and *K. Nielsch*[1]*1. Max Planck Institute of Microstructure Physics, Halle, Germany*

9:24

CC-03. Inhomogeneities in the Spin States of Geometrically Identical Elongated Co Rings. *X. Gao*[1], A.O. Adeyeye[2], S. Goolaup[2], N. Singh[3], W. Jung[4], F.J. Castaño[4] and C.A. Ross[4]*1. Singapore-MIT Alliance, National University of Singapore, Singapore, Singapore; 2. Information Storage Materials Laboratory, Department of Electronic and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Institute of Microelectronics, Singapore, Singapore; 4. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

9:36

CC-04. Relationships between structure and properties in nanomagnetic materials. ***(Invited)*** *A. Petford-Long*[1]*1. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA*

10:12

CC-05. Manipulating the dipolar magnetic interactions in FePt/CoPt square arrays: The role of edge roughness and soft magnetic inter-dot phases. S. Dreyer[1], S. Schnittger[1], J. Norpoth[1], J. Hoffmann[1], *C. Jooss*[1], S. Sievers[2], M. Albrecht[2] and U. Siegner[2]*1. Institute of Materials Physics, University of Goettingen, Goettingen, Germany; 2. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany*

10:24

CC-06. Systematic investigation of Permalloy nanostructures for magnetologic applications. *S.A. Haque*[1], R. Engel-Herbert[1] and T. Hesjedal[1]*1. E&CE Dept., University of Waterloo, Waterloo, ON, Canada*

10:36

CC-07. Magnetization reversal process in microfabricated FePt dot arrays. *K. Takanashi*[1], D. Wang[1], T. Seki[1] and T. Shima[2]*1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Faculty of Engineering, Tohokugakuin University, Tagajo, Japan*

10:48

CC-08. Direct Measurement of Switching Field Distributions in Nano-Patterned Media. *B.D. Belle*[1], F. Schedin[1], T.V. Ashworth[2], N. Pilet[2], P.W. Nutter[1], E.W. Hill[1], H.J. Hug[2,3] and J.J. Miles[1]*1. School of Computer Science, The University of Manchester, Manchester, M13 9PL, United Kingdom; 2. Institute of Physics, University of Basel, Basel, 4056, Switzerland; 3. Swiss Federal Laboratory for Materials Testing and Research, Dübendorf, CH-8600, Switzerland*

11:00

CC-09. Switching characterisation and control of pseudo-spin-valve ring structures. *T.J. Hayward*[1], J. Llandro[1], D. Morecroft[1], F.D. Schackert[1], R.B. Balsod[1], J.C. Bland[1], F.J. Castaño[2] and C.A. Ross[2]*1. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Department of Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

11:12

CC-10. Coupled magnetic, acoustic, and plasmonic modes after laser excitation through nanohole arrays. *L. Le Guyader*[1], A. Kirilyuk[1], G.A. Wurtz[2], A.V. Zayats[2], I.I. Smolyaninov[3] and T. Rasing[1]*1. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 2. School of Mathematics and Physics,, The Queen's University of Belfast, Belfast, United Kingdom; 3. Department of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA*

11:24

CC-11. Magnetic Bubbles in Perpendicular Anisotropy Nanodots. *C. Moutafis*[1], S. Komineas[2], C.A. Vaz[1], J.A. Bland[1], T. Shima[3], T. Seki[4] and K. Takanashi[4]*1. Physics Department, Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom; 2. Max-Planck Institute of Complex Systems, Dresden, Germany; 3. Faculty of Engineering, Tohoku-Gakuin University, Tagajyo, Japan; 4. Institute for Materials Research Tohoku University, Sendai, Japan*

11:36

CC-12. Magnetic domain structure of nanohole arrays in Ni films. *D. Navas*[1], M. Jaafar[1], A. Asenjo[1], M. Hernandez-Velez[2], J.M. Garcia-Martin[3] and M. Vazquez[1]*1. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 2. Departamento de Física Aplicada, Universidad Autónoma de Madrid, Madrid, Spain; 3. Instituto de Microelectrónica de Madrid, Tres Cantos (Madrid), Spain*

11:48

CC-13. Dynamic Properties of Arrays of Ferromagnetic Rectangular Bars. *R. Adam*[1], Y. Khivintsev[2], C.M. Schneider[1], A. Hutchison[2], R. Camley[2] and Z. Celinski[2] *1. Institute for Solid State Research (IFF), Research Centre Jülich, Jülich, Germany; 2. Center for Magnetism and Magnetic Nanostructures, UCCS, Colorado Springs, CO, USA*

TUESDAY MORNING 9:00 HARBORSIDE D

Session CD
SPIN TORQUE: MICROWAVE OSCILLATIONS
Philip Trouilloud, Session Chair

9:00

CD-01. Angular dependence of microwave excitation threshold in current-driven magnetic nano-contacts. *V. Tiberkevich*[1], A. Slavin[1] and G. Melkov[2] *1. Physics, Oakland University, Rochester, MI, USA; 2. Radiophysics Faculty, Taras Shevchenko Kiev University, Kiev, Ukraine*

9:12

CD-02. Magnetization dynamics in point contacts to single Co films. O.P. Balkashin[1], I.K. Yanson[1], V.v. Fisun[1], L.Y. Triputen[1], A. Konovalenko[2] and *V. Korenivski*[2] *1. B. Verkin Institute for Low Temperature Physics and Engineering, National Academy of Sciences of Ukraine, Kharkiv, Ukraine; 2. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

9:24

CD-03. Investigation of spin-wave excitation in single layered ferromagnetic film by nano-bridge point contacts. *T. Kim*[1], K. Shin[2] and K. Char[1,2] *1. Center for Strongly Correlated Materials Research and Dept. of Physics and Astronomy, Seoul National University, Seoul, South Korea; 2. Future Technology Research Division, Korea Institute of Science and Technology, Seoul, South Korea*

9:36

CD-04. Spin Transfer, Oersted Field Induce a Vortex Nano-Oscillator in Thin Ferromagnetic Film Devices. *M. Hoefer*[1] and T.J. Silva[1] *1. NIST, Boulder, CO, USA*

9:48

CD-05. Micromagnetic Modal Analysis of Spin-Transfer-Driven Ferromagnetic Resonance of Individual Nanomagnets. *L. Torres*[1], G. Finocchio[2], L. Lopez-Diaz[1], E. Martinez[3], M. Carpentieri[2], G. Consolo[2] and B. Azzerboni[2] *1. Dept. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain; 2. University of Messina, Messina, Italy; 3. Universidad de Burgos, Burgos, Spain*

10:00

CD-06. Spin-Torque Effect and FMR End-Modes in Current-*In*-Plane GMR Spin-Valves. *N. Smith*[1], J.A. Katine[1], J.R. Childress[1] and S. Maat[1] *1. Hitachi Global Storage Technologies, San Jose, CA, USA*

10:12

CD-07. Stochastic theory of spin-transfer oscillator linewidths. *J. Kim*[1] *1. Institut d'Electronique Fondamentale, CNRS/Université Paris-Sud, Orsay, France*

10:24

CD-08. Magnetic vortex oscillations driven by DC spin-polarized currents. *V. Pribiag*[1], P. Braganca[1], G. Fuchs[1], A. Garcia[1], I. Krivorotov[2], O. Ozatay[1], J. Sankey[1], D. Ralph[1] and R. Buhrman[1] *1. Applied & Engineering Physics, Cornell University, Ithaca, NY, USA; 2. Physics, UC Irvine, Irvine, CA, USA*

10:36

CD-09. Low-Field Ferromagnetic Resonance Studies of Spin-torque Driven Excitations in Magnetic Nanopillars. *G.D. Fuchs*[1], J.C. Sankey[2], P.M. Braganca[1], A. Garcia[3], E.M. Ryan[1], L. Qian[1], D.C. Ralph[2] and R.A. Buhrman[1] *1. Applied Physics, Cornell University, Ithaca, NY, USA; 2. Physics, Cornell University, Ithaca, NY, USA; 3. Applied Physics, Standford University, Palo Alto, CA, USA*

10:48

CD-10. Analytical prediction of line-width in spin-torque driven magnetization self-oscillations. *C. Serpico*[1], G. Bertotti[2], R. Bonin[2], M. d'Aquino[1] and I.D. Mayergoyz[3] *1. Dept. of Electrical Engineering, University of Napoli, Napoli, Italy; 2. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 3. ECE Department and UMIACS, University of Maryland, College Park, MD, USA*

11:00

CD-11. Model of phase locking in spin-transfer-driven magnetization dynamics. *R. Bonin*[1], G. Bertotti[1], C. Serpico[2], M. d'Aquino[2] and I.D. Mayergoyz[3] *1. INRIM, Torino, Italy; 2. Dept. of Electrical Engineering, University of Napoli Federico II, Napoli, Italy; 3. Dept. of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA*

11:12

CD-12. Simulation of mutual phase-locking in double point contacts. *G. Hrkac*[1], T. Schrefl[1], O. Ertl[2], S. Bance[1] and A. Goncharov[1] *1. Department of Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. Vienna University of Technology, Insitute of Solid State Physics E138, Vienna, Vienna, Austria*

11:24

CD-13. Intrinsic phase shift between a spin torque oscillator and an injected RF current. *Y. Zhou*[1], J. Persson[1] and J. Åkerman[1] *1. Department of Microelectronics and Applied Physics, Royal Institute of Technology, Electrum 229, 164 40 Kista, Sweden*

11:36

CD-14. Spin Transfer Oscillators connected in series : Numerical simulations and Experiments. O. Boulle[1], *J. Grollier*[1], V. Cros[1], C. Deranlot[1], G. Faini[2] and A. Fert[1] *1. UMR CNRS-Thales, Palaiseau, France; 2. LPN CNRS, Marcoussis, France*

TUESDAY MORNING 9:00

HARBORSIDE E

Session CE
SPIN INJECTION IN SEMICONDUCTORS AND METALS I

Evgeny Tsymbal, Session Chair

9:00

CE-01. Efficient spin injection from a ferromagnet into a semiconductor. *V. Karpan*[1], M. Zwierzycki[2] and P.J. Kelly[1] *1. University of Twente, Enschede, Netherlands; 2. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany*

9:12

CE-02. Efficient spin detection across the hybrid Co/GaAs Schottky interface. *T. Trypiniotis*[1], D.Y. Tse[1], S.J. Steinmuller[1], W. Cho[1] and J.C. Bland[1] *1. Department of Physics, University of Cambridge, Cambridge, United Kingdom*

9:24

CE-03. Structure, spin polarization, and electrical spin injection from $Fe_{(1-x)}Ga_x$ films on AlGaAs/GaAs heterostructures. *A.T. Hanbicki*[1], O.J. van 't Erve[1], C.H. Li[1], G. Kioseoglou[1], R. Goswami[1], M. Osofsky[1], S. Cheng[1], G. Spanos[1] and B.T. Jonker[1] *1. Naval Research Laboratory, Washington, DC, USA*

9:36

CE-04. Atomic structure of the Fe/AlGaAs interface and its influence on spin transport. ***(Invited)*** *T. Zega*[1] *1. Materials Science and Technology Division, Naval Research Laboratory, Washington, D.C., DC, USA*

10:12

CE-05. Electrical Spin Injection and Detection in Fe/GaAs Heterostructures. ***X. Lou***[1], C. Adelmann[2], C.J. Palmstrøm[2] and P.A. Crowell[1] *1. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, USA; 2. Dept. of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA*

10:24

CE-06. Electron Tunneling across EuS / InAs Heterojunctions. *R.L. Kallaher*[1], P. Xiong[1], S. von Molnár[1], M. Field[2] and G.J. Sullivan[2] *1. MARTECH / Department of Physics, Florida State University, Tallahassee, FL, USA; 2. Rockwell Scientific Company LLC, Thousand Oaks, CA, USA*

10:36

CE-07. Efficient spin filtering in GaAs/MgO/Fe structures. *Y. Park*[1,2], M. van Veenhuizen[1], J. Philip[1], J. Lee[1,2], J.S. Moodera[1], C.H. Perry[3], D. Heiman[3], C. Chang[4] and S. Ramanathan[4] *1. Francis Bitter Magnet Lab, Massachusetts Institute of Technology, Cambridge, MA, USA; 2. Nanodevice Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 3. Department of Physics, Northeastern University, Boston, MA, USA; 4. Division of Engineering and Applied Sciences, Harvard University, Cambridge, MA, USA*

10:48

CE-08. Tunable spin tunnel contacts to Si using low work function ferromagnets. *B. Min*[1], K. Motohashi[1], C. Lodder[1] and R. Jansen[1] *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

11:00

CE-09. Magnetic Field Induced Suppression of Spin injection in Fe-based InAs Quantum Dots Spin LEDs. *M. Yasar*[1], I. Khan[1], M. Diaz-Avila[1], A. Petrou[1], C.H. Li[2], G. Kioseoglou[2], A.T. Hanbicki[2], M.E. Ware[2], D. Gammon[2] and B.T. Jonker[2] *1. Physics, SUNY at Buffalo, Buffalo, NY, USA; 2. Naval Research Laboratory, Washington, DC, USA*

11:12

CE-10. Spin polarization in a spin-FET structure. P. Kotissek[1], M. Bailleul[1,2], M. Sperl[1], A. Spitzer[1], D. Schuh[1], W. Wegscheider[1] and *G. Bayreuther*[1] *1. Institut für Experimentelle und Angewandte Physik, Universität Regensburg, Regensburg, Germany; 2. IPCMS, Strasbourg, France*

11:24

CE-11. Spin injection into Au nanoparticles through a MgO tunnel barrier. Y. Nogi[1], H. Wang[1], *S. Mitani*[1,2], K. Yakushiji[1], F. Ernult[1] and K. Takanashi[1,2] *1. IMR Tohoku University, Sendai, Japan; 2. CREST-JST, Kawaguchi, Japan*

11:36

CE-12. Towards Electrical Spin Injection into a Single InAs/GaAs Quantum Dot. *C.H. Li*[1], G. Kioseoglou[1], A.T. Hanbicki[1], O.J. van 't Erve[2] and B.T. Jonker[1] *1. Code 6361, Naval Research Laboratory, Washington, DC, USA; 2. Philips Research Laboratories, Eindhoven, Netherlands*

11:48

CE-13. Effect of additional ferromagnet on spin accumulation in Py/Au/Py device. *J. Ku*[1,3], J. Chang[1], J. Eom[1,2], S. Han[1] and G. Kim[3] *1. Nano device research center, Korea Institute of Science and Technology (KIST), Seoul, South Korea; 2. Department of Physics, Sejong University, Seoul, South Korea; 3. Department of Electrical Engineering, Korea University, Seoul, South Korea*

TUESDAY MORNING 9:00

ESSEX

Session CF
RARE-EARTH MAGNETS: MATERIALS AND PROCESSING

Christina Chen, Session Chair

9:00

CF-01. Microstructure and magnetic properties of rapidly solidified MRE-Fe-Co-M-B (MRE=Y+Dy+Nd, M=Zr+TiC). *W. Tang*[1], Y. Wu[1], K.W. Dennis[1], M.J. Kramer[1], I.E. Anderson[1] and R.W. McCallum[1] *1. Ames Lab of USDOE, Ames, IA, USA*

9:12

CF-02. Magnetic properties, phase evolution, and microstructure of melt spun $SmCo_{7-x}Hf_xC_y$(x=0-0.5; y=0-0.3) ribbons. *H. Chang*[1,2], S. Huang[2], C. Chang[2], C. Chiu[2], W. Chang[2], A. Sun[3] and Y. Yao[1] *1. Academia Sinica, Taipei, Taiwan; 2. physics, National Chung Cheng University, Chia-Yi, Taiwan; 3. physics, National Taiwan University, Taipei, Taiwan*

9:24

CF-03. Magnetic properties of Sm_5Fe_{17} melt-spun ribbon. *T. Saito*[1] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan*

9:36

CF-04. Effect of ternary alloying elements on the microstructures and magnetic properties of Co-rich Sm-Co alloys. R.K. Valiveti[1], C. Baudot[2,1] and *J.E. Shield*[1] *1. Mechanical Engineering, University of Nebraska, Lincoln, NE, USA; 2. University of Rouen, Rouen, France*

9:48

CF-05. Effect of Ga substitution on the structural and magnetic properties of melt spun $Pr_3(Fe,Co,Ti)_{29}$ system. *S. Kuchimanchi*[1], Q. Chen[2], B. Ma[3], M. Huang[4] and M.E. McHenry[1] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Currently at US Banks, HongKong,, Formerly at Rhodia Inc., Cranbury, NJ, USA; 3. Spang, Pittsburgh, PA, USA; 4. UES Inc., Dayton, OH, USA*

10:00

CF-06. Order-Disorder Transformations in Rare Earth-Transition Metal Systems. *Y.Y. Kostogorova-Beller*[1], J.E. Shield[1] and M.J. Kramer[2] *1. University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Iowa State University, Ames, IA, USA*

10:12

CF-07. New hybrid permanent magnets for high-temperature applications. *M. Marinescu*[1], J. Liu[2], D. Sultana[1], P. Vora[2] and G.C. Hadjipanayis[1] *1. Department of Physics & Astronomy, Univ. of Delaware, Newark, DE, USA; 2. Electron Energy Corporation, Landisville, PA, USA*

10:24

CF-08. Numerical simulation of a magnetostatically coupled composite magnet. A. Gabay[1] and *G.C. Hadjipanayis*[1] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA*

10:36

CF-09. High-throughput Investigation of Exchange Coupling Interaction in Soft/Hard Magnetic Bilayer Systems for Development of Nanocomposite Magnets. *A.J. Zambano*[1], H. Oguchi[1], I. Takeuchi[1], S. Lofland[2], D. Josell[3], L.A. Bendersky[3] and J. Liu[4] *1. Department of Materials Science & Engineering and Center for Superconductivity Research, University of Maryland, College Park, MD, USA; 2. Department of Physics and Astronomy, Rowan University, Glassboro, NJ, USA; 3. National Institute of Standars and Technology, Gaithersburg, MD, USA; 4. Department of Physics, University of Texas at Arlington, Arlington, TX, USA*

10:48

CF-10. Consolidation of Nd-Fe-B melt-spun ribbons by compression shearing method. *T. Saito*[1], H. Takeishi[1] and N. Nakayama[2] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan; 2. Machine Intelligence and Systems Engineering, Akita Prefectural University, Honjyo, Japan*

11:00

CF-11. Spherical Nd-Fe-B fine powder with high performance prepared by mechanical alloying. *J. Han*[1], S. Liu[1], X. Zhang[1], C. Wang[1], H. Du[1] and Y. Yang[1] *1. School of Physics, Peking University, Beijing, China*

11:12

CF-12. EBSD texture analysis of SmCo5 and NdFeB magnets. *M.F. de Campos*[1], T. Yonamine[1], R. Machado[1], S.A. Romero[2], F.G. Landgraf[3], D. Rodrigues[4] and F.P. Missell[1,5] *1. Dimat - Predio 3, Inmetro, Duque de Caxias RJ, RJ, Brazil; 2. Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo SP, SP, Brazil; 3. Dept. Metalurgia e Materiais - Escola Politecnica, Universidade de Sao Paulo, Sao Paulo SP, SP, Brazil; 4. Instituto de Pesquisas Tecnologicas, Sao Paulo SP, SP, Brazil; 5. Universidade de Caxias do Sul, Caxias do Sul RS, RS, Brazil*

11:24

CF-13. The effect of key process parameters on the X-ray crystallographic texture of PrFeB HD sintered magnets produced using high-energy milling. .A. Périgo[1,2], E.P. Soares[1], N.B. Lima[1], H. Takiishi[1], *C.C. Motta*[2] and R.N. Faria[1] *1. Laboratório de Materiais Magnéticos, Instituto de Pesquisas Energéticas e Nucleares, São Paulo, São Paulo, Brazil; 2. Laboratório de Microondas de Potência, Centro Tecnológico da Marinha em São Paulo, São Paulo, São Paulo, Brazil*

11:36

CF-14. New Preparation Method of Rare Earth Bonded Magnets with Continuously Controlled Anisotropy Directions. *F. Yamashita*[1], K. Kawamura[1], Y. Okada[1], H. Murakami[1], M. Ogushi[1], M. Nakano[2] and H. Fukunaga[2] *1. Matsushita Electric Industrial Co,. Ltd., Daito, Japan; 2. Nagasaki Univ., Nagasaki, Japan*

11:48

CF-15. Environmental Stability of RE-Fe-B Based Bonded Magnets. D. Brown[1], *Z. Chen*[1], P. Guschl[1] and D. Miller[1] *1. Magnequench, Singapore, Singapore*

TUESDAY MORNING 9:00 — LAUREL

Session CG
CRITICAL PHENOMENA: SUPERCONDUCTIVITY
Matthew Stone, Session Chair

9:00

CG-01. Bose-Einstein condensation in spin systems. ***(Invited)*** *T. Giamarchi*[1], R. Citro[3], E. Orignac[2] and M. Zvonarev[1] *1. DPMC-MaNEP, University of Geneva, Geneva, Switzerland; 2. CNRS UMR 5672 - Laboratoire de Physique, Ecole Normale Superieure de Lyon, Lyon, France; 3. Dipartimento di Fisica, Universita degli Studi di Salerno and CNISM, Salerno, Italy*

9:36

CG-02. Bose-Einstein condensation of magnons in nanostructures. *L.H. Bennett*[1,2], E. Della Torre[1,2], P.R. Johnson[2] and R.E. Watson[3] *1. ECE, George Washington University, Ashburn, MD, USA; 2. National Institute of Standards and Technology, Gaithersburg, MD, USA; 3. Brookhaven National Laboratory, Upton, NY, USA*

9:48

CG-03. Finite-size Nanoscaling of the Critical Temperatures of Ferromagnets with Variable Range of Interactions. *R.F. Willis*[1], M.G. Birke[1], T.S. Bramfeld[1] and K.R. Podolak[1] *1. Physics, The Pennyslvania State University, University Park, PA, USA*

10:00

CG-04. Temporal magnetic fluctuations measured with X-ray photon correlation spectroscopy. *S. Konings*[1], C. Schüssler-Langeheine[2], H. Ott[2], E. Weschke[3], E. Schierle[3] and J. Goedkoop[1] *1. van der Waals - Zeeman Institute, University of Amsterdam, Amsterdam, NH, Netherlands; 2. II. Physikalisches Institut, Universität zu Köln, Cologne, NW, Germany; 3. Institut fur Experimentalphysik, Freie universität Berlin, Berlin, BE, Germany*

10:12

CG-05. Electronic Raman scattering in magnetite: evidence for the charge gap. *L. Gasparov*[1], G. Guntherodt[2], K. Choi[2], H. Berger[3], L. Forro[3] and G. Margaritondo[3] *1. Chemistry and Physics, University of North Florida, Jacksonville, FL, USA; 2. II Physikalisches Institut, RWTH Aachen, Aachen, Germany; 3. EPFL, Lausanne, Switzerland*

10:24

CG-06. Ultrafast kinetics of magnetic phase transition in $HoFeO_3$ *A.V. Kimel*[1], P.A. Usachev[2], R.V. Pisarev[2], A. Kirilyuk[1] and T. Rasing[1] *1. Radboud University Nijmegen, Nijmegen, Netherlands; 2. Ioffe Physical Technical institute, St. Petersburg, Russian Federation*

10:36

CG-07. Magnetic configurations of hybrid ferromagnetic dot–superconductor systems. V. Pokrovsky[1], *K. Romanov*[1] and H. Wei[1] *1. Physics Department, Texas A&M University, College Station, TX, USA*

10:48

CG-08. Neutron Diffraction Analysis of Magnetic Ordering In YSr2RuCu2O8. *W.B. Yelon*[1,2], Q. Cai[2], H.A. Blackstead[3], M. Kornecki[3], V. Awana[4], H. Kishan[4], S. Balamurugan[5] and E. Takayama-Muromachi[5] *1. Materials Research, University of Missouri-Rolla, Rolla, MO, USA; 2. Department of Physics, University of Missouri, Columbia, MO, USA; 3. Department of Physics, University of Notre Dame, Notre Dame, IN, USA; 4. National Physical Lab, New Delhi, India; 5. SMC, NIMS, Tsukuba, Ibaraki, Japan*

11:00

CG-09. Magnetic Instabilities along the Superconducting Phase Boundary of Nb/Ni Multilayers. A.G. Joshi[1], S.A. Kryukov[1], *L.E. De Long*[1], E.M. Gonzalez[2], E. Navarro[2], J.E. Villegas[2] and J.L. Vicent[2] *1. Physics and Astronomy, University of Kentucky, Lexington, KY, USA; 2. Fisica de Materiales, Universidad Complutense, 28040 Madrid, Spain*

11:12

CG-10. Direct measurement of spin diffusion length in a mesoscopic superconductor. *N. Poli*[1], M. Urech[1], V. Korenivski[1] and D.B. Haviland[1] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

11:24

CG-11. Pattern formation in type-I superconducting films. *J. Vincent*[1], G. Catherine[1], C. Andrejs[2] and T. Okada[3] *1. CNRS, Univ. Paris 6, INSP, Paris, France; 2. Institute of Physics, University of Latvia, Salaspils-I, Riga, Latvia; 3. Laser Spectroscopy Laboratory, Osaka University, Osaka, Japan*

11:36

CG-12. All MgB_2 superconductor based on Josephson junction with Al_2O_3 or MgO tunnel barriers. *H. Shim*[1], K. Yoon[1] and J.S. Moodera[1] *1. Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, MA, USA*

11:48

CG-13. Flux rotation and dimensional crossover in $La_{1.85}Sr_{0.15}CuO_4$ Y. Bruckental[1], *A. Shaulov*[1] and Y. Yeshurun[1] *1. Physics, Bar Ilan University, Ramat Gan, Israel*

TUESDAY MORNING 9:00

DOVER

Session CH
MOLECULAR MAGNETIC MATERIALS

Kyungwha Park, Session Chair

9:00

CH-01. Magnetization and EPR studies of the single molecule magnet Ni4 with integrated sensors. *G. de Loubens*[1], G.D. Chaves[1], A.D. Kent[1], C. Ramsey[2], E. del Barco[2], C. Beedle[3] and D.N. Hendrickson[3] *1. Physics, New York University, New York, NY, USA; 2. Physics, University of Central Florida, Orlando, FL, USA; 3. Chemistry and Biochemistry, University of California San Diego, La Jolla, CA, USA*

9:12

CH-02. Raman Scattering Study of Mn12-acetate and related single molecule magnets. *R. Furstenberg*[1], C. Kendziora[1] and J. Macossay-Torres[2] *1. Naval Research Laboratory, Washington, DC, USA; 2. Chemistry, University of Texas Pan American, Edinburg, TX, USA*

9:24

CH-03. Single-electron transport through Mn12 single-molecule magnets. *J.J. Henderson*[1], C.M. Ramsey[1], E. del Barco[1], A. Mishra[3] and G. Christou[3] *1. Physics, University of Central Florida, Orlando, FL, USA; 2. Nanoscience Technology Center, University of Central Florida, Orlando, FL, USA; 3. Chemistry, University of Florida, Gainesville, FL, USA*

9:36

CH-04. Concentration Dependence of Fe8 as a Magnetic Resonance Imaging Contrast Agent: A Cautionary Note. *B. Cage*[1], S. Russek[1], R. Shoemaker[2], A. Barker[2], C. Stoldt[2], V. Ramachandarin[3] and N. Dalal[3] *1. National Institute of Standards and Technology, Boulder, CO, USA; 2. University of Colorado, Boulder, CO, USA; 3. Florida State University, Tallahassee, FL, USA*

9:48

CH-05. Spin-Phonon Relaxation in the Fe_8 Single-Molecule Magnet Induced by High-Intensity Pulsed Millimeter Wave Radiation. *M. Bal*[1], N. Schmandt[1], J.R. Friedman[1], M.T. Tuominen[2], W. Chen[3], E.M. Rumberger[4] and D.N. Hendrickson[4] *1. Department of Physics, Amherst College, Amherst, MA, USA; 2. Physics Department, University of Massachusetts, Amherst, MA, USA; 3. Physics Department, Stony Brook University, Stony Brook, NY, USA; 4. Department of Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA, USA*

10:00

CH-06. An *ab initio* Investigation on the Endohedral Metallofullerene $Gd_3N@C_{80}$ *M. Qian*[1], S.V. Ong[1] and S.N. Khanna[1] *1. Department of Physics, Virginia Commonwealth University, Richmond, VA, USA*

10:12

CH-07. Ferromagnetism in carbon-based material. *W. Lin*[1], K. Xue[2], S. Chen[2], R. Wei[2] and H. Sang[1] *1. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, China; 2. Department of Chemistry, Nanjing Normal University, Nanjing, China*

10:24

CH-08. Magnetic properties of a non-interpenetrating chiral porous Cobalt Metal-Organic Framewok (MOF). *C. Yu*[1], S. Ma[2], M. Pechan[1] and H. Zhou[2] *1. physics, miami unversity, oxford, OH, USA; 2. Department of Chemistry & Biochemistry, Miami University, Oxford, OH, USA*

10:36

CH-09. Magnetic Properties of Polyaniline doped with Organic Acceptors. *I. Terry*[1], N. Zaidi[1], S.R. Giblin[2] and A.P. Monkman[1] *1. Physics, Durham University, Durham, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Oxford, United Kingdom*

10:48

CH-10. Photo-induced charge transfer phase transition in magnetic material of cesium manganese hexacyanoferrate. *T. Matsuda*[1,2], H. Tokoro[1,2], K. Hashimoto[2] and S. Ohkoshi[1,2] *1. Department of Chemistry, School of Science, The University of Tokyo, Tokyo, Japan; 2. Department of Applied Chemistry, School of Engineering, The University of Tokyo, Tokyo, Japan*

11:00

CH-11. Electrical Properties of the Interface between Pentacene and Permalloy Films. *T. Kim*[1], N. Lee[1], J.H. Lee[2], A. Babajayan[3], K. Lee[3], E. Lim[4] and M. Iwamoto[4] *1. Physics, Ewha Womans University, Seoul, South Korea; 2. Microgate Inc., Anyang, South Korea; 3. Physics, Sogang University, Seoul, South Korea; 4. Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

11:12

CH-12. Magnetic Properties of a Novel Fe(II) meso-tetra(4-pyridyl)porphyrin Network. *D. Danilovic*[1], T. Yuen[1], C. Lin[1], L. Pan[2] and J. Li[2] *1. Physics, Temple University, Philadelphia, PA, USA; 2. Chemistry & Chemical Biology, Rutgers University, Piscataway, NJ, USA*

11:24

CH-13. Piezo- and thermo- switch investigation of the spin crossover compound [Fe(PM-BiA)2(NCS)2]. *R. Tanasa*[1], E. Codjovi[2], J. Linares[2], F. Varret[2], A. Stancu[1] and J. Letard[3] *1. Faculty of Physics & CARPATH, "Alexandru Ioan Cuza" University, Iasi, Romania; 2. Groupe d'Etude de la Matiere Condensee (GEMaC), Universite de Versailles, Versailles, France; 3. Groupe des Sciences Moleculaires, Institut de Chimie de la Matiere Condensee de Bordeaux, Bordeaux, France*

11:36

CH-14. Magnetic Properties of Iron Oxalatophosphates with Layer and Framework Structures. *S. Lee*[1], T. Tsai[1], C. Sheu[2] and K. Lii[2,3] *1. Institute of Physics Academic Sinica, Taipei, Taiwan; 2. Department of Chemistry, National Central University, Chungli, Taiwan; 3. Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

TUESDAY MORNING 8:00 GRAND BALLROOM

Session CP
EXCHANGE BIAS II (POSTER SESSION)
Dexin Wang, Session Chair

CP-01. The Onset of Exchange Bias in Epitaxial fct-Mn(001)/Co(001) Bilayers. *J.T. Kohlhepp*[1], H. Wieldraaijer[1] and W. de Jonge[1] *1. Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

CP-02. Field Cool Induced Perpendicular Exchange Bias in FeMn/FeNi Multilayers. *L. Sun*[1], H. Xing[1], K. Keshoju[1] and S. Zhou[2,3] *1. Department of Mechanical Engineering, University of Houston, Houston, TX, USA; 2. Department of Physics, Fudan Univeristy, Shanghai, China; 3. Surface Physics Laboratory, Fudan Univeristy, Shanghai, China*

CP-03. Enhanced exchange bias in Fe/Fe_xMn_{1-x} bilayers by tuning the crystalline structure through different substrates: from Cu(100) to Cu_3Au(100). W.C. Lin[1,2], W. Pan[1], T. Chen[1,2], B. Wang[1,2], L. Lin[1], Y. Liao[1,2], K. Song[2] and *M. Lin*[1,2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan*

CP-04. Rotational Hysteresis of the Anisotropy Direction in Co/FeMn Thin Films. *K. Liu*[1] and J. Olamit[1] *1. Physics Department, University of California, Davis, CA, USA*

CP-05. Effects of CoFe insertion layer on perpendicular exchange bias characteristics in [Pd/Co]x5/FeMn bi-layered thin films. *S. Kim*[1], S. Bae[1], L. Lin[1], H. Joo[2], D. Hwang[2] and S. Lee[2] *1. Biomagnetics Lab., Department of Electrical and Computer Engineering, National University of Singapore, Singapore 117576, Singapore; 2. Nano Bio Lab., Department of Applied Physics and Electronics, Sangji University, Wonjoo, Gangwon, South Korea*

CP-06. Asymmetric magnetization reversal of perpendicular exchange-biased (Co/Pt)/IrMn probed by magnetoresistance and magnetic force microscopy. *X. Ji*[1], A.B. Pakhomov[1] and K.M. Krishnan[1] *1. Materials Science & Engineering, Univ. of Washington, Seattle, WA, USA*

CP-07. The role of the antiferromagnetic uncompensated spins in exchange bias. I. Schmid[1], *P. Kappenberger*[1], M. Parlinska-Wojtan[1], M. Carrey[3], O. Hellwig[3], E.E. Fullerton[3] and H.J. Hug[1,2] *1. Laboratory for Nanoscale Materials Science, Empa, Duebendorf, Switzerland; 2. Department of Physics, University of Basel, Basel, Switzerland; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

CP-08. Control over the vortex chirality in exchange-biased elliptical magnetic rings. *W. Jung*[1], F.J. Castano[1] and C.A. Ross[1] *1. DMSE, M.I.T., Cambridge, MA, USA*

CP-09. In-plane Correlation Length Scales in an Exchange Biased Co/FeF2. *S. Roy*[2], J.B. Kortright[2], E. Blackburn[1], S.K. Sinha[1], B.J. Kirby[3], Z. Li[1], R. Morales[1], I.V. Roshchin[1] and I.K. Schuller[1] *1. Dept. of Physics, University of California-San Diego, La Jolla, CA, USA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Manuel Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, NM, USA*

CP-10. Exchange-biased Co/Co(Mg)O bilayers with Co ferromagnet grown above and below the diluted antiferromagnet Co(Mg)O. *T. Leo*[1], J. Hong[3], A.E. Berkowitz[3,4] and D.J. Smith[1,2] *1. School of materials, Arizona State University, Tempe, AZ, USA; 2. Department of Physics, Arizona State University, Tempe, AZ, USA; 3. Center for Magnetic Recording Research, University of California - San Diego, La Jolla, CA, USA; 4. Department of Physics, University of California - San Diego, La Jolla, CA, USA*

CP-11. Positive Exchange Bias in GdFe/NiCoO Thin Films. *J. Olamit*[1] and K. Liu[1] *1. Physics Department, University of California, Davis, CA, USA*

CP-12. Epitaxial growth and magnetic properties of Fe_3O_4/NiO bilayers grown on MgO (001) substrate. *S.K. Arora*[1], H. Wu[1], R.J. Choudhary[1] and I.V. Shvets[1] *1. Centre for Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Dublin, Ireland*

CP-13. Magnetic anisotropy and exchange bias in epitaxial CrO_2/Cr_2O_3 bilayer thin films. S. Srinath[1], N. Frey[1], *H. Srikanth*[1], G. Miao[2] and A. Gupta[2] *1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA*

CP-14. Exchange-biasing with biferroic YMnO3 Epitaxial Films. V. Laukhin[2,1], X. Martí[1], F. Sánchez[1], N. Dix[1], D. Hrabrovsky[1], V. Skumryev[2], M.V. García-Cuenca[3], C. Ferrater[3], M. Varela[3], U. Lüders[4], J.F. Bobo[4] and *J. Fontcuberta[1] 1. Institut de Ciència de Materials de Barcelona, CSIC, 08193, Bellaterra, Spain; 2. Institut Català de Recerca i Estudis Avançats (ICREA), Barcelona, Spain; 3. Física Aplicada i Òptica, Universitat de Barcelona, Diagonal 647, 08028, Barcelona, Spain; 4. LNMH, CNRS-ONERA, BP 4025, 31055, Toulouse, France*

CP-15. Co nanoparticles epitaxially dispersed in a single crystal Co matrix: analysis by magnetometry and torque measurements. S. McCall[2], I.H. Neumann[3], E.S. Mushailov[4], B.V. Vasiliev[5], D.J. Smith[6] and *A.E. Berkowitz[1] 1. Physics and CMRR, University of California-San Diego, La Jolla, CA, USA; 2. Chemistry & Materials Science, Lawrence Livermore National Laboratory, Livermore, CA, USA; 3. Physics, University of California - Davis, Davis, CA, USA; 4. Laboratory of Magnitodynamics, Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 5. Krasnoyarsk State Pedagogical University, Krasnoyarsk, Russian Federation; 6. Physics and Astronomy and Center for Solid State Science, Arizona State University, Tempe, AZ, USA*

TUESDAY MORNING 8:00 **GRAND BALLROOM**

Session CQ
ELECTRONIC STRUCTURE I (POSTER SESSION)

Markus Eisenbach, Session Chair

CQ-01. Structural stability study of Ga(1-x)Mn(x)As alloys in alpha- and beta- phases in first principles. *M. Kim[1] 1. Physics, Seoul National University, Seoul, South Korea*

CQ-02. Band Structure and Matrix Elements Effects in L-edge XMCD for Er_2Fe_{17} *Y. Lee*[1], B.N. Harmon[1], A.I. Goldman[1] and J.C. Lang[2] *1. Ames Laboratory, Iowa State University, Ames, IA, USA; 2. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA*

CQ-03. Dichroism Soft X-ray Absorption Spectromicroscopy and Antiferromagnetic Surfaces and Interfaces. *H. Ohldag*[1], A. Scholl[2], M. Liberati[2], E. Arenholz[2], S. Maat[3] and J. Stöhr[1] *1. SSRL, Stanford University, Menlo Park, CA, USA; 2. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Hitachi Global Storage technologies, San Jose, CA, USA*

CQ-04. Induced effects by the substitution of Mg in $MgCNi_3$ *G. Zhong*[1], J. Wang[1,2], Z. Zeng[1] and H. Lin[2] *1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei 230031, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Shatin, Hong Kong, China*

CQ-05. Correlation Effect and Magnetic Moments in Cr_2Te_3 S. Youn[1], *S. Kwon*[2] and B.I. Min[2] *1. Department of Physics Education, Gyeongsang National University, Jinju, Gyungnam, South Korea; 2. Department of Physics, Pohang University of Science and Technology, Pohang, Gyungbuk, South Korea*

CQ-06. First-principles study on the spin polarization of benzene-adsorbed on Fe(100) surface. *X. Sun*[1,2], T. Suzuki[1], M. Kurahashi[1], J. Zhang[1,2] and Y. Yamauchi[1] *1. National Institute for Materials Science, Tsukuba, Japan; 2. Department of Physics, University of Science and Technology of China, Hefei, China*

CQ-07. Valence states of Transition-metal Ions in Cubic Perovskites $SrMn_{1-x}Fe_xO_3$ *H. Lee*[1], G. Kim[1], J.H. Lee[1], J.S. Kang[1], B. Dabrowski[2], S.W. Han[3], S.S. Lee[3], C. Hwang[3], M.C. Jung[4], H.J. Shin[4], H.G. Lee[4], J.Y. Kim[4] and B.I. Min[5] *1. Department of Physics, The Catholic Univ. of Korea, Bucheon, South Korea; 2. Department of Physics, Northern Illinois University, Dekalb, IL, USA; 3. Korea Research Institute of Standard and Science, Daejon, South Korea; 4. Pohang Accelerator Laboratory, Pohang, South Korea; 5. Department of Physics, POSTECH, Pohang, South Korea*

CQ-08. Low temperature Neutron diffraction studies showing evidence for CE-type magnetic ordering in Mn doped SrRuO3. *B. Singh*[1], S.S. Manoharan[1,2], R.K. Sahu[2,3], P.R. Krishnan[4], A.B. Shinde[4] and K. Jain[5] *1. Chemistry, Indian Institute of Technology Kanpur, Kanpur, India; 2. Center for Superconductivity, University of Maryland, Maryland, MD, USA; 3. National Metallurgical Laboratory, Jamshedpur, Jharkhand, India; 4. Solid State Physics Division, Bhabha Atomic Research Center, Mumbai, Maharastra, India; 5. NanoScience center, University of Cambridge, Cambrdige, United Kingdom*

CQ-09. Surface Electronic Structure and Magnetism of NiAs Structured MnAs(0001) and MnSb(0001). *J. Lee*[1] and S. Hong[2] *1. Physics, Inha University, Incheon, South Korea; 2. Physics, University of Ulsan, Ulsan, South Korea*

CQ-10. Magnetism of Fe nano-structures on quasi one-dimentional Cu(110)(2x1)-O substrate. *M. Nagira*[1], N. Sawada[2], K. Yaji[1], T. Ueno[1], T. Moko[1], A. Kimura[1], H. Namatame[2] and M. Taniguchi[1,2] *1. Hiroshima University, Higashi-Hiroshima, Japan; 2. Hiroshima Synchrotron Radiation Center, Higashi-Hiroshima, Japan*

CQ-11. Electronic structures and magnetic properties of layered compound RCrSb3 (R=La, Yb). *H. Choi*[1], J. Shim[1], S. Kwon[1] and B. Min[1] *1. Physics, Pohang University of Science and Techology, Pohang, Kyungbook, South Korea*

CQ-12. Ferromagnetic one dimensional Ti atomic chain. *J. Hong*[1] *1. physics, Pukyong National University, Busan, South Korea*

CQ-13. The effects of magnetic structure on displacements in fcc FeNi alloys. *Y.S. Puzyrev,*[1], M. Eisenbach[1], D.M. Nicholson[2], G.M. Stocks[1] and G.E. Ice[1] *1. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak RIdge, TN, USA; 2. Computer Science and Mathematics Division, Oak Ridge National Laboratory, Oak RIdge, TN, USA*

CQ-14. MAGNETISM IN GOLD NANO-CLUSTERS. *R.J. Magyar*[1], C. Gonzalez[2] and M. Marquez[3] *1. INEST Group, Gaithersburg, MD, USA; 2. Center for Nanoscience, NIST, Gaithersburg, MD, USA; 3. PM USA, Richmond, VA, USA*

CQ-15. Antiferromagnetic fluctuations in the quantum phase transition of the one-dimensional electron system. *N. Tomita*[1] *1. Physics, Yamagata University, Yamagata, Yamagata, Japan*

CQ-16. Electronic Structure in Polycrystalline $La_{0.7}Ca_{0.3}MnO_{3-\delta}$ *J. Park*[1], Y. Lee[1] and Y. Lee[2] *1. Quantum Photonic Science Research Center, Seoul, South Korea; 2. Hanbat Univ., Daejon, South Korea*

TUESDAY MORNING 8:00 — GRAND BALLROOM

Session CR
MAGNETIC TUNNEL JUNCTIONS II (POSTER SESSION)

Janusz Nowak, Session Chair

CR-01. Surface scanning tunneling spectroscopy of ultra-thin MgO tunnel barriers. *J. Read*[1], P. Mather[2] and R. Buhrman[1] *1. Applied and Engineering Physics, Cornell University, Ithaca, NY, USA; 2. Freescale Semiconductor, Chandler, AZ, USA*

CR-02. 80% TMR at room temperature for thin Al-O barrier magnetic tunnel junction with CoFeB as free and reference layers. H. Wei[1], Q. Qin[1], M. Ma[1] and *X. Han*[1] *1. Institute of Physics CAS, Beijing, Beijing, China*

CR-03. Annealing temperature dependence of tunneling spectroscopy in CoFeB/MgO/CoFeB magnetic tunnel junctions. *Y. Ando*[1], T. Miyakoshi[1], T. Daibou[1], M. Oogane[1] and T. Miyazaki[1] *1. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

CR-04. Effects of exchange coupling on the low frequency noise of MgO-based magnetic tunnel junction sensors. *X. Liu*[1,2], B.D. Schrag[1,2], D. Mazumdar[2], W. Shen[2] and G. Xiao[2] *1. Micro Magnetics Inc, Fall River, MA, USA; 2. Physics Dept, Brown Univ, Providence, RI, USA*

CR-05. Structural analysis of the CoFeB thin film in Ru/CoFeB and MgO/CoFeB multilayers. *D. Kim*[1], J. Bae[1,2], W. Lim[1], K. Kim[2], T. Kim[2] and T. Lee[1] *1. Department of Materials Science and Engineering, KAIST, Daejeon, South Korea; 2. Device Lab., SAIT, Suwon, South Korea*

CR-06. The straining effect on tunneling magnetoresistance in exchange biased Co/AlO_x/Co/IrMn and CoFeB/AlO_x/Co/IrMn junctions. *S.U. Jen*[1], Y.T. Chen[1,2], W.C. Chen[1,3], Y.D. Yao[1], J.M. Wu[2] and W.C. Cheng[3] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan*

CR-07. Magnetic and structural investigation of epitaxial Fe_3O_4/MgO/Fe_3O_4 magnetic tunnel junctions. *H. Wu*[1], S. Arora[1], I. Shvets[1], A. Boger[2], M. Opel[2] and W. Kaiser[2] *1. Centre for Reseacrh on Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin 2, Ireland; 2. Walther Meissner Institute, Bavarian Academy of Science, D-85748 Garching, Germany*

CR-08. Temperature dependence of tunnel resistance for CoFeB/MgO/CoFeB magnetoresistive tunneling junctions: the role of magnon. *S. Ikegawa*[1], H. Aikawa[1], T. Ueda[1], K. Hosotani[2], M. Nagamine[1], N. Shimomura[1], M. Yoshikawa[1] and H. Yoda[1,2] *1. Advanced LSI Technology Lab., TOSHIBA R & D Center, kawasaki, Kanagawa, Japan; 2. Center for Semiconductor R & D, TOSHIBA Semiconductor Company, Yokohama, Kangawa, Japan*

CR-09. Microstructure and magnetoresistance of MgO thin film with CoFeB and CoFeC underlayers. *C. Chou*[1], Y. Yao[2], P. Kuo[1], K. Cheng[2] and C. Yu[2] *1. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

CR-10. MgO based magnetic tunnel junctions deposited using a high target utilisation sputtering system. *N.P. Aley*[1], S. Ladak[1] and K. O'Grady[1] *1. Physics, University of York, York, Yorks, United Kingdom*

CR-11. Tunneling magnetoresistance in exchange biased CoFeB/AlO_x/Co/IrMn junctions. *Y. Chen*[1,2], S.U. Jen[1], Y.D. Yao[1], J.M. Wu[2], J.H. Liao[2] and T.B. Wu[2] *1. Instiute of physics, Academia sinica, Taipei, Taiwan; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

CR-12. Magnetoresistance in Fe(30nm)/Fe_3O_4(3nm)/MgO(2nm)/Fe(30nm) Grown on MgO(001). C. Yang[1], *K. Kuo*[1], C.Y. Wang[1], G. Chern[1], L. Horng[2] and J.C. Wu[2] *1. SPIN Research Center and Physics Department, National Chung Cheng University, Chia-Yi, Taiwan; 2. SPIN Research Center and Department of Physics, National Changhua University of Education, Changhua, Changhua, Taiwan*

CR-13. Rapid Thermal Treatment Effect on Patterned CoFeB-based Magnetic Tunneling Junctions. *K. Wu*[1], Y. Wang[2], M. Tsai[2], J. Wu[1] and L. Horng[1] *1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. Industrial Technology Research Institute, Hsinchu, Taiwan*

CR-14. Spin polarized tunnelling in hybrid single crystal-polycrystalline magnetic tunnel junctions. *F. Greullet*[1], C.V. TIUSAN[1], M. Hehn[1], F. Montaigne[1], G. Lengaigne[1], M. Alnot[1], C. Bellouard[1] and D. Lacour[1] *1. Nancy University, CNRS, Institut de Physique des Materiaux, Vandoeuvre les Nancy, Lorraine, France*

CR-15. Effect of Ta getter on the quality of MgO barrier in the polycrystalline CoFeB/MgO/CoFeB magnetic tunnel junction. *Y. Choi*[1], Y. Nagamine[1], K. Tsunekawa[1], H. Maehara[1], D.D. Djayaprawira[1], S. Yuasa[2] and K. Ando[2] *1. Electron Device Equipment Division, Canon Anelva Corporation, Fuchu-shi, Tokyo, Japan; 2. Nanoelectronic Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan*

TUESDAY MORNING 8:00 **GRAND BALLROOM**

Session CS
FERRITES, GARNETS, PARTICLES AND COMPOSITES (POSTER SESSION)

Leonard Spinu, Session Chair

CS-01. MAGNETIC STUDIES Of BixY3-xFe5O12 FABRICATED USING MECHANOCHEMICAL PROCESS. *M. Niyaifar*[1], R. Ramani[1], M. Radhakrishna[1], A. Hassanpour[2], M. Mozaffari[2], J. Amighian[2] and D. Das[3] *1. Physics, Bangalore University, Bangalore, Karnataka, India; 2. Physics, Isfahan University, Isfahan, Isfahan, Iran; 3. UGC-DAE Consortium, Kolkata center, Kolkata, Kolkata, India*

CS-02. Microwave electromagnetic and absorption properties of Nd2Fe14B/α-Fe nanocomposites in 0.5-18 and 26.5-40GHz range. L. Lian[1], *L. Deng*[1] and S. Feng[1] *1. University of Electronic Science and Technology of China, State Key Laboratory of Electronic Thin Film and Integrated Devices, Chengdu, Sichuan, China*

CS-03. Detection of low temperature Spin glass transition in rare earth substituted magnetite ferrofluids: Ac-susceptibility study. *R.V. Upadhyay*[1,2], K. Parekh[1], V. Strom[1], K.V. Rao[1], A. Banerjee[3], K. Kumar[3], R. Desai[2] and R. Patel[2] *1. Materials Science –Tmfy-MSE, Royal Institute of Technology, Stockholm, Sweden; 2. Department of Physics, Center for Excellence in Nanotechnology of Nanomagnetic Particles (GUJCOST), Bhavnagar University, Bhavnagar, Gujarat, India; 3. UGC-DAE Consortium for Scientific Research, University Campus, Khandwa Road, Indore, India*

CS-04. Permeability of submicron and nanometer ferromangetic particle composites. *Y. Shimada*[1], G.W. Qin[1], M. Yamaguchi[1], S. Okamoto[2], O. Kitakami[2] and K. Oikawa[3] *1. Electrical and Communication Engineering, Tohoku University, Sendai, Miyagi-ken, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi-ken, Japan; 3. Metallurgy, Tohoku University, Sendai, Miyagi-ken, Japan*

CS-05. Ultra-high-resistivity nano-granular Co-Al-O films for high-frequency applications. *P. Khalili Amiri*[1], Y. Zhuang[1], H. Schellevis[2], Y. Ma[1], B. Rejaei[1], M. Vroubel[1] and J.N. Burghartz[3,1] *1. HiTeC/DIMES, Delft University of Technology, Delft, Netherlands; 2. ECTM/DIMES, Delft University of Technology, Delft, Netherlands; 3. Institute for Microelectronics Stuttgart, Stuttgart, Germany*

CS-06. Crystallographic and Mössbauer studies of $Li_{0.5}Fe_{2.5}O_4$ prepared by HTTD and sol-gel methods. *S. Hyun*[1] and C. Kim[1] *1. Physics, Kookmin University, Seoul, South Korea*

CS-07. Effects of bismuth substitution on $Tb_{3-x}Bi_xFe_5O_{12}$ *I. Park*[1] and C. Kim[1] *1. Physics, Kookmin University, Seoul, South Korea*

CS-08. Effects of cation distribution for $AFeO_3$ (A = Ga, Al). *J. We*[1], S. Kim[1] and C. Kim[1] *1. physics, kookmin University, seoul, South Korea*

CS-09. Magnetic Properties of Nanoparticles of $Co_xFe_{(3-x)}O_4$ ($0.05 \leq x \leq 1.6$) Prepared by Combustion Reaction Process. *A.J. Franco*[1], V. Zapf[2] and P. Egan[2,3] *1. Matematica e Fisica, Universidade Catolica de Goias, Goiania-GO, Goias, Brazil; 2. National High Magnetic Field Laboratory, Los Alamos Laboratory, Los Alamos, NM, USA; 3. Physics, Oklahoma State University, Stillwater, OK, USA*

CS-10. Control of the cation occupancies of MnZn ferrite synthesized via reverse micelles. *M.J. Allsbrook*[1], E.E. Carpenter[1] and M.D. Shultz[1] *1. Department of Chemistry, Virginia Commonwealth University, Richmond, VA, USA*

CS-11. The influence of Cobalt Population on the Structural Properties of $Co_xFe_{3-x}O_4$ F. Nakagomi[1], S.W. Silva[1], *A.J. Franco*[2], E.C. de Lima[3], V.K. Carg[1] and P.C. Morais[1] *1. Instituto de Física, Universidade Nacional de Brasilia, Brasilia, DF, Brazil; 2. Matematica e Fisica, Universidade Catolica de Goias, Goiania-GO, Goias, Brazil; 3. Instituto de Química, Universidade Federal de Goias, Goiania, GO, Brazil*

CS-12. PERFECT ENCAPSULATION OF MAGNETIC METAL PARTICLES WITH FERRITE LAYER IN AQUEOUS SOLUTION USING INDUCTION HEATING. *N. Matsushita*[1], T. Watanabe[1], Y. Kato[1], M. Abe[2] and M. Yoshimura[1] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Dept. of Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan*

CS-13. Pulsed laser ablation deposition of nanocrystalline exchange-coupled $Ni_{11}Co_{11}Fe_{66}Zr_7B_4Cu_1$ films for planar inductor applications. *A.K. Baraskar*[2], S.D. Yoon[1], A. Geiler[1], A. Yang[1], C.N. Chinnasamy[1], Y. Chen[1], N. Sun[1,2], C. Vittoria[1,2], R. Goswami[3], M. Willard[3] and V.G. Harris[1,2] *1. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA, USA; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Naval Research Laboratory, Washington, DC, USA*

CS-14. Reduced Magnetization in Magnetic Oxide Nanoparticles. *T. Kim*[1] and M. Shima[1] *1. Department of Materials Science and Engineering, Rensselaer Polytechnic Institute, Troy, NY, USA*

CS-15. Size Dependent Magnetic Properties and Cation Inversion in Chemically Synthesized $MnFe_2O_4$ Nanoparticles. *V.G. Harris*[1], C. Chinnasamy[1], H. Kaileen[1], S.D. Yoon[1], A. Yang[1], M.D. Shultz[2], E.E. Carpenter[2], C. Vittoria[1] and S. Mukerjee[3] *1. Electrical&Computer Engineering, Northeastern University, Boston, MA, USA; 2. Dept. of Chemistry, Virginia Commonwealth University, Richmond, VA, USA; 3. Department of Chemistry and Chemical Biology, Northeastern University, Boston, MA, USA*

TUESDAY MORNING 8:00 **GRAND BALLROOM**

Session CT
HYSTERESIS MODELING AND CONTINUUM METHODS (POSTER SESSION)

Amr Adly, Session Chair

CT-01. Efficient Implementation of Anisotropic Vector Preisach-Type Models Using Coupled 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*

CT-02. A Macroscopic Differential Preisach Model for Matlab/Simulink. *L.A. de Almeida*[1], C.C. Aguiar[1] and R.A. Travi[1] *1. Department of Electrical Engineering, Universidade Federal da Bahia, Salvador, BAHIA, Brazil*

CT-03. Preisach model for systems with asymmetric FORC distributions. *A. Stancu*[1], B. Negulescu[1] and R. Tanasa[1] *1. Faculty of Physics & CARPATH, "Alexandru Ioan Cuza" University, Iasi, Romania*

CT-04. Generalization and Identification of Three-Dimensional Isotropic Vector hysteresis Models Represented by the Superposition of Stop and Play Models. *T. Matsuo*[1] and M. Shimasaki[1] *1. Dept. of Engineering, Kyoto University, Kyoto, Japan*

CT-05. Modelling of Hysteresis in Multidomain Magnetic Nanostructures. *E. Cardelli*[1], M. Carpentieri[2] and A. Faba[1,2] *1. Dept. of Industrial Engineering, University of Perugia, Perugia, Italy; 2. Polo Scientifico Didattico, University of Perugia, Terni, Italy*

CT-06. Percolation, universality and fractal geometry of magnetic domains in thin FePt/MgO and FePt/Pt layers. J. Attané[1], *A. Marty*[1], M. Tissier[2], Y. Samson[1], H. Durand[1], A. Mougin[3] and J. Jamet[3] *1. DRFMC/SP2M, CEA Grenoble, Grenoble, France; 2. LPTMC, Univ. Paris VI, Paris, France; 3. LPS, Univ Paris-Sud, Orsay, France*

CT-07. Z-Transform Based FDTD Analysis of Perfectly Conducting Cylinder Covered with Unmagnetized Plasma. M. Yan[1], K. Shao[1], X. Hu[1], *Y. Guo*[2], J. Zhu[2] and J. Lavers[3] *1. Dept. of Electrical Engineering, HUST, Wuhan, Hubei, China; 2. The faculty of Engineering, University of Technology, Sydney, NSW, Australia; 3. Dept. of E & C Engineering, University of Toronto, Toronto, ON, Canada*

CT-08. FEM Analysis of Conduction Noise Attenuation by Magnetic Composite Sheets on Microstrip Line. S. Kim[1], G. Ryu[1], S. Kim[1], J. Jeong[1] and *S. Kim*[1] *1. Department of Materials Engineering, Chungbuk National University, Cheongju, South Korea*

CT-09. Large-scale Magnetic Field Analysis of Laminated Core by Using the Hybrid Finite Element and Boundary Element Method Combined with the Fast Multipole Method. *Y. Takahashi*[1], S. Wakao[1], K. Fujiwara[2] and S. Fujino[3] *1. Department of Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan; 2. Department of Electrical and Electronic Engineering, Okayama University, Okayama, Japan; 3. Computing and Communications Center, Kyushu University, Fukuoka, Japan*

CT-10. Numerical Techniques for Spin-Waves Absorption based on different site-dependent damping functions. *G. Consolo*[1], L. Lopez-Diaz[2], L. Torres[2] and B. Azzerboni[1] *1. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Italy, Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Spain*

CT-11. Temperature Dependence of the Magnetostatic Interactions in Ferromagnetic nanowires systems. V. Goian[1], I. Astefanoaei[1], I. Dumitru[1], L. Spinu[2] and *A. Stancu*[1] *1. Department of Solid State and Theoretical Physics, University Al. I. Cuza, Iasi, Romania; 2. Advanced Materials Research Institute and Department of Physics, University of New Orleans, New Orleans, LA, USA*

CT-12. Solution to the Problem of Axisymmetric Hidden Defect using Eigenfunction Expansion Method. *H. Bayani*[1] and I. Sasada[1] *1. Applied Science for Electronics and Materials, Kyushu University, Kasuga-Shi, Fukuoka, Japan*

CT-13. Ferrofluid shape formation based on electromagnetic body force. *H. Choi*[1], Y. Kim[1] and I. Park[1] *1. School of Information and Communication Engineering, Sungkyunkwan Univ., Suwon, South Korea*

CT-14. Magnetoelastic Deformation of Soft and Hard Magnetic Materials using Virtual Airgap Scheme Generating the Magnetic Body Force. *S. Lee*[1], H. Choi[2] and I. Park[2] *1. Advanced Power Apparatus Group, Korea Electrotechnology Research Institute, Changwon, South Korea; 2. The school of Information and Communication Engineering, Sungkyunkwan University, Suwon, South Korea*

CT-15. Finite element solution of Maxwell equations for cylindrical magnetic microstructures. *M. Barbagallo*[1], W.S. Lew[1] and J. Bland[1] *1. Physics, Cavendish Laboratory, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, United Kingdom*

TUESDAY MORNING 8:00 **GRAND BALLROOM**

Session CU
MICROMAGNETICS: APPLICATIONS I (POSTER SESSION)

Werner Scholz, Session Chair

CU-01. Micromagnetic simulation of the (α-Fe/TbFe2)n magnetostrictive multilayers. *T. Rujun*[1], P. Bin[1], Z. Wenxu[1], J. Hongchuan[1] and Z. Wanli[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

CU-02. Vortex Core Dynamics in Submicron Ferromagnetic Disks. Q.F. Xiao[1], *B. Choi*[1], J. Rudge[1], Y.K. Hong[2] and G. Donohoe[3] *1. Dept. of Physics & Astronomy, University of Victoria, Victoria, BC, Canada; 2. Dept. of Electrical & Computer Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Dept. of Electrical & Computer Engineering, University of Idaho, Moscow, ID, USA*

CU-03. Hotspots mediated spin-transfer switching in low resistance magnetic tunnel junctions. Y. Zhang[1], *Z. Zhang*[1], Y. Liu[2], B. Ma[1] and Q. Jin[1] *1. Department of Optical Science and Engineering, Fudan University, Shanghai, China; 2. Department of Physics, Tongji University, Shanghai, China*

CU-04. DYNAMICS OF SUPERPARAMAGNETIC AND FERROMAGNETIC NANO-OBJECTS IN CONTINUOUS-FLOW MICROFLUIDIC DEVICES. *L. Clime*[1], B. Le Drogoff[1] and T. Veres[1] *1. Industrial Material Institute, Montreal, QC, Canada*

CU-05. THE EFFECTS OF THE INTERACTION FIELD COMPONENTS ON THE FERROMAGNETIC RESONANCE CONDITION IN MAGNETIC NANOWIRES SYSTEMS. *I. Dumitru*[1], A. Stancu[1], D. Cimpoesu[2] and L. Spinu[3] *1. Department of Solid State and Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Iasi, Romania; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 3. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA*

CU-06. Evolution of magnetization from the vortex state in soft magnetic square platelets. M. Wolf[1], *U.K. Rossler*[1] and R. Schäfer[1] *1. IFW Dresden, Dresden, Germany*

CU-07. Micromagnetic simulation for detection of ac field focused magnetic labels by spin-valve sensors. Z. Hou[1] and *Y. Liu*[1] *1. Department of Physics, Tongji University, ShangHai, China*

CU-08. Magnetic states of ellipsoidal iron crystals encapsulated in carbon nanotubes. *P. Barpanda*[1], T. Kasama[2,3], K.K. Koziol[3], A.H. Windle[3] and R.E. Dunin-Borkowski[3,2] *1. Materials Science and Engineering, Rutgers University, Piscataway, NJ, USA; 2. Frontier Research System,, The Institute of Physical and Chemical Research,, Hatoyama, Saitama,, Japan; 3. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

CU-09. MICROMAGNETIC INVESTIGATION OF PRECESSION DYNAMICS IN MAGNETIC NANOPILLARS. *M. Carpentieri*[1], G. Finocchio[1], B. Azzerboni[1], L. Torres[2] and L. Lopez-Diaz[2] *1. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Messina, Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Salamanca, Spain*

CU-10. Phase controls of spinwaves traveling along magnetic nanowires using the Oersted fields. S. Kim[1], *K. Lee*[1] and S. Choi[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul, South Korea*

CU-11. Micromagnetic Modeling of Magnetization Reversal in Nano-Point Contacts. *G. Finocchio*[1], O. Ozatay[2], L. Torres[3], M. Carpentieri[1], G. Consolo[1] and B. Azzerboni[1] *1. University of Messina, Messina, Italy; 2. Cornell University, Ithaca 14853-2501., NY, USA; 3. Fisica Aplicada, Universidad de Salamanca, Plaza de la Merced s/n 37008, Spain*

CU-12. NUMERICAL ANALYSIS OF FAST SWITCHING INDUCED BY SPIN POLARIZED CURRENT IN SPIN-VALVES. *M. Carpentieri*[1], B. Azzerboni[1] and A. Romeo[1] *1. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Messina, Messina, Italy*

CU-13. Simulation of temperature effects in Magnetic Random Access Memory. *D. Cimpoesu*[1,2], A. Stancu[2] and L. Spinu[3] *1. Advanced Materials Research Institute (AMRI), University of New Orleans, New Orleans, LA, USA; 2. Faculty of Physics and CARPATH, Al. I. Cuza University, Iasi, Romania; 3. AMRI and Department of Physics, University of New Orleans, New Orleans, LA, USA*

CU-14. Micromagnetic simulations of nonlinear magnetization dynamics in ultra-thin films subject to high power microwave fields. *M. d'Aquino*[1], G. Bertotti[2], C. Serpico[1], I.D. Mayergoyz[3] and R. Bonin[2] *1. Dept. of Electrical Engineering, University of Napoli, Napoli, Italy; 2. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 3. ECE Department and UMIACS, University of Maryland, College Park, MD, USA*

TUESDAY MORNING 8:00

GRAND BALLROOM

Session CV
MICROMAGNETICS: FUNDAMENTAL ASPECTS (POSTER SESSION)

Anthony Arrott, Session Chair

CV-01. SPICE Circuit Modeling of Anisotropic Magnetoresistive Sensors with Second Harmonic (2f) Readout. *H. Fardi*[1], S.T. Halloran[1,2], D.P. Pappas[3], F.S. da Silva[1] and E.W. Hill[4] *1. Electrical Engineering, University of Colorado at Denver and Health Sciences Center, Denver, CO, USA; 2. University of Colorado, Boulder, CO, USA; 3. National Institute of Standards and Technology, Boulder, CO, USA; 4. University of Manchester, Manchester, United Kingdom*

CV-02. A systematic approach to multiphysics extensions of finite-element based micromagnetic simulations: nmag. *T. Fischbacher*[1], G. Bordignon[1], M. Franchin[1] and H. Fangohr[1] *1. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom*

CV-03. Micromagnetic study on thermally induced magnetization reversal of a coupled spin chain system. *X. Cheng*[1], M. Jalil[1] and H. Lee[2] *1. Information storage material lab, National University of Singapore, Singapore, Singapore; 2. Bioinformatics Institute, Singapore, Singapore*

CV-04. Order parameter profiles through a domain wall in twisted Heisenberg models. *A.D. Beath*[1] and D.H. Ryan[1] *1. Physics Department and the Centre for the Physics of Materials, McGill University, Montreal, QC, Canada*

CV-05. Micromagnetic study of the complex transverse susceptibility of uniaxial ferromagnets with quartic anisotropy. *D. Cimpoesu*[1,2], A. Stancu[2] and L. Spinu[3] *1. Advanced Materials Research Institute (AMRI), University of New Orleans, New Orleans, LA, USA; 2. Faculty of Physics and CARPATH, Al. I. Cuza University, Iasi, Romania; 3. AMRI and Department of Physics, University of New Orleans, New Orleans, LA, USA*

CV-06. Coherent rotation and effective anisotropy. *G. Zhao*[1,2], X. Wang[2] and Y. Feng[3] *1. Institute of Solid State Physics, Sichuan Normal University, Chengdu, Sichuan, China; 2. Institute for Superconducting and Electronic Materials, University of Wollongong,, Wollongong, NSW, Australia; 3. Department of Physics, National University of Singapore, Singapore, Singapore*

CV-07. Mode Anticipation Fields for Symmetry Breaking. *A.S. Arrott*[1] and R. Hertel[2] *1. Simon Fraser University, Burnaby, BC, Canada; 2. Research Center Juelich, Juelich, Germany*

CV-08. Three-dimensional magnetostatic computations using the Fast Multipole Method. *P. Andrei*[1] and A. Adedoyin[1] *1. Electrical and Computer Engineering, FAMU-FSU College of Engineering, Tallahassee, FL, USA*

CV-09. Fast semi-analytical time integration schemes for the Landau-Lifshitz equation. *B. Van de Wiele*[1], F. Olyslager[2] and L. Dupré[1] *1. Department of Electrical Energy, Systems and Automation, Ghent University, Ghent, Belgium; 2. Department of Information Technology, Ghent University, Ghent, Belgium*

CV-10. An improved finite differences magnetostatic scheme for convex bodies. *J.E. Miltat*[1] *1. Lab. Physique des Solides, Univ. Paris-Sud & CNRS, Orsay, France*

CV-11. Superparamagnetic properties and ferromagnetic resonance for magnetic nanoparticles assembly. *D. Hasegawa*[1], T. Ogawa[1] and M. Takahashi[2] *1. Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan*

CV-12. Analytical expressions for domain wall motion in nanowires of rectangular cross section. C. Tristan[1], *L. Lopez-Diaz*[1], L. Torres[1] and E. Martinez[2] *1. Applied Physics, University of Salamanca, Salamanca, Spain; 2. Electromechanic Engineering, University of Burgos, Salamanca, Spain*

CV-13. Effect of the Gilbert damping term on the current induced magnetic switching of ring-shaped spin valve structure. J. Guo[1], *M. Bin Abdul Jalil*[1] and S. Tan[2] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

CV-14. Filtering effects arising from non-uniform distributions of both current density and polarization function in point contact geometries. *G. Consolo*[1], L. Torres[2], L. Lopez-Diaz[2] and B. Azzerboni[1] *1. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Italy, Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Spain*

TUESDAY MORNING 8:00 GRAND BALLROOM

Session CW
HIGH FREQUENCY MATERIALS AND DEVICES (POSTER SESSION)

Weikang Shen, Session Co-chair
Yangki Hong, Session Co-chair

CW-01. Ferromagnetic films for loss reduction in on-chip transmission lines. *P. Khalili Amiri*[1], B. Rejaei[1], Y. Zhuang[1], M. Vroubel[1] and J.N. Burghartz[2,1] *1. HiTeC/DIMES, Delft University of Technology, Delft, Netherlands; 2. Institute for Microelectronics Stuttgart, Stuttgart, Germany*

CW-02. Bifurcation Analysis of Parametric Interactions of Magnetostatic and Electromagnetic Waves in Nonlinear 3D Ferrite Structures. *M. Pardavi-Horvath*[1], G.S. Makeeva[2] and O.A. Golovanov[3] *1. ECE, The George Washington University, Washington, DC, USA; 2. Penza State University, Penza, Russian Federation; 3. Penza Military Institute of Artillery, Penza, Russian Federation*

CW-03. Ferrite-Dielectric-Wire Composite Negative Index Materials. *F.J. Rachford*[1], D.N. Armstead[2], V.G. Harris[3] and C. Vittoria[3] *1. Materials and Sensors Branch, Naval Research Laboratory, washington, DC, USA; 2. Physics Department, The College of Wooster, Wooster, OH, USA; 3. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA*

CW-04. Magnetic and Electric Field Tunable Ferrite-Ferroelectric Hybrid Wave Microwave Resonators. *A. Ustinov*[1], V. Tiberkevich[1], A. Slavin[1], G. Srinivasan[1] and B. Kalinikos[2] *1. Department of Physics, Oakland university, Rochester, MI, USA; 2. Department of Physical Electronics and Technology, St.Petersburg Electrotechnical University, St.Petersburg, Russian Federation*

CW-05. Observation of the Power-Dependent Switching of Microwave Pulses in a Ferrite-Film Nonlinear Directional Coupler. *A.B. Ustinov*[1,2], M.A. Timofeeva[2] and B.A. Kalinikos[2] *1. Department of Physics, Oakland University, Rochester, MI, USA; 2. Department of Physical Electronics and Technology, St.Petersburg Electrotechnical University "LETI", Saint Petersburg, Russian Federation*

CW-06. Ferromagnetic resonance and microwave behavior of bulk ASn-substituted (A=Ni,Co,Zn) BaM-hexaferrites. *D. Lisiak*[1], S. Perero[2] and M. Pasquale[2] *1. Advanced Materials, Jozef Stefan Institute, Ljubljana, Slovenia; 2. Materials, INRIM, Torino, Italy*

CW-07. Intelligent phased array flat antenna system with magnetic micro strip line phase shifter. *H. Tsujimoto*[1] *1. Electrical engineering, Osaka City University, Osaka, Japan*

CW-08. In-plane broadband circulator simulation for application at X-band frequency. *S. Yoon*[1], J. Wang[1], N. Sun[1], C. Vittoria[1] and V.G. Harris[1] *1. ECE, Northeastern University, Boston, MA, USA*

CW-09. Refractive Index, Absorption Coefficient, Complex Real and Imaginary Permittivity, and Loss Tangent Measurements of Ferrimagnetic Materials at Millimeter Wave and Terahertz Range. *U.A. Khan*[1], N. Nguyen[1] and M.N. Afsar[1] *1. Electrical and Computer Engineering, Tufts University, Medford, MA, USA*

CW-10. Fabrication and demonstration of a near-field microwave probe for local FMR characterization. *D.I. Mircea*[1,2], N.J. Gokemeijer[1] and T.W. Clinton[1] *1. Seagate Research, Seagate Technology, Pittsburgh, PA, USA; 2. Center for Superconductivity Research, Department of Physics, University of Maryland, College Park, MD, USA*

CW-11. High sensitivity type MI sensor applied to detect tiny steel objects. *H. Aoyama*[1], H. Arakawa[1], Y. Honkura[1], K. Arima[2] and S. Suzuki[2] *1. Aichi Steel Corp., Tokai-shi, Aichi-ken, Japan; 2. Advance Food Technology Co., LTD, Toyohashi-shi, Aichi-ken, Japan*

CW-12. Experimental demonstration of the influence of the magnetic field non-uniformity on the X-band Y-junction circulator bandwidth. *A. Guennou*[1], P. Quéféllec[1], P. Gelin[1] and J. Mattei[1] *1. LEST - UMR CNRS 6165, Brest cedex 3, France*

CW-13. High power microwave effects on iron based microstrip filter. B. Kuanr[1], Y. Khivintsev[1,2], D. Hatchinsom[1], R.E. Camley[1] and *Z.J. Celinski*[1] *1. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Institute of Radio Engineering and Electronics, RAS, Saratov, 410019, Russian Federation*

CW-14. Increasing operational frequency in microwave devices by using [SmCo/NiFe] multilayered structures. *B. Kuanr*[1], Y. Y. Khivintsev[1,2], I. Harward[1], R.E. Camley[1], Z.J. Celinski[1], M. Bedenbecker[3] and H.H. Gatzen[3] *1. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Institute of Radio Engineering and Electronics, RAS, Saratov, 410019, Russian Federation; 3. Institut fuer Mikrotechnologie, Leibniz Universitaet Hannover, Garbsen, 30823, Germany*

CW-15. Bias field effects on the low frequency and microwave frequency behaviors of a PZT/YIG/GGG magnetoelectric composite. *C. Pettiford*[1], S. Dasgupta[1], S. Yoon[1], V.G. Harris[1], C. Vittoria[1] and N.X. Sun[1] *1. Northeastern University, Boston, MA, USA*

TUESDAY MORNING 8:00

GRAND BALLROOM

Session CX
INSTRUMENTATION AND MEASUREMENT TECHNIQUES II (POSTER SESSION)

Pallavi Dhagat, Session Co-chair
Jim Deak, Session Co-chair

CX-01. Magnetic Manipulation of Micro-cantilever for the New Concept Atomic Force Microscopy. *S. Lee*[1] and K. Jung[2] *1. School of Mechanical Engineering, Andong National University, Andong, South Korea; 2. Mechanical Engineering, Chungju National University, Chungju, South Korea*

CX-02. Enhanced longitudinal MOKE contrast in nanomagnetic structures. *U.J. Gibson*[1], D.A. Allwood[2] and S. Basu[2] *1. Engineering, Dartmouth College, Hanover, NH, USA; 2. Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

CX-03. Optical production of any orthogonal states of the linear and circular polarization modes in the soft x-ray ranges using a simple magnetic thin-film structure. *D. Jeong*[1], K. Lee[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul 151-744, South Korea*

CX-04. Determination of complex magnetic structures from PNR data by flexible modeling of depth dependent vector magnetization. *A.D. Mont*[1], S.M. Watson[2], J.A. Borchers[2] and P.A. Kienzle[2] *1. U Maryland, College Park, MD, USA; 2. NIST, Gaithersburg, MD, USA*

CX-05. Experimental Determination of Demagnetizing Factors of Disk Samples Magnetized Along a Diameter. C.D. Graham[1] and *B.E. Lorenz*[2] *1. Materials Science, Univ. of Pennsylvania, Philadelphia, PA, USA; 2. Dept. of Electrical Engineering, Widener University, Chester, PA, USA*

CX-06. Magnetic non-destructive evaluation of bending fatigue damage using the drag force method. *L.P. Vandenbossche*[1], I.J. Garshelis[2,3], S.P. Tollens[3], L.R. Dupre[1] and P. Sergeant[1] *1. Electrical Energy, Systems and Automation, Ghent University, Gent, Belgium; 2. Magnova Inc., Pittsfield, MA, USA; 3. MagCanica Inc., San Diego, CA, USA*

CX-07. Method for Measuring the Magnetic Properties of High-Density Magnetic Composites under Compressive Stress. *N. Takahashi*[1], T. Imahashi[1], M. Nakano[1], D. Miyagi[1], T. Arakawa[2], H. Nakai[2] and S. Tajima[2] *1. Electrical and Electronic Eng., Okayama University, Okayama, Japan; 2. Toyota Central R&D Labs., Inc., Nagakute, Aichi, Japan*

CX-08. MEASUREMENT OF THICKNESS OF NICKEL PLATED STEEL USING ELECTROMAGNETIC METHOD. *N. Takahashi*[1], Y. Gotoh[2] and A. Matsuoka[2] *1. Electrical and Electronic Eng., Okayama University, Okayama, Japan; 2. Electrical and Electronic Eng., Kurume National College of Technology, Kurume, Japan*

CX-09. Evaluation of heterogeneous magnetic properties by single-yoke. *H. Kikuchi*[1], H. Murakami[1], K. Ara[1], Y. Kamada[1], S. Kobayashi[1] and S. Takahashi[1] *1. NDE & SRC, Faculty of Engineering, Iwate University, Morioka, Iwate, Japan*

CX-10. A new method for defining the mean path length of the Epstein frame. *P. Marketos*[1], S. Zurek[1] and A.J. Moses[1] *1. School of Engineering, Cardiff University, Cardiff, United Kingdom*

CX-11. Finite Element Method (FEM) simulation of the space and time distribution and frequency dependence of the magnetic field density, and simulation of MAE in a ferritic steel plate. M. Augustyniak[1], *B. Augustyniak*[1], M.J. Sablik[2], M. Chmielewski[1] and W. Sadowski[1] *1. Physics, Technical University of Gdansk, Gdansk, Poland; 2. Sensor Systems and NDE Technology, Southwest Research Institute, San Antonio, TX, USA*

CX-12. A Method for Dynamic Simulation and Detection of Broken-Rotor Bars in Three Phase Induction Motors. *D. Hwang*[1], S. Han[1], D. Kang[1], K. Choi[2] and Y. Cho[3] *1. Industry Applications Research Lab., Korea Electrotechnology Research Institute (KERI), Changwon, Gyeongnam, South Korea; 2. Kyungbuk College, Youngju, Kyungbuk, South Korea; 3. Dong-A University, Saha-gu, Busan, South Korea*

CX-13. Examination to improve detection accuracy of the algorithm for detecting cracks on distribution line. *G. Owada*[1], T. Nonaka[2], F. Sato[1], H. Matsuki[1], T. Sato[3] and S. Kanno[4] *1. Graduate School of Engineering,Tohoku University, Sendai, Japan; 2. Hachinohe National College of Technology, hachinohe, Japan; 3. NEC TOKIN Corporation, Sendai, Japan; 4. x3 Projects Co.Ltd., Sendai, Japan*

CX-14. AN ACTIVE PELTIER CELL CALORIMETER WITH POWER COMPENSATION FOR MEASURING THE MAGNETOCALORIC EFFECT. *M. Kuepferling*[1], C.P. Sasso[1], V. Basso[1] and L. Giudici[1] *1. Materials Department, Istituto Nazionale di Ricerca Metrologica, Torino, TO, Italy*

TUESDAY AFTERNOON 2:00

HARBORSIDE C

Session DA
SYMPOSIUM ON RECENT ADVANCES IN MODELING OF MAGNETIC AND SPIN-DEPENDENT PROPERTIES

Oleg Mryasov, Session Chair

2:00

DA-01. Magnetoelectric coupling in multiferroic materials from first principles. ***(Invited)*** *C. Ederer[1,2] 1. Materials Department, University of California, Santa Barbara, CA, USA; 2. Department of Physics, Columbia University, New York, NY, USA*

2:36

DA-02. Spin-transport in organic and inorganic spin-valves. ***(Invited)*** *S. Sanvito[1] 1. Physics, Trinity College, Dublin, Ireland*

3:12

DA-03. Magnetic impurity doping in semiconductor nanocrystals. ***(Invited)*** *S. Erwin[1] 1. Center for Computational Materials Science, Naval Research Lab, Washington, DC, USA*

3:48

DA-04. Role of Thermodynamic Fluctuations in Magnetic Recording. ***(Invited)*** *R. Skomski[1] 1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA*

4:24

DA-05. The write process and thermal stability in bit-patterned recording media. ***(Invited)*** *M. Schabes[1] 1. Hitachi San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

TUESDAY AFTERNOON 2:00

HARBORSIDE A

Session DB
PATTERNED MEDIA

Hans Richter, Session Chair

2:00

DB-01. Alumina Nanohole Patterned Media for Tbit/in^2 Recording. ***(Invited)*** *K. Itoh[1,2]* and H. Masuda[3,4] *1. Yamagata Fujitsu Ltd., Higashine, Yamagata, Japan; 2. Fujitsu Laboratories Ltd., Atsugi, Kanagawa, Japan; 3. Tokyo Metropolitan University, Hachioji, Tokyo, Japan; 4. Kanagawa Academy of Science and Technology, Sagamihara, Kanagawa, Japan*

2:36

DB-02. Dynamic write/read characteristics of alumina nanohole patterned media with a soft underlayer measured with a perpendicular magnetic head. *H. Oshima[1,2]*, H. Kikuchi[1,2], H. Nakao[1,2], T. Kamimura[2], T. Morikawa[2], K. Matsumoto[2], K. Nishio[3,4], H. Masuda[3,4] and K. Itoh[1,2] *1. Yamagata Fujitsu Ltd., Atsugi, Japan; 2. Fujitsu Laboratories Ltd., Atsugi, Japan; 3. KAST, Sagamihara, Japan; 4. Tokyo Metropolitan Univ., Hachioji, Japan*

2:48

DB-03. CoPt Hard Magnet/Ni Soft Magnet Composite Nanowire Arrays for Patterned Recording Media. *A.I. Gapin[1]*, X. Ye[1], L. Chen[1], D. Hong[1] and S. Jin[1] *1. Mechanical and Aerospace Engineering, University of California San Diego, La Jolla, CA, USA*

3:00

DB-04. Self-assembly Nanoscale triangular-shaped Ni Dot arrays. D. Niu[1], Y. Zhai[2], S. Lepadatu[3], Y. Lu[1], X. Zou[3], J. Wu[3] and *Y. Xu[1] 1. Department of Electronics, The University of York, York, United Kingdom; 2. Department of Physics, Southeast University, Nanjing, China; 3. Department of Physics, The University of York, York, United Kingdom*

3:12

DB-05. Synthetic antiferromagnet for hard layer of exchange coupled composite media. *S. Hernandez[1]*, M. Kapoor[1] and R.H. Victora[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

3:24

DB-06. Patterned Exchanged Coupled Composite Media. D.W. Coats[2], M. Hao[1], *X. Yao*[1], W. Shen[1], J. Bai[1] and J. Wang[1] *1. Univ. Of Minnesota, Minneapolis,, MN, USA; 2. Physics, Harvey Mudd College, Claremont, CA, USA*

3:36

DB-07. Magnetization Reversal in Patterned Media. *V. Lomakin*[1], B. Livshitz[1] and . Bertram[1,2] *1. Center for Magnetic Recording Research and Department of Electrical and Computer Engineering, University of California, San Diego, La Jolla, CA, USA; 2. Hitachi San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

3:48

DB-08. Size dependent precessional dynamics in $[Co/Pd]_8$ patterned nanomagnet arrays. *A. Barman*[1,3], S. Wang[1], O. Hellwig[2], E. Dobisz[2], D. Kercher[2], E. Fullerton[2] and H. Schmidt[1] *1. School of Engineering, University of California Santa Cruz, Santa Cruz, CA, USA; 2. Hitachi Global Storage Technologies, San Jose Research Center, San Jose, CA, USA; 3. NanoCenter and Physics and Astronomy, University of South Carolina, Columbia, SC, USA*

4:00

DB-09. Noise sources in patterned media. *A. Moser*[1], T. Olson[1], O. Hellwig[1], D. Kercher[1] and E. Dobisz[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

4:12

DB-10. Fabrication of Flyable Perpendicular Discrete Track Media. *M.T. Moneck*[1], J. Zhu[1], X. Che[2], Y. Tang[2], H. Lee[2] and N. Takahashi[3] *1. Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Samsung Information Systems America, San Jose, CA, USA; 3. Fuji Electric Advanced Technology Co. Ltd., Nagano, Japan*

4:24

DB-11. Hard Mask Fabrication for Patterning Ultra-High Bit Densities by Large-Area Electron Beam Lithography. *C. Fabrie*[1], J. Kohlhepp[1], H. Swagten[1], B. Koopmans[1], M. Andriesse[2] and E. van der Drift[2] *1. Applied Physics, TU/e, Eindhoven, Noord-Brabant, Netherlands; 2. Kavli Institute, TUD, Delft, Zuid-Holland, Netherlands*

4:36

DB-12. The growth of $L1_0$ FePt thin films with (001) texture on $Fe_{100-x}Ru_x$ underlayer. S. He[1], *B. Ma*[1], Z. Zhang[1], F. Gan[1] and Q. Jin[1] *1. Department of Optical Science and Engineering, Fudan University, Shanghai, China*

4:48

DB-13. Narrow switching field distributions in polycrystalline and epitaxial Co/Pd perpendicularly-magnetized nanopatterned arrays. *J.M. Shaw*[1], W.H. Rippard[1], S. Russek[1], T. Reith[2] and C.M. Falco[2] *1. Magnetics Group, National Institute of Standards and Technology, Boulder, CO, USA; 2. College of Optical Sciences, University of Arizona, Tucson, AZ, USA*

TUESDAY AFTERNOON 2:00

HARBORSIDE B

Session DC
EXCHANGE BIAS III
Jinshan Li, Session Chair

2:00

DC-01. Dynamics in exchange biased bilayers. *(Invited)* *R. Stamps*[1] *1. Physics, University of Western Australia, Crawley, WA, Australia*

2:36

DC-02. A model of the magnetic properties of coupled Ferromagnetic/Antiferromagnetic bilayers. *D.B. Choo*[1], R.W. Chantrell[2], R. Lamberton[1], A. Johnston[1] and K. O'Grady[2] *1. R&D, Seagate Technology Ireland, Londonderry, United Kingdom; 2. Physics Department, University of York, York, United Kingdom*

2:48

DC-03. MFM imaging and modelling of ripples in exchange coupled Fe/MnPt and FeNi/MnPt bilayers. *J. Borme*[1], A. Marty[1], P. Bayle-Guillemaud[1] and Y. Samson[1] *1. DRFMC/SP2M, CEA, Grenoble, France*

3:00

DC-04. Microscopic origin and a role of uncompensated AFM spins in exchange biased Mn-Ir/Co-Fe bilayers. *M. Tsunoda*[1], S. Yoshitaki[1], C. Mitsumata[2,3], T. Nakamura[4] and M. Takahashi[1,3] *1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Advanced Electronics Research Labo., Hitachi Metals Ltd., Kumagaya, Saitama, Japan; 3. NICHe, Tohoku University, Sendai, Miyagi, Japan; 4. JASRI/SPring-8, Sayou-cho, Hyougo, Japan*

3:12

DC-05. Spiral Domain Wall Formation in Spin Valves with Ultra Thin Antiferromagnetic Layers. *S.M. Watson*[1], S.M. Moyerman[2], J.A. Borchers[1], M. Doucet[1,3], W. Gannett[2], M.J. Carey[4], P.D. Sparks[5] and J.C. Eckert[5] *1. CNCR, NIST, Gaithersburg, MD, USA; 2. Harvey Mudd College, Claremont, CA, USA; 3. University of Maryland, College Park, MD, USA; 4. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 5. Physics, Harvey Mudd College, Claremont, CA, USA*

3:24

DC-06. The micromagnetic structure during magnetization reversal of amorphous CoFeB films exchange-biased by IrMn. *A. Kohn*[1], A. Zeltser[2] and M.J. Carey[2] *1. Materials, University of Oxford, Oxford, United Kingdom; 2. Hitachi Global Storage Technologies, San Jose, CA, USA*

3:36

DC-07. FMR and BLS study of the interfacial coupling in (NiO/Py) bilayers. *F. Zighem*[1], H. Hurdequint[2], Y. Roussigné[1], S. Chérif[1] and P. Moch[1] *1. LPMTM, Université Paris 13, Villetaneuse, France; 2. LPS, Université Paris Sud, Orsay, France*

3:48

DC-08. Influence of the cooling field and temperature on exchange bias effects in GdFe/TbFe bilayer. ***T. Hauet[1]***, S. Mangin[1], J. Borchers[2], F. Montaigne[1] and E.E. Fullerton[3] *1. Laboratoire de Physique des Matériaux, Nancy-University CNRS, Vandoeuvre, France; 2. NIST Center for Neutron Research, Gaithersburg, MD, USA; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

4:00

DC-09. Characterization and analysis of the training effect of exchange bias in coupled NiFe/IrMn bilayers. *H. Xi*[1], S. Franzen[1], S. Mao[1] and R.M. White[2] *1. Advanced Transducer Development, Seagate Technology, Bloomington, MN, USA; 2. Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

4:12

DC-10. Interplay between reversal asymmetry, training, and induced anisotropy, in epitaxial exchange biased bilayers. *C. Leighton*[1] and M.S. Lund[1] *1. University of Minnesota, Minneapolis, MN, USA*

4:24

DC-11. Two-component training effect in exchange-biased Co/FeMn bilayers. *J. Parker*[1,2], M. Chan[1], B. Bolon[2], P.A. Crowell[1] and C. Leighton[2] *1. Physics, University of Minnesota, Minneapolis, MN, USA; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA*

4:36

DC-12. Length Scale Relevance in Asymmetric Magnetization Reversal. *Z. Li*[1] and I.K. Schuller[1] *1. Physics Department, UC San Diego, La Jolla, CA, USA*

4:48

DC-13. Coexistence and transformation of negative and positive exchange bias in NiO-NiFe films. *J. McCord*[1], R. Kaltofen[1], D. Elefant[1] and L. Schultz[1] *1. IFW Dresden, Dresden, Germany*

TUESDAY AFTERNOON 2:00 — HARBORSIDE D

Session DD
MAGNETIC TUNNEL JUNCTIONS (MgO) III
Sining Mao, Session Chair

2:00

DD-01. Negative tunneling magnetoresistance from spin accumulation in isolated superconductors. *H. Yang*[1], S. Yang[1] and S. Parkin[1] *1. IBM/Stanford Univ., San Jose, CA, USA*

2:12

DD-02. Double barrier tunnel junctions based on MgO displaying inverse magnetoresistance. *T. Leo*[1], H. Yang[3], S. Yang[3], S. Parkin[3] and D.J. Smith[2,1] *1. School of Materials, Arizona State University, Tempe, AZ, USA; 2. Department of Physics, Arizona State University, Tempe, AZ, USA; 3. IBM Almaden Research Centre, San Jose, CA, USA*

2:24

DD-03. Giant tunnel magnetoresistance ratio of 472% at room temperature and 804% at low temperature in sputtered pseudo spin-valve CoFeB/MgO/CoFeB magnetic tunnel junctions. *Y. Lee*[1], J. Hayakawa[2,1], S. Ikeda[1], F. Matsukura[1], H. Takahashi[2] and H. Ohno[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. ARL, Hitachi, Tokyo, Japan*

2:36

DD-04. Defect-mediated properties of magnetic tunnel junctions. ***(Invited)*** *J. Velev*[1], K.D. Belashchenko[1], M.Y. Zhuravlev[1], S.S. Jaswal[1], E.Y. Tsymbal[1], T. Katayama[2] and S. Yuasa[2] *1. Department of Physics, University of Nebraska, Lincoln, NE, USA; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

3:12

DD-05. An oscillation of tunneling magnetoresistance with respect to tunneling barrier thickness in MgO-based fully epitaxial magnetic tunnel junctions. ***(Invited)*** *R. Matsumoto*[1,2], A. Fukushima[1], Y. Suzuki[1,2], K. Ando[1] and S. Yuasa[1] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan*

3:48

DD-06. MgO-based magnetic tunnel junction (MTJ) sensors with synthetic antiferromagnetic (SAF) free layer. *W. Shen*[1], D. Mazumdar[1], X. Liu[2], B. Schrag[2] and G. Xiao[1] *1. Physics Department, Brown University, Providence, RI, USA; 2. Micro Magnetics, Inc., Fall River, MA, USA*

4:00

DD-07. Fabrication of fully epitaxial $Co_2Cr_{0.6}Fe_{0.4}Al$/MgO/$Co_2Cr_{0.6}Fe_{0.4}Al$ tunnel junctions and their tunnel magnetoresistance characteristics. *T. Marukame*[1], T. Ishikawa[1], S. Hakamata[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

4:12

DD-08. Atomic and Electronic Structure of the CoFeB/MgO Interface from First Principles. *J.D. Burton*[1], S.S. Jaswal[1], E.Y. Tsymbal[1], O.N. Mryasov[2] and O.G. Heinonen[3] *1. Physics and Astronomy, Nebraska Center for Materials and Nanoscience, University of Nebraska Lincoln, Lincoln, NE, USA; 2. Seagate Research, Pittsburgh, PA, USA; 3. Seagate Technology, Bloomington, MN, USA*

4:24

DD-09. Variations in magnetic interfaces of CoFeB/MgO and CoFe/MgO. ***E. Negusse*[1]**, A. Lussier[1], J. Dvorak[1], Y.U. Idzerda[1], S. Shinde[2], Y. Nagamine[2], S. Furukawa[2] and K. Tsunekawa[2] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Canon-ANELVA, Corporation, San Jose, CA, USA*

4:36

DD-10. Improvement of transport properties in magnetic tunneling junctions by capping materials. *C. Shen*[1], C. Yen[1], W. Chen[1], S. Yang[1], Y. Wang[1], Y. Lee[1], D. Wang[1], K. Shen[1], M. Kao[1] and M. Tsai[1] *1. Industrial Technology Research Institute, Hsinchu, Taiwan*

4:48

DD-11. Spin polarized tunnelling in single crystal Fe/Cr/MgO/Fe junctions. *C.V. TIUSAN*[1], F. Greullet[1], D. Halley[2], F. Montaigne[1], G. Lengaigne[1], J. Arabski[2], W. Weber[2] and M. Hehn[1] *1. Nancy University, CNRS, Institut de Physique des Materiaux, Vandoeuvre les Nancy, Lorraine, France; 2. Universite Louis Pasteur, Institut de Physique et Chimie des Materiaux, Strasbourg, France*

TUESDAY AFTERNOON 2:00 — HARBORSIDE E

Session DE
ULTRATHIN FILMS AND SURFACE EFFECTS II

Axel Enders, Session Chair

2:00

DE-01. Transition between creep and viscous motion in ultrathin Pt/Co/Pt films with perpendicular anisotropy. *P.J. Metaxas*[1,3], J. Jamet[1], A. Mougin[1], M. Cormier[1], J. Adam[1], J. Ferré[1], V. Baltz[2], B. Rodmacq[2], B. Dieny[2] and R.L. Stamps[3] *1. Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France; 2. SPINTEC, CEA Grenoble, Grenoble, France; 3. School of Physics, University of Western Australia, Crawley, WA, Australia*

2:12

DE-02. Ultrafast laser induced changes to the magnetic anisotropy in epitaxial ferromagnetic metals. *V.A. Stoica*[1] and R. Clarke[1] *1. Applied Physics, University of Michigan, Ann Arbor, MI, USA*

2:24

DE-03. Measurement of surface pinning at a Py/Co interface using inductive magnetometry. *K.J. Kennewell*[1], M. Ali[2], M. Kostylev[1], D. Greig[2], B.J. Hickey[2] and R. Stamps[1] *1. Physics, University of Western Australia, Crawley, WA, Australia; 2. Physics, University of Leeds, Leeds, United Kingdom*

2:36

DE-04. Ferromagnetic resonance in the proximity of an unstable equilibrium: a study in permalloy thin films and nano-scale dots. *M.J. Pechan*[1], C. Yu[1], R. Bennett[1], J. Katine[2], L. Folks[2] and M. Carey[2] *1. Physics, Miami University, Oxford, OH, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA*

2:48

DE-05. Element specific separation of bulk and interfacial magnetism. *A.K. Suszka*[1], C.J. Kinane[1], C.H. Marrows[1], B.J. Hickey[1], A. Lamperti[2], B.K. Tanner[2], D.A. Arena[3], J. Dvorak[4] and S. Langridge[5] *1. School of Physics and Astronomy, University of Leeds, Leeds, Yorkshire, United Kingdom; 2. Physics Department, Durham University, Durham, United Kingdom; 3. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 4. Physics Department, Montana State University, Boezman, MT, USA; 5. Rutheford Appleton Laboratory, Didcot, Oxon, United Kingdom*

3:00

DE-06. Anisotropy of surface resonant states on Fe(001) due to spin-orbit coupling. A. Chantis[1], M. van Schilfgaarde[1], K.D. Belashchenko[2] and *E.Y. Tsymbal*[2] *1. Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ, USA; 2. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA*

3:12

DE-07. Evidence of Anisotropic Damping Coefficient in Single Crystal Ultrathin Fe Films by Ferromagnetic Resonance. Y. Zhai[1,2], Y. Fu[1], Y. Xu[1], C. Ni[1], Y. Xu[2], J. Wu[3] and *H. Zhai*[4] *1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Electronics, The University of York, York, United Kingdom; 3. Department of Physics, The University of York, York, United Kingdom; 4. Center for Materials,Analysis, National Laboratory for Solid State Microstructures, Nanjing University, Nanjing, China*

3:24

DE-08. Interface atomic structure and magnetic anisotropy in ultrathin Fe films grown by TD and PLD on GaAs(001). *B. Kardasz*[1], J. Zukrowski[2,3], O. Mosendz[1], M. Przybylski[3], B. Heinrich[1] and J. Kirschner[3] *1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Solid State Physics, AGH University of Science and Technology, Krakow, Poland; 3. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany*

3:36

DE-09. Structure of Epitaxially Grown Iron on GaAs(001). *P. Ryan*[1], J. Kim[1], J.M. Shaw[2], P.F. Miceli[3] and C.M. Falco[2] *1. Ames Laboratory, Argonne, IL, USA; 2. Optical Sciences Center, University of Arizona, Tuscon, AZ, USA; 3. Dept. of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO, USA*

3:48

DE-10. Anisotropy of Ultrathin Epitaxial Fe_3O_4 Films on GaAs(100). *Y. Zhai*[1,2], Z. Huang[2], Y. Fu[2], C. Ni[2], Y. Lu[1], Y. Xu[1], J. Wu[3] and H. Zhai[4] *1. Spintronics Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, Southeast University, Nanjing, China; 3. Department of Physics, University of York, York, United Kingdom; 4. National Laboratory of Solid Microstructures, Center for Materials Analysis, Nanjing University, Nanjing, China*

4:00

DE-11. In-plane magnetic anisotropies in sputtered CoFe/AlGaAs(001) spin-injector heterostructures. *A.T. Hindmarch*[1], C.J. Kinane[1], C.H. Marrows[1], B.J. Hickey[1], M. Henini[2], D.A. Arena[3] and J. Dvorak[4] *1. School of Physics & Astronomy, University of Leeds, Leeds, United Kingdom; 2. School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; 3. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 4. Department of Physics, Montana State University, Bozeman, MT, USA*

4:12

DE-12. RE-TM amorphous alloy and Fe bi-layered films for buffer layer to attain MgO (100) texture. T. Hatori[1], H. Ohmori[1], M. Tada[1] and *S. Nakagawa*[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan*

4:24

DE-13. Influence of substrate roughness on the magnetic properties of thin fcc Co films. *S.J. Steinmuller*[1], C.F. Vaz[1], V. Ström[1], C. Moutafis[1], C.M. Gürtler[1], M. Kläui[1], J.C. Bland[1] and Z. Cui[2] *1. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Rutherford Appleton Laboratory, Oxford, United Kingdom*

4:36

DE-14. Thickness and Organic Functional Group Dependent Magnetic Properties of Deposited Cobalt Thin Film over Self-Assembled Monolayer. *S.G. Rao*[1], S.N. Ahmad[1] and S.A. Shaheen[1] *1. Physics, Center for Materials Research and Technology, Florida State University, Tallahassee, FL, USA*

4:48

DE-15. Controlled magnetic anisotropy of SrRuO3 thin films grown on nominally exact SrTiO3(001) substrates. G. Herranz[1], F. Sánchez[1], N. Dix[1], D. Hrabrovsky[1], I.C. Infante[1], M.V. García-Cuenca[2], C. Ferrater[2], *J. Fontcuberta*[1] and M. Varela[2] *1. Institut de Ciència de Materials de Barcelona, Bellaterra, Spain; 2. Física Aplicada i Òptica, Universitat de Barcelona, Diagonal 647,, 08028 Barcelona, Spain*

TUESDAY AFTERNOON 2:00 — ESSEX

Session DF
OXIDE MAGNETIC SEMICONDUCTORS I
Ronnie Jansen, Session Chair

2:00

DF-01. The Road to Diluted Magnetic Semiconducting Oxides. *(Invited)* *T. Venkatesan*[1] *1. Department of Physics, University of Maryland, College Park, MD, USA*

2:36

DF-02. Characteristics of $Ti_{1-x}Co_xO_2$ Thin Films Deposited by MOCVD. *A.M. McClure*[1], A. Kayani[1], M. Liberati[1], J. Holroyd[1], R.J. Smith[1], Y.U. Idzerda[1] and E. Arenholz[2] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, USA*

2:48

DF-03. Anomalous Hall Effect in superparamagentic Co-(La,Sr)TiO3. *S. Zhang*[1], W. Yu[1], S.B. Ogale[1], S.R. Shinde[1], D.C. Kundaliya[1], J. Higgins[1], R. Sahu[1], R.L. Greene[1] and T. Venkatesan[1] *1. Department of Physics, University of Maryland, College Park, MD, USA*

3:00

DF-04. The effect of oxygen growth pressure on Co precipitation in $TiO_{2-\delta}$: Co: An experimental investigation. *E. Hu*[1], P.A. Stampe[2], R.J. Kennedy[2], Y. Xin[3] and S. von Molnár[1] *1. MARTECH and Physics Department, Florida State University, Tallahassee, FL, USA; 2. Physics Department, Florida A&M University, Tallahassee, FL, USA; 3. National High Magnetic Field Laboratory, Tallahassee, FL, USA*

3:12

DF-05. ON THE NATURE OF FERROMAGNETISM IN NONSTOICHIOMETRIC $(Ti,Co)O_2$ *V. Fleurov*[1] and K. Kikoin[2] *1. School of Physics and Astronomy, Tel Aviv University, Tel Aviv, Israel; 2. Physics Department, Ben Gurion University, Beer Sheva, Israel*

3:24

DF-06. Phase Diagram of Ferromagnetism in Co doped TiO_2 System. *D. Kundaliya*[1], S.B. Ogale[1], S.X. Zhang[1], L.F. Fu[2], M. Liberati[3], A. Lussier[3], S. Dhar[1], B. Varughese[4], N.D. Browning[2], Y. Idzerda[3] and T. Venkatesan[1] *1. Department of Physics, University of Maryland,, College park, MD, USA; 2. NCEM, LBNL, Berkeley, CA, USA; 3. Department of Physics, Montana State University, Bozeman, MT, USA; 4. Department of Chemistry, University of Maryland, College Park, MD, USA*

3:36

DF-07. Magnetic Coupling via Delocalized Impurity Band Electrons in Anatase Co:TiO_2 Ferromagnetic Semiconductor. *R. Ramaneti*[1], J.C. Lodder[1] and R. Jansen[1] *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

3:48

DF-08. Ordering in Diluted Magnetic Semiconductors, a Magnetic Percolation Phenomena. *(Invited)* *O. Eriksson*[1] *1. Department of Physics, Uppsala University, Uppsala, Sweden*

4:24

DF-09. SWITCHING THE FERROMAGNETISM OF ZnO:(Co, Mn) POWDERS. D. Rubi[1], *J. Fontcuberta*[1], J. Arbiol[2], A. Calleja[3], L. Aragonés[3], X.G. Capdevila[4] and M. Segarra[4] *1. Institut de Ciència de Materials de Barcelona, 08193, Bellaterra, Spain; 2. TEM-MAT Serveis Cientificotècnics, Universitat de Barcelona, Solé i Sabarís 1-3,, 08028, Barcelona, Spain; 3. Quality Chemicals, 08292, Esparraguera, Spain; 4. Facultat de Química, Universitat de Barcelona, Martí i Franquès 1, 08028, 08028, Barcelona, Spain*

4:36

DF-10. Magnetic Properties of $Zn_{1-x}Co_xO$ ($0 < x < 0.1$) and $Co_{3-y}Zn_yO_4$ (y=0, 0.25, and 1) Thin Films on Vacuum Annealing. *S. Chandran*[1], P. Kharel[1], G. Lawes[1], R. Suryanarayanan[2,1], R. Naik[1] and V.M. Naik[3] *1. Department of Physics and Astronomy, Wayne State University, Detroit, MI, USA; 2. LPCES, Université Paris-Sud, Orsay, France; 3. Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, MI, USA*

4:48

DF-11. Magnetic and Transport properties of ZnO films co-doped with Al and Co or Mn. *J.R. Neal*[1], A.J. Behan[1], A. Mokhtari[1], H.J. Blythe[1], A.M. Fox[1] and G.A. Gehring[1] *1. Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom*

TUESDAY AFTERNOON 2:00

LAUREL

Session DG
4f, 5f AND STRONGLY CORRELATED SYSTEMS

Ross Erwin, Session Chair

2:00

DG-01. Muon spin resonance study on UCu1.5Sn2. *S.T. El-Khatib*[1,2], G. Kalvius[3], D. Noakes[4], E.J. Ansaldo[5], C.E. Stronach[4], E. Brück[6], A. Llobet[2] and H. Nakotte[1] *1. Physics, New Mexico State University, Las Cruces, NM, USA; 2. Los Alamos National laboratory, Los Alamos, NM, USA; 3. Physics Department, Technical University Munich, Munich, Garching, Germany; 4. Chemistry and Physics Department, Virginia State University, Petersburg, VA, USA; 5. University of Saskatchewan, Saskatoon, SK, Canada; 6. Van der Waals-Zeeman Institute, Valkenierstraat, Amsterdam, Netherlands*

2:12

DG-02. Multiple Phase Transitions in Γ_8 Quartet Ground-State $SmAg_2In$ and Heavy-Electron Behavior in $TmAg_2In$. H. Tanida[1], *S. Takagi*[1], H.S. Suzuki[2], H. Onodera[1] and K. Tanigaki[1] *1. Physics Department, Tohoku University, Sendai, Japan; 2. National Institute for Materials Science, Tsukuba, Japan*

2:24

DG-03. Nonmagnetic impurities in a two-leg Hubbard ladder. *A. Medhi*[1], S. Basu[1] and C. Kadolkar[1] *1. Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India*

2:36

DG-04. Local Investigation of Magnetism at R And In Sites in RNiIn (R = Gd, Tb, Dy, Ho) compounds. *A.L. Lapolli*[1], D.T. Leite[1], J. Mestnik-Filho[1], R.N. Saxena[1] and A.W. Carbonari[1] *1. CRPq, Instituto de Pesquisas Energeticas e Nucleares - IPEN-CNEN/SP, Sao Paulo, Sao Paulo, Brazil*

2:48

DG-05. Weak ferromagnetism in single crystalline $YbB_{6-\delta}$ *J. Kim*[1], N. Sung[1] and B. Cho[1] *1. Material Science and Engineering, Gwangju institute of science and technology, Gwangju, South Korea*

3:00

DG-06. Crystal field excitations in the singlet ground state compound Pr_3In. *A.D. Christianson*[1,2], J.M. Lawrence[2], K.C. Littrell[1,4], J.D. Thompson[3] and J.L. Sarrao[3] *1. Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. University of California, Irvine, CA, USA; 3. Los Alamos National Laboratory, Los Alamos, NM, USA; 4. Argonne National Laboratory, Argonne, IL, USA*

3:12

DG-07. Electron Holography and Atomic Resolution Spectroscopy of Correlated Electron Systems. ***(Invited)*** *M.A. Schofield*[1], M. Beleggia[1], R.F. Klie[1] and Y. Zhu[1] *1. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY, USA*

3:48

DG-08. Low dimensional intermediate valence fluctuation in single crystalline YbB4. J. Kim[1], *B. Cho*[1,2], H. Lee[3] and H. Kim[3] *1. Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea; 2. Center for Strongly Correlated Material Research (CSCMR), Seoul National University, Seoul, South Korea; 3. System Research Team, National Fusion Research Center, Daejon, South Korea*

4:00

DG-09. Magnetic Ordering in Heavy Rare Earth Metals from ab initio. *I. Hughes*[1], M. Däne[2], A. Ernst[3], W. Hergert[2], M. Lüders[4], J. Poulter[5], J.B. Staunton[1], A. Svane[6], D. Szotek[4] and W.M. Temmerman[4] *1. Department of Physics, University of Warwick, Coventry, United Kingdom; 2. Fachbereich Physik, Martin-Luther-Universität Halle-Wittenberg, Halle, Germany; 3. Max Planck Institut für Mikrostrukturphysik, Halle, Germany; 4. Daresbury Laboratory, Warrington, United Kingdom; 5. Department of Mathematics, Mahidol University, Bangkok, Thailand; 6. Institute of Physics and Astronomy, University of Aarhus, Aarhus, Denmark*

TUESDAY AFTERNOON 2:00 DOVER

Session DH
MAGNETIC SENSORS (NOT MAGNETIC RECORDING)

Albrecht Jander, Session Co-chair
Arthur Pohm, Session Co-chair

2:00

DH-01. Magnetic Noise in Magnetic Tunnel Junctions. *S.E. Russek*[1], J.M. Shaw[1], R. Geiss[1] and D.P. Pappas[1] *1. National Institute of Standards and Technology, Boulder, CO, USA*

2:12

DH-02. 1/f Noise in Linear Magnetic Tunnel Junctions with Picture Frame Geometry. *J.M. Almeida*[1,2], R. Ferreira[1,2] and P.P. Freitas[1,2] *1. Instituto de Engenharia de Sistemas e Computadores - Microsistemas e Nanotecnologias (INESC-MN), Lisbon, Portugal; 2. Physics Department, Instituto Superior Técnico (IST), Lisbon, Portugal*

2:24

DH-03. Low-field magnetic tunnel junction sensor characterization via sensitivity "asteroid" curves. *B.D. Schrag*[1,2], X. Liu[1,2], D. Mazumdar[2], W. Shen[2] and G. Xiao[1,2] *1. Micro Magnetics, Inc., Fall River, MA, USA; 2. Department of Physics, Brown University, Providence, RI, USA*

2:36

DH-04. Testing the MEMS Flux Concentrator. *A. Edelstein*[1], G.A. Fischer[1], E.R. Nowak[2], W.L. Benard[3] and S. Cheng[4] *1. AMSRD-ARL-SE-SS, U.S. Army Research Lab, Adelphi, MD, USA; 2. Dept.of Physics and Astronomy, University of Delaware, Newark, DE, USA; 3. The MEMS Exchange, Reston, VA, USA; 4. Naval Research Laboratory, Washington, DC, USA*

2:48

DH-05. Low Field Giant Magneto-Resistance Analysis of Multilayer Magnetic Rings: Understanding Reversible and Irreversible Processes. *F.D. Schackert*[1], J. Llandro[1], D. Morecroft[1], T.J. Hayward[1], C.A. Vaz[1], J.A. Bland[1], F.J. Castano[2] and C.A. Ross[2] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

3:00

DH-06. High-frequency Carrier-type Thin-film Sensor with a sub-pT resolution at room temperature. *S. Yabukami*[1], K. Ishiyama[2] and K. Arai[3] *1. Dept. of Electrical Engineering and Information Technology, Tohoku-Gakuin University, Tagajo, Japan; 2. RIEC, Tohoku University, Sendai, Japan; 3. The Research Institute For Electric and Magnetic Materials, Sendai, Japan*

3:12

DH-07. New magnetic sensor technology. *J.L. Prieto*[1], M. González-Guerrero[1], C. Aroca[1], M. Blamire[2], R. Tomov[2], W. Booij[3], A. Vogl[3], D.T. Wang[3], J. Kubik[4], P. Ripka[4], M.D. Michelena[5], R.P. del Real[5] and H. Guerrero[5] *1. Física Aplicada, Universidad Politécnica de Madrid, Madrid, Madrid, Spain; 2. Materials Science, University of Cambridge, Cambridge, United Kingdom; 3. SINTEF IKT, Microsystems and Nanotechnology, Oslo, Norway; 4. Department of Measurements, Faculty of Electrical Engineering, Praha, Czech Republic; 5. Laboratorio de Optoelectrónica, Instituto Nacional de Técnica Aeroespacial - INTA, Madrid, Spain*

3:24

DH-08. Fundamental-mode orthogonal fluxgate employing temperature compensation with artificial neural networks. A. Plotkin[1], *A. Samohin*[1] and E. Paperno[1] *1. E&CE, Ben-Gurion University of the Negev, Beer-Sheva, Israel*

3:36

DH-09. A triaxial orthogonal fluxgate magnetometer made of a single magnetic wire with three U-shaped branches. *K. Goleman*[1] and I. Sasada[1] *1. Kyushu University, Fukuoka, Japan*

3:48

DH-10. A Bi-Layer Sensor System for Measuring Air Flow. G.S. Katranas[1] and *T. Meydan*[1] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, South Glamorgan, United Kingdom*

4:00

DH-11. Modularly Designed Magnetoelastic Micro Strain Gauge. *S. Hansen*[1], L. Rissing[1] and H.H. Gatzen[1] *1. Institute for Microtechnology, Leibniz Universitaet Hannover, Garbsen, Lower Saxony, Germany*

4:12

DH-12. A Rate of Change of Torque Sensor. I.J. Garshelis[1,2], *R.J. Kari*[2] and S. Tollens[2] *1. Magnova, Inc., Pittsfield, MA, USA; 2. MagCanica Inc., San Diego, CA, USA*

4:24

DH-13. Plasma Sprayed Cobalt Ferrite Thick Film Coatings for Magnetostrictive Sensor Application. *S. Liang*[1], B.G. Ravi[1], R.J. Gambino[1] and S. Sampath[1] *1. Department of Materials Science and Engineering, Stony Brook University, Stony Brook, NY, USA*

4:36

DH-14. Improvement on Defect Detection Performance of PCB Inspection Based on ECT Technique with Multi SV-GMR Sensor. *K. Chomsuwan*[2,1], S. Yamada[1] and M. Iwahara[1] *1. Institute of Nature and Environmental Technology, Kanazawa University, Kanazawa, Ishikawa, Japan; 2. Electrical Technology Education, King Mongkut's University of Technology Thonburi, Thungkru, Bangkok, Thailand*

4:48

DH-15. Constant velocity of domain wall propagation independent of applied field strength in Vicalloy wire for zero-speed sensor. *H. Tanaka*[1], T. Yamada[1], Y. Takemura[1], S. Abe[2], S. Kohno[3] and H. Nakamura[3] *1. Division of Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 2. Kanagawa University, Yokohama, Japan; 3. Nikkoshi Co., Ltd., Tokyo, Japan*

TUESDAY AFTERNOON 1:00 — GRAND BALLROOM

Session DP
TRANSFORMERS AND INDUCTORS (POSTER SESSION)

Masahiro Yamaguchi, Session Chair

DP-01. Reduction of Proximity Effect in Coil Using Magnetoplated Wire. T. Mizuno[1], S. Enoki[2], *T. Asahina*[1], T. Suzuki[1], M. Noda[1] and H. Shinagawa[2] *1. Faculty of Engineering, Shinshu University, Nagano, Nagano, Japan; 2. Shinkawa Sensor Technology Inc., Higashi Hiroshima, Hiroshima, Japan*

DP-02. Design and Characteristics of 1 MVA Cable Transformer with Epoxy-Moulded Low-Voltage Side. *J. Park*[1], W. Heo[1], I. Cho[1], H. Jeong[2], M. Jang[2] and Y. Kwon[2] *1. Hyosung Coporation, Changwon, South Korea; 2. School of Electrical Engineering, Pusan National University, Busan, South Korea*

DP-03. A VIBRATION MODE ANALYSIS OF HELICAL WINDING OF POWER TRANSFORMER BY THE PSEUDOSPECTRAL METHOD. J. Lee[2], *P. Shin*[1] and J. Ha[1] *1. Eelectrical Engineering, Hongik University, Jochiwon, Chungnam, South Korea; 2. Mechano-Informatics, Hongik University, Jochiwon, Chubgnam, South Korea*

DP-04. The Normal Flux Distribution for 3-Phase Transformer Core at T-joints and Corners under Sinusoidal and PWM Excitations. X. Yao[1], A. Moses[1] and *F. Anayi*[1] *1. School of Engineering, Cardiff University, Wolfson Centre for Magnetics Technology, Cardiff, Wales, United Kingdom*

DP-05. Improvement of electromagnetic compatibility of induction motor drives using optimized chaotic PWM. *Z. Wang*[1] and K. Chau[1] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China*

DP-06. Microwave Absorbers of Two-layer (Dielectric/Magnetic) Composites Laminate for Wide Oblique Incidence Angles. *J. Kim*[1], J. Jeong[1], S. Kim[1] and S. Kim[1] *1. Department of Materials Engineering, Chungbuk National University, Cheongju, South Korea*

DP-07. Effect of AC-AC Conversion Topology on Separation of Losses in Si-Fe steel. *J. Sagarduy*[1], A.J. Moses[1] and F.J. Anayi[1] *1. Cardiff School of Engineering, Wolfson Centre for Magnetics, Cardiff, United Kingdom*

DP-08. A novel magnetic coupled power and data transferring system for an ocean observation mooring buoy. *D. Yoshioka*[1], H. Sakamoto[1], Y. Ishihara[2] and T. Matsumoto[2] *1. Electronics and Computer Network Engineering, Sojo Univ., Kumamoto, Kumamoto, Japan; 2. Japan agency for marine-earth science and technology, Yokosuka, Kanagawa, Japan*

DP-09. Distributions of leakage magnetic fields produced from induction cooking appliances. *K. Kamata*[1], A. Haga[2] and K. Muramatsu[3] *1. Kagoshima National College of Technology, Kirishima, Kagoshima, Japan; 2. Tohoku Gakuin Univ., Tagajo, Miyagi, Japan; 3. Saga Univ., Saga, Saga, Japan*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DQ
MAGNETO-OPTIC RECORDING AND ALTERNATIVE MAGNETIC STORAGE (POSTER SESSION)

James Bain, Session Chair

DQ-01. Sub-picosecond Magnetization Reversal in Ferrimagnetic GdFeCo: The Role of Magnetization Compensation. C. Stanciu[1], *A. Tsukamoto*[2], A. Kimel[1], F. Hansteen[1], A. Itoh[2], A. Kirilyuk[1] and T. Rasing[1] *1. IMM, Radboud University Nijmegen, Nijmegen, Netherlands; 2. Department of Science and Technology, College of Science and Technology, Nihon University, Chiba, Japan*

DQ-02. Study of "Write Once" Hard Disk Media with Thermally Assisted Method for Compliance Use. *T. Koda*[1], M. Tani[1] and H. Awano[1] *1. Hitachi Maxell, Ltd., Tsukuba-mirai, Ibaraki, Japan*

DQ-03. Cu doped FePt Grains Fabricated On SiO_2 Substrates Having Self-Organized Nano-Pores and domain structure in TbFeCo/FePt CGC-like film. *A. Itoh*[1], A. Tsukamoto[1], H. Sato[2], Y. Adachi[2], M. Motohashi[2] and T. Yoda[2] *1. Dept. of Electronics & Computer Science, College of Science and Technology Nihon University, Funabashi, Chiba, Japan; 2. Dep. of Electronics, Graduate School of Nihon University, Funabashi, Chiba, Japan*

DQ-04. Optical Head with a Butted Grating Structure that Generates a Subwavelength Spot for Laser-assisted Magnetic Recording. *F. Tawa*[1], S. Hasegawa[1] and W. Odajima[1] *1. Fujitsu laboratories Ltd., Atsugi, Japan*

DQ-05. Effect of switching field gradient for thermally assisted magnetic recording. *F. Akagi*[1], T. Matsumoto[1] and K. Nakamura[1] *1. Hitachi, Ltd., Kokubunji, Tokyo, Japan*

DQ-06. IMPROVED PATTERNED MEDIA FOR PROBE-BASED HAMR. E. Algré[1], *G. Gaudin*[1], A. Bsiesy[1] and J. Nozières[2] *1. SPINTEC (CNRS/CEA), Grenoble, France; 2. Crocus Technology, Grenoble, France*

DQ-07. FDTD SIMULATION ON NEAR-FIELD OPTICS FOR GRANULAR RECORDING MEDIA IN HYBRID RECORDING. *K. Nakagawa*[1], J. Kim[1], S. Kudoh[1] and A. Itoh[1] *1. Dep. of Electronics & Computer Science, College of Sci. & Tech., Nihon University, Funabashi, Chiba 274-8501, Japan*

DQ-08. TOWARDS SPIN VALVE MAGNETIZATION REVERSAL BY SPIN POLARIZED CURRENT INJECTION FROM AN AFM TIP. *P. Zermatten*[1], G. Gaudin[1], L. Prejbeanu[1] and J. Nozières[2] *1. SPINTEC (CNRS/CEA), Grenoble, France; 2. CROCUS Technology, Grenoble, France*

DQ-09. Sub-continuum Thermal Transport Modeling for HAMR System via Lattice Boltzmann Method Incorporating Nonlinear Dispersion. *D. Kim*[1], S.S. Ghai[1], W. Kim[2], H. Kim[1] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Samsung Corning Precision Glass, Asan-si, South Korea*

DQ-10. Simulations of magneto-optic recording. *S. Greaves*[1] and H. Muraoka[1] *1. RIEC, Tohoku University, Sendai, Japan*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DR
NANOPARTICLE SYNTHESIS II (POSTER SESSION)

Andris Bakuzis, Session Co-chair
Tomoyuki Ogawa, Session Co-chair

DR-01. Memory effect of magnetic nanoparticle systems originating from particle size distribution. *G. Zhang*[1], S. Zhou[1], K. Potzger[1], A. Mücklich[1], Y. Ma[2] and J. Fassbender[1] *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Sachsen, Germany; 2. Department of Modern Physics, University of Science and Technology of China, Hefei, Anhui, China*

DR-02. Quench of Orbital Magnetism in Cd1-xMnxSe Quantum Dots. *W. Jian*[1], J. Fang[2] and J. Lin[1,3] *1. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Chemistry and Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 3. Institute of Physics, National Chiao Tung University, Hsinchu, Taiwan*

DR-03. Synthesis and Magnetic Properties of Size Controlled Soft Magnetic $Co_{1-x}Ir_x$ Alloy Nanoparticles for High Frequency Applications. *C. Chinnasamy*[1,3], T. Ogawa[2], D. Hasegawa[2], H.T. Yang[2], S.D. Yoon[3], V.G. Harris[3] and M. Takahashi[2,1] *1. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan; 2. Dept. of Electronic Engineering, Tohoku University, Sendai, Japan; 3. Electrical&Computer Engineering, Northeastern university, Boston, MA, USA*

DR-04. Ion Irradiation Effect on Icosahedral and Octahedral A1 Phase FePt Nanoparticles. *J. Qiu*[1], J. Bai[1], Y. Wang[2] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA; 2. Los Alamos National Laboratory (LANL), Los Alamos, NM, USA*

DR-05. Microstructure and magnetic properties of β-MnO2 coated γ-MnOOH nanowires. *R. Zheng*[1,2], X. Zhang[2], N. Wang[2], S.P. Ringer[1] and X. Zhang[2] *1. Australian Key Center for Microscopy amd Microanalysis, The University of Sdyeny, Sydney, NSW, Australia; 2. Department of Physics, The Hong Kong University of Science and Technolgy, Kowloon, Hong Kong*

DR-06. Magnetic Characteristics of Co nano particle. *J. Lee*[1], M. Kim[1], D. Suess[2], T. Schrefl[3], K. Oh[1] and J. Fidler[2] *1. Materials Science and Engineering, Seoul National University, Seoul, South Korea; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

DR-07. Improvement of structural and magnetic properties of L10-FePd nanocrystals by Co addition. *A. Kovacs*[1], K. Sato[1] and Y. Hirotsu[1] *1. The Institute of Scientific and Industrial Research, Osaka, Japan*

DR-08. Synthesis of magnetic-luminescent Fe3O4@CdTe core-shell nanoparticles. *B. An*[1], J. Cho[1], J. Min[1], J. Lee[1], Y. Kim[1], H. Liu[2] and J. Wu[3] *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, South Korea; 3. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea*

DR-09. Spin Orientation, Structure, Morphology and Magnetic Properties of Hematite Nanoparticles. *A.H. Habib*[2], M.E. McHenry[1,2], S.H. Gee[3] and Y.K. Hong[4] *1. Materials Sc. and Engg., Carnegie Mellon University, Pittsburgh, PA, USA; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Materials Sc. and Engg., Univ. of Idaho, Moscow, ID, USA; 4. Electrical and Computer Engg., Univ. of Alabama, Tuscaloosa, AL, USA*

DR-10. Memory effect in magnetic nanoparticle systems: super-spin glass or super spin-glass. *R. Zheng*[1,2], H. Gu[3], J. Du[2], B. Zhang[2], B. Xu[3], S.P. Ringer[1] and X. Zhang[2] *1. Australian Key Center for Microscopy and Microanalysis, The University of Sydney, Sydney, NSW, Australia; 2. Department of Physics, The Hong Kong University of Science and Technology, Kowloon, Hong Kong; 3. Department of Chemistry, The Hong Kong University of Science and Technology, Kowloon, Hong Kong*

DR-11. Multifunctional Fe3O4/Au/Fe3O4 nano-onions. *J. Wu*[2], H. Liu[3], M. Jung[4], J. Min[1] and Y. Kim[1] *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea; 3. Institute for Nano Science, Korea University, Seoul, South Korea; 4. Quantum Materials Research Team, Korea Basic Science Institute, Daejeon, South Korea*

DR-12. Correlation between hcp Ni nanoparticle core and fcc NiO shell. *Y. Jo*[1], S. Park[1], M. Jung[1], K. Lee[2], J. Lee[2], S. Yoon[3] and J. Choi[3] *1. Quantum Material Research Team, Korea Basic Science Institute, Daejeon, South Korea; 2. Division of Materials Science and Engineering, Korea University, SEOUL, South Korea; 3. Display Device & Material Lab, Samsung Advanced Institute of Technology, Suwon, South Korea*

DR-13. Magnetic Properties of Cobalt Ferrite Nano-particles Produced by Carbon Combustion Synthesis of Oxide. *L.V. Chang*[1,3], K. Martirosyan[2,3], D. Luss[2,3], J. Rantschler[1,3], S. Khizroev[4] and D. Litvinov[1,3] *1. Department of Electrical and Computer Engineering, University of Houston, Houston, TX, USA; 2. Department of Chemical Engineering, University of Houston, Houston, TX, USA; 3. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 4. Department of Electrical Engineering, University of California - Riverside, Riverside, CA, USA*

DR-14. Synthesis and Characterization of Sr-doped Lanthanum Manganite Nanoparticles. N.D. Lipham[1], G.M. Tsoi[2] and *L.E. Wenger*[2] *1. Physics, University of West Georgia, Carrollton, GA, USA; 2. Physics, University of Alabama at Birmingham, Birmingham, AL, USA*

DR-15. Preparation, characterization and *in vitro* toxicity test of magnetic nanoparticle-based drug delivery system to Hyperthermia of biological tissues. A.R. Simioni[1], F.L. Primo[2], M.A. Rodrigues[1], Z.G. Lacava[3], P.C. Morais[4] and *A.C. Tedesco*[1] *1. Química, Universidade de São Paulo - FFCLRP, Ribeirão Preto, São Paulo, Brazil; 2. Ciências Farmacêuticas, Universidade de São Paulo, FCFRP, Ribeirão Preto, São Paulo, Brazil; 3. Genética e Morfologia, Universidade de Brasília, Instituto de Ciências Biológicas, Brasilia, Distrito Federal, Brazil; 4. Núcleo de Física Aplicada, Universidade de Brasília, Instituto de Física, Brasilia, Distrito Federal, Brazil*

DR-16. AC susceptibility of Ni-ferrite coated iron nanoparticles for biomedical applications. *M.D. Shultz*[2], C. Sangregorio[1], C. Innocenti[1] and E.E. Carpenter[2] *1. LA.M.M. Dept of Chemistry, University of Florence, Sesti Fiorentino, Italy; 2. Chemistry, Virginia Commonwealth University, Richmond, VA, USA*

DR-17. Engineering water-dispersible FePt nanoparticles for biological applications. *D. Hung*[1], P. Chiang[2], C. Ho[2] and Y. Yao[3] *1. Information & Telecommunications Engineering, Ming Chuang University, Taipei, Taiwan; 2. Department of Chemical Engineering, Tunghai University, Taichung, Taiwan; 3. Institute of Physics, Academic Sinica, Taipei, Taiwan*

DR-18. Synthesis of modified hydroxyapatite(HAP) substituted with Fe ion for DDS application. *S. Nakamura*[1], M. Horimoto[1], K. Fujiwara[1] and A. Nakahira[1] *1. Osaka Pref Univ, Osaka, Japan*

DR-19. Bacteria mediated precursor dependant biosynthesis of nanocrystalline iron oxides and greigite. *A.A. Bharde*[1], B. Prasad[1] and M. Sastry[1,2] *1. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune, Maharashtra, India; 2. Innovation Centre, Tata Chemicals Ltd., Mumbai, Maharashtra, India*

DR-20. Optical and Electron Paramagnetic Resonance Spectroscopies of Mn-doped PbS Nanocrystals. R.S. Silva[2,1], *P.C. Morais*[2], H.S. Sullasi[3,4], W.E. Ayta[3], F. Qu[1] and N.O. Dantas[1] *1. Instituto de Física, Laboratório de Novos Materiais Isolantes e Semicondutores, Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brazil; 2. Instituto de Física, Nucleo de Física Aplicada, Universidade de Brasília, Brasilia, Distrito Federal, Brazil; 3. Instituto de Física, Departamento de Física Nuclear, Universidade de Brasília, São Paulo, São Paulo, Brazil; 4. Laboratório de Vidros e Datação, Faculdade de Tecnologia de São Paulo FATEC, São Paulo, São Paulo, Brazil*

DR-21. Control of microstructures of Fe-Si-B particles. *J. Hong*[1], P. Madras[2], D.J. Smith[2] and A.E. Berkowitz[1,3] *1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. Center for Solid State Science and Department of Physics and Astronomy, Arizona State University, Tempe, AZ, USA; 3. Department of Physics, University of California-San Diego, La Jolla, CA, USA*

DR-22. MBE-grown Fe Magnetic Quantum Dots in ZnS Matrix. *S. Lok*[1], B. You[1], B. Zhang[1], X. Zhang[1], I. Sou[1] and G. Wong[1] *1. Physics, The Hong Kong University of Science and Technology, Hong Kong, China*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DS
NANOPARTICLE ARRAYS I (POSTER SESSION)

Matsuhiro Shima, Session Chair

DS-01. Nano inverse sphere Ni arrays by guided self-assembly. *X. Li*[1], D. Claudio Gonzalez[1], M.E. Kiziroglou[1], C.H. de Groot[1], A.A. Zhukov[2], P.J. de Groot[2] and P.N. Bartlett[3] *1. School of Electronics and Computer Science, University of Southampton, Southampton, Hampshire, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; 3. School of Chemistry, University of Southampton, Southampton, Hampshire, United Kingdom*

DS-02. Large Enhancement of Coercivity of Magnetic Nanodots with Perpendicular Anisotropy. *F. Zhu*[1], J. Shang[1], L. Zhu[1] and C. Chien[1] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

DS-03. Controlled growth and magnetism in nanoparticle assemblies on nano-structured insulating layer Al_2O_3/NiAl(100). W.C. Lin[1,2], Z. Gai[3], L. Gao[3], S. Wong[1], P. Huang[1], C. Wu[1], K. Song[2] and *M. Lin*[1,2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan; 3. Center for Nanophase Material Science & Condensed Matter Sciences Division, ORNL, Oak Ridge, TN, USA*

DS-04. Relating magnetic anisotropy to atomic structure in semiconducting single-walled carbon nanotubes. *O.N. Torrens*[1], D.E. Milkie[1], H.Y. Ban[1], M. Zheng[2], G. Onoa[2], T.D. Gierke[2] and J. Kikkawa[1] *1. Physics & Astronomy, University of Pennsylvania, Philadelphia, PA, USA; 2. Du Pont Central Research & Development, Wilmington, DE, USA*

DS-05. An Mossbauer Study on One-dimensional Magnetite Nano-chains Synthesis by chemical Self-Assembly in Magnetic Field. *Y. Zhang*[1], Y. Zhai[1], H. Huang[2], R. Huang[3] and H. Zhai[4] *1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Material Science and Engineering, Southeast University, Nanjing, China; 3. Department of Physics, Nanjing University, Nanjing, China; 4. Center for Materials Analysis, National Laboratory for Solid State Microstructures, Nanjing University, Nanjing, China*

DS-06. Dynamic relaxation time measurement in magnetic nanowires. *A. Gandhi*[1], Z. Rahman[1], T.F. Lynch[1], V. Khaddem-Mousavi[1] and A. Rahman[2] *1. Department of Physics, Materials and Surface Science Institute (MSSI), University of Limerick, Limerick, Ireland; 2. Department of Electronic and Computer Engineering, University of Limerick, Limerick, Ireland*

DS-07. Microwave absorption of patterned arrays of Permalloy nano-stripes with different aspect ratios. *L.M. Malkinski*[1], M. Yu[1], A. Vovk[1], D.J. Scherer II[1], Z. Davis[1], S. Whittenburg[1] and J. Jung[2] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Department of Chemistry, Kangnung National University, Kangnung, South Korea*

DS-08. Domain Stability in $(Co/Pd)_{30}$ Nanodots. *E. Chunsheng*[1], V. Parekh[1], J.O. Rantschler[1], K. Sakhrat[2] and D. Litvinov[1] *1. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical Engineering, University of California - Riverside, Riverside, CA, USA*

DS-09. Nanotemplate based fabrication of magnetic nanoparticles encapsulated by noble-metal thin film. *J. Kim*[1], J. Kim[1], N. Oh[1], K. Baek[1], J. Park[1], C. Kim[1] and C. Yoon[1] *1. Department of Materials Science and Engineering, Hanyang University, Seoul, Seoul, South Korea*

DS-10. Facile large-scale synthesis of monodisperse Fe nanoparticles by modest-temperature decomposition of Fe(CO)5. *H. Yang*[1], F. Ito[1], D. Hasegawa[1], T. Ogawa[1] and M. Takahashi[2] *1. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

DS-11. Magnetization of γ-Fe_2O_3 nanoparticles diluted in porous vycor glass: Effects of particle size. *W.C. Nunes*[1], D.C. Gomes[2], I.O. Mazali[2], M. Knobel[1] and O.L. Alves[2] *1. Instituto de Física, UNICAMP, São Paulo, Campinas, Brazil; 2. Instituto de Química, Unicamp, Campinas, São Paulo, Brazil*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DT
HALF-METALLIC FERROMAGNETS I (POSTER SESSION)

Tom Ambrose, Session Chair

DT-01. Enhanced spin-dependent tunneling magnetoresistance in magnetite films coated by polystyrene. *W. Wang*[1] and J. Tang[1] *1. Department of Physics, University of New Orleans, New Orleans, LA, USA*

DT-02. Half-metallicity and disorder effects in Co_2TiSn. *H.C. Kandpal*[1], C. Felser[1], M. Wojcik[2] and V. Ksenofontov[1] *1. Institute of Inroganic and Analytic Chemistry, Johannes Gutenberg-University, Mainz, Rheinland-Pfalz, Germany; 2. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland*

DT-03. Magnetite/semiconductor based spintronic structures with MgO tunnel barrier. Y. Lu[1], D. Niu[1], S. Hassan[1], *Y. Xu*[1] and S. Thompson[2] *1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom*

DT-04. Comparison of the magnetic and electrical properties of (110) and (100)-oriented epitaxial CrO_2 films. *K.B. Chetry*[1,3], W.H. Butler[1,3], A. Gupta[2,3] and P. Padhan[3] *1. Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 2. Chemistry and Chemical Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, USA*

DT-05. $Co_2Cr_xFe_{1-x}Si$: A promising Half-metallic Ferromagnet with High Spin Polarization and Saturation Magnetization. *S.V. Karthik*[1,2], A. Rajanikanth[1,2], Y.K. Takahashi[2] and K. Hono[2,1] *1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 2. National Institute of Materials Science, Tsukuba, Japan*

DT-06. Effect of crystallographic orientation of Co_2MnGe Heusler-alloy film on its surface roughness and ordered structure. *Y. Takeda*[1], S. Yoshimura[1], M. Takano[1], H. Asano[1] and M. Matsui[1] *1. Department of Crystalline Materials Science, Graduate School of Engneering, Nagoya University, Nagoya, Japan*

DT-07. Giant Magnetoresistance in Half Metallic Fe_3O_4 Based Spin Valve Structures. D. Tripathy[1] and *A. Adeyeye*[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

DT-08. Magnetic and magneto-optical properties of Co_2FeSi and $Co_2Cr_{0.6}Fe_{0.4}Al$ Heusler compounds. *J. Hamrle*[1], O. Gaier[1], S. Blomeier[1], B. Reuscher[2], A. Brodyanski[2], M. Kopnarski[2], R. Schäfer[3], C. Felser[4], M. Jourdan[5], G. Jakob[5] and B. Hillebrands[1] *1. Fachbereich Physik and Forschungsschwerpunkt MINAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Institut für Oberflächen- und Schichtanalytik, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 3. IFW Dresden, Dresden, Germany; 4. Institute of Inorganic and Analytical Chemistry, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 5. Institut für Physik, Johannes Gutenberg-Universität Mainz, Mainz, Germany*

DT-09. Room-temperature magnetoresistance in magnetic tunnel junctions with Fe_3O_4 electrode. *T. Kado*[1], H. Saito[1] and A. Fukushima[1] *1. Nanoelectronics, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan*

DT-10. Half-Metallic Behavior in Cr Spacer Layers Induced by Heusler Electrodes. *M. Williams*[2], M. Chshiev[1], C. Culbert[1] and W. Butler[1] *1. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 2. Department of Mathematics and Computer Sciences, University of Maryland Eastern Shore, Princess Anne, MD, USA*

DT-11. CPP-GMR in Co_2MnSi / Cr / Co_2MnSi trilayers on various buffer layers. *K. Yakushiji*[1], K. Saito[2], S. Mitani[2], K. Takanashi[2], Y.K. Takahashi[3] and K. Hono[3] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. National Institute for Materials Research, Tsukuba, Japan*

DT-12. Magnetic Damping Constants of Heusler Alloy and Co-Fe-B Alloy. *M. Oogane*[1], M. Watanabe[1], R. Yilgin[1], S. Yakata[1], Y. Sakuraba[1], Y. Ando[1] and T. Miyazaki[1] *1. Tohoku University, Sendai, Japan*

DT-13. Anisotropic magnetoresistance and planar Hall effect in magnetite thin films. *Y. Bason*[1], L. Klein[1], H. Tang[2], J. Hoffman[2] and C. Ahn[2] *1. Department of Physics, Bar-Ilan University, Ramat Gan, Israel; 2. Department of Applied Physics, Yale University, New-Haven, CT, USA*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DU
MAGNETO-CALORIC MATERIALS (POSTER SESSION)

Victorino Franco, Session Chair

DU-01. Fe-based amorphous alloys with giant magnetocaloric effect for room-temperature magnetic refrigerant. *Q. Nguyen*[1], D. Ngo[2,3], V. Vuong[3], D. Hoang[3], C. Nguyen[3], S. Oh[1] and S. Yu[1] *1. Department of Physics, Chungbuk National University, 361-763, Cheongju, South Korea; 2. Department of Physics and Astronomy, University of Glasgow, G12 8QQ, Glasgow, United Kingdom; 3. Center for Materials Science, College of Science, Vietnam National University Hanoi, Hanoi, Viet Nam*

DU-02. Enhanced Magnetocaloric effect in single crystalline $Nd_{0.5}Sr_{0.5}MnO_3$ R. Venkatesh[1], M. Pattabiraman[1], *K. Sethupathi*[1] and G. Rangarajan[1] *1. Low temperature laboratory, Department of Physics, Indian Institute of Technology, Chennai, Tamilnadu, India*

DU-03. Magnetocaloric properties of Fe and Ge doped $Ni_2Mn_{1-x}Cu_xGa$. *M.U. Khan*[1], S. Stadler[1] and N. Ali[1] *1. Physics, Southern Illinois University, Carbondale, IL, USA*

DU-04. Large magnetocaloric effect in LaCaPbMnO3 manganites. M. Phan[1], *H. Peng*[1] and S. Yu[2] *1. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1TR, United Kingdom; 2. Department of Physics, Chungbuk National University, Cheongju, 361-763, South Korea*

DU-05. Magneto-caloric effect in layer structural Gd5(SixGe1-x)4/Gd composite materials. *M. Yue*[1], J. Zhang[1], H. Zeng[1], H. Chen[1] and X. Liu[2] *1. The Key Laboratory of Advanced Functional Materials, Ministry of Education, Beijing University of Technology, Beijing, China; 2. Center for the physics of materials and Department of Physics, McGill University, Montreal, QC, Canada*

DU-06. Sensitivity of tuning Fe content to magnetic properties and magnetocaloric effect around phase boundary in $La(Fe_xAl_{1-x})_{13}$ compounds. *F. Hu*[2,1], B. Shen[2], J. Sun[2] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China; 2. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing 100080, China*

DU-07. Magnetocaloric properties in RPtGa with R= Dy,Ho and Er. L.M. da Silva[1], *F.G. Gandra*[1], A.O. dos Santos[1], L.P. Cardoso[1] and A.N. Medina[2] *1. Physics Institute, University of Campinas, Campinas, Sao Paulo, Brazil; 2. Physics Institute, State University of Maringa, Maringa, Parana, Brazil*

DU-08. Magnetism and Magnetocaloric effect in $(Dy_xGd_{5-x})Si_2Ge_2(0\leq x\leq 5)$ Compounds. *S.K. Malik*[1,2], R. Nirmala[1], D.C. Kundaliya[1,3], A.G. Joshi[1,4] and A.V. Morozkin[5] *1. Department of Condensed Matter Physics and Material Science, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India; 2. International Centre for Condensed Matter Physics - ICCMP, University of Brasilia, Brasilia, Brazil; 3. Center for Superconductivity Research, University of Maryland, College Park, MD, USA; 4. National Physical Laboratory, New Delhi, New Delhi, India; 5. Department of Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation*

DU-09. Effect of Tm substitution on the magnetic and magnetocaloric properties in the intermetallic compounds $(Tb_{1-x}Tm_x)Co_2$ *N.K. Singh*[1], P. Kumar[1], K.G. Suresh[1] and A.K. Nigam[2] *1. Physics, I.I.T. Bombay, Mumbai, Maharashtra, India; 2. Tata Institute of Fundamental Research, Mumbai, Maharashtra, India*

DU-10. Irreversible Field–induced strain Magnetostriction at Temperatures above and below the Order-Disorder Transition in Single Crystal Tb5Si2.2Ge1.8. A.P. Ring[1], T. Lograsso[1], D. Schlagel[1], *J.E. Snyder*[3] and D.C. Jiles[3] *1. Materials and Engineering Physics Program, Ames Laboratory, Iowa State University, Ames, IA, USA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA; 3. Wolfson Centre for Magnetics, Cardiff University, Cardiff, CF24 3AA, United Kingdom*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DV
PATTERNED STRUCTURES II (POSTER SESSION)

Tom Thomson, Session Co-chair
Bo Liu, Session Co-chair

DV-01. Large-area Magnetic Antidot Arrays by Triblock Copolymer Nanolithography: Pattern Transfer Issues. *T. Kubo*[1,2], J.S. Parker[1,3], M.A. Hillmyer[4] and C. Leighton[1] *1. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA; 2. Fuji Electric Advanced Technology Co., Ltd., Hino, Japan; 3. Physics, University of Minnesota, Minneapolis, MN, USA; 4. Chemistry, University of Minnesota, Minneapolis, MN, USA*

DV-02. Local Oxidation Nanolithography of Co Thin Films Using SPM. *Y. Tomoda*[1], S. Nishimura[1], J. Shirakashi[1] and Y. Takemura[2] *1. Department of Electrical and Electronic Engineering, Tokyo University of Agriculture and Technology, Koganei, Tokyo, Japan; 2. Department of Electrical and Computer Engineering, Yokohama National University, Yokohama, Kanagawa, Japan*

DV-03. Hydrogen patterning of perpendicularly magnetized (Ga,Mn)As thin films. *L. Thevenard*[1], A. Lemaître[1], A. Miard[1], L. Largeau[1], O. Mauguin[1], G. Patriarche[1], N. Vernier[2] and J. Ferré[2] *1. Laboratoire de Photonique et Nanostructures, Marcoussis, France; 2. Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France*

DV-04. Thermal stability of nanostructured trilayer synthetic antiferromagnets. *J. Han*[1], K. Shin[2] and S. Lim[1] *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Nano Device Research Center, Korea Institute of Science and Technology, Seoul, South Korea*

DV-05. Domain wall injection study in spin valve system with different geometry reservoir. *K. Cheng*[1,2], C. Yu[2], Y. Chen[3], D. Chen[2], S. Lee[2], Y. Liou[2], J. Huang[1] and Y. Yao[2] *1. Department of Materials Science and Engineering, National Tsing-Hua Univ., Hsinchu, Taiwan; 2. Institute of Physics., Academia Sinica., Taipei, Taiwan; 3. Department of Physics, National Taiwan Univ., Taipei, Taiwan*

DV-06. Effect of inhomogeneous spin configurations on spin wave modes. *D.Y. Tse*[1], S.J. Steinmuller[1], T. Trypiniotis[1] and J.C. Bland[1] *1. Department of Physics, University of Cambridge, Cambridge, United Kingdom*

DV-07. Spin structures of geometrically-confined domain walls. *M. Klaui*[1], M. Laufenberg[1], D. Bedau[1], D. Backes[1,2], L.J. Heyderman[2], F. Nolting[2], S. Cherifi[3], S. Heun[3], A. Locatelli[3], C.F. Vaz[4], J.C. Bland[4], T. Kasama[5], F. Junginger[1,5], R. Dunin-Borkowski[5] and U. Rudiger[1] *1. Physics, University of Konstanz, Konstanz, Germany; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Sincrotrone Trieste, Basovizza, Italy; 4. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 5. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

DV-08. The magnetic properties of nanoscale anti-structure arrays. *C. Wang*[1], N. Singh[2] and A.O. Adeyeye[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore*

DV-09. Magnetic properties and domain formation in hybrid magnetic thin films. *J. McCord*[1], J. Fassbender[2], I. Mönch[1], R. Kaltofen[1], A. Mücklich[2], A. Gerber[3], E. Quandt[3] and L. Schultz[1] *1. IFW Dresden, Dresden, Germany; 2. FZ Rossendorf, Dresden, Germany; 3. FZ CAESAR, Bonn, Germany*

DV-10. Influence of IrMn Exchange Bias Layer on the Magnetic Properties of Half Ring NiFe Micron Structures. A. Chen[1,2], L. Chang[1,2], K. Cheng[1] and *S. Lee*[1,2] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Optoelectronic Sciences, National Taiwan Ocean University, Keelung, Taiwan*

DV-11. Quasi-exponential law of the magnetic domain wall depinning from a natural defect. J. Attané[1], *A. Marty*[1], D. Ravelosona[2], Y. Samson[1] and C. Chappert[2] *1. Nanostructures and Magnetism, CEA Grenoble, Grenoble, France; 2. IEF, CNRS, Orsay, France*

DV-12. Domain wall width and velocity behaviors in notched magnetic devices. *S. Kim*[1], B. Chun[1] and Y. Kim[1] *1. Materials Science and Engineering, Korea University, Seoul, South Korea*

DV-13. Switching field study by domain wall injection of the permalloy wires with step structures. *C. Yu*[1], S.H. Wu[1], Y. Liou[1], Y.S. Chen[2], K.W. Cheng[1], D.C. Chen[3] and Y.D. Yao[1] *1. physics, academica sinica, Taipei, Taiwan; 2. physics, National Taiwan university, Taipei, Taiwan; 3. Materials Science & Engineering, National Chiao Tung University, Hsinchu, Taiwan*

DV-14. Creation and manipulation of surface magnetic moment flips. J. Lin[1], J. Chen[1], S. Wu[1], *Y. Ma*[1], Y. Liou[2] and W. Su[2] *1. Physics, National Dong Hwa University, Hualien, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

DV-15. Electrical voltage manipulation of ferromagnetic microdomain structures in a ferromagnetic/ferroelectric hybridstructure. *T. Taniyama*[1], K. Akasaka[1], D. Fu[2,1], M. Itoh[1] and H. Takashima[3] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. ERATO, Japan Science and Technology Agency, Kawaguchi, Japan; 3. National Research Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

DV-16. Observation of multiple transitions on permalloy ring using magnetic force microscopy. L. Lin[1], C. Chang[1], C. Kuo[1], C. Chang[2] and *J. Wu*[1] *1. Physics, National Changhua University of Education, Changhua City, Taiwan; 2. Physics, National Taiwan University, Taipei, Taiwan*

DV-17. Size dependence of reversal mechanisms in permalloy ellipses. *Z. Wei*[2], M. Lai[1], J. Wu[3] and C. Chang[1] *1. National Taiwan University, Taipei, Taiwan; 2. National Tsing Hua University, Hsinchu, Taiwan; 3. National Changhua University of Education, Changhua, Taiwan*

DV-18. Parallel pumping in ferromagnetic metal stripes. *M. Kostylev*[1], J. Hu[2,1] and R.L. Stamps[1] *1. School of Physics, University of Western Australia, Crawley, WA, Australia; 2. Physics Department, Yangzhou University, Yangzhou, China*

DV-19. Size and (Py film) thickness dependencies of ferromagnetic resonance in nanoscale antidot arrays. *M. Yu*[1], L. Malkinski[1], S.L. Whittenburg[1], W. Zhou[1] and J.B. Wiley[1] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DW
SPIN TRANSPORT IN SPIN VALVES AND NANOSTRUCTURES (POSTER SESSION)

Ruihua Cheng, Session Chair

DW-01. Title: Effect of Cu interdiffusion on the Electromigration failure of FM/Cu/FM trilayers for spin valve read sensors. *J. Jiang*[1], S. Kim[1] and S. Bae[1] *1. Biomagnetics Lab, Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

DW-02. Study of spin valves with different $L1_0$ FePt pinned layers. H. Zhao[1], *Z. Zhang*[1], B. Ma[1] and Q. Jin[1] *1. Department of Optial Science and Engineering, Fudan University, Shanghai, China*

DW-03. Comparison between top and bottom NiO-pinning spin valves: correlation between the extraordinary Hall effect and resistivity. J. Zhang[1], J. Du[1], X. Bai[1], L. Sun[1], B. You[1], X. Wu[1], *H. Sang*[1], A. Hu[1] and S. Zhou[2] *1. Physics, Nanjing Unversity, Nanjing, Jiangsu, China; 2. Surface Physics Laboratory (National Key Laboratory) and Department of Physics, Shanghai, China*

DW-04. Transport of spins in magnetic multilayers. *K. Akabli*[1], H.T. Diep[1] and S. Reynal[1] *1. Laboratoire de Physique Théorique et Modélisation, Université de Cergy-Pontoise, Cergy-Pontoise, France*

DW-05. The Effects of Ruthenium and Grain Size on Spin Valves with Ultra Thin Antiferromagnetic Pinning Layers. *W. Buchanan*[1], D. Draganova[1], C. Furjanic[1], W. Gannett[1], P.D. Sparks[1], M. Carey[2] and J.C. Eckert[1] *1. Physics, Harvey Mudd College, Claremont, CA, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA*

DW-06. Lateral spin valve in a concentric-ring structure. *D. Chen*[2,1], C. Yu[1], S. Lee[1] and Y. Yao[1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Material Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan*

DW-07. Electron Transport through Disordered Domain Walls: Coherent and Incoherent Regimes. P.E. Falloon[1,2], R.A. Jalabert[2], D. Weinmann[2] and *R. Stamps*[1] *1. Physics, University of Western Australia, Crawley, WA, Australia; 2. IPCMS, CNRS, Strasbourg, France*

DW-08. Magnetoresistance characterization of NiFe films with a planar point contact. *Y. Ohsawa*[1,2] *1. CR&D center, Toshiba corp., Kawasaki, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

DW-09. Time-Varying Magnetoresistance in Highly Resistive Fe/Fe-O Core-Shell Nanoparticle Assemblies. *H. Sakuma*[1], H. Aoshima[1], T. Kobayashi[1], T. Taniyama[2] and K. Ishii[1] *1. Utsunomiya University, Utsunomiya, Japan; 2. Tokyo Institute of Technology, Yokohama, Japan*

DW-10. High Frequency Magnetoimpedance and Permeability in Py/FeMn/Ta Exchange Biased Films. *R.B. da Silva*[1], A.D. Viegas[2], M.A. Corrêa[1], V.P. Nascimento[3], E.B. Saitovitch[3] and R.L. Sommer[3] *1. Departamento de Física, UFSM, Santa Maria, RS, Brazil; 2. Departamento de Física, UFSC, Florianópolis, SC, Brazil; 3. CBPF, Rio de Janeiro, RJ, Brazil*

DW-11. Photoemission study of manganite/Alq3 interface. *Y. Zhan*[1], I. Bergenti[1], E. Arisi[1], A. Riminucci[1], L.E. Hueso[1] and V. Dediu[1] *1. ISMN CNR, Bologna, Italy*

DW-12. Structural and Magnetism Considerations for CoFe/Cr pin-NOL by comparison of Co-rich and Fe-rich NOLs on CIP-GMR and Hex of SPSV systems. H. Endo[1], K. Sawada[1], M. Doi[1], N. Hasegawa[2] and *M. Sahashi*[1] *1. Electronic Engineering, Tohoku University, Sendai, Japan; 2. ALPS Electric Corporation, Niigata, Japan*

DW-13. WITHDRAWN

DW-14. Transport properties of low coupling field spin valves: Dependencies on spacer thickness, deposition rate and temperature. *J.M. Teixeira*[1], J. Ventura[1], R. Fermento[1], J.P. Araújo[1], J.B. Sousa[1], S. Cardoso[2] and P.P. Freitas[2] *1. FCUP, IFIMUP, Porto, Portugal; 2. INESC-MN, Lisbon, Portugal*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DX
MAGNETO-OPTIC AND MAGNETO-ELASTIC MATERIALS (POSTER SESSION)

Radek Lopusnik, Session Chair

DX-01. Magnetic Properties of Aluminium-substituted R-T Deuterides $Ho_6(Fe,Al)_{23}D_z$ *J. Ostoréro*[1] and M. Guillot[2] *1. UPR 209, CNRS, Thiais Cedex, France; 2. LCMI, CNRS, Grenoble Cedex, France*

DX-02. Faraday-like magneto-optical effect of one-dimensional magnetic grating. *J. Kim*[1], G. Lee[1], Y. Lee[1], J. Rhee[2], K. Kim[3] and C. Yoon[4] *1. Quantum Photonic Science Research Center and BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul, South Korea; 2. BK21 Physics Research Division and Institute of Basic Science, Sungkyunkwan University, Suwon, South Korea; 3. Department of Physics, Sunmoon University, Asan, South Korea; 4. Department of Materials Science and Engineering, Hanyang University, Seoul, South Korea*

DX-03. Enhanced Kerr effect with high reflectance in one-dimensional asymmetric magnetic photonic crystals with three defects. *Y. Lu*[1], M. Huang[1], S. Park[1], P. Kim[1], Y. Lee[1] and J. Rhee[2] *1. Quantum Photonic Science Research Center and BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul, South Korea; 2. BK21 Physics Research Division and Institute of Basic Science, Sungkyunkwan University, Suwon, South Korea*

DX-04. Perpendicular Magnetic Properties of Rare Earth-Transition Metal Thin Film Using Pulse Electrodeposition Technique. *M. Shu*[1], T. Wu[2] and C. Yang[3] *1. Graduate School of Engineering Science and Technology (Doctoral Program), National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan; 2. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan; 3. Department of Chemical Engineering, National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan*

DX-05. Enhancement of Modulation Rate of Magneto-Optical Spatial Light Modulators with Magnetophotonic Crystals. *K. Takahashi*[1], H. Takagi[2], K. Shin[1,3], H. Uchida[1], P. Lim[1] and M. Inoue[1,4] *1. Dept. Electrical and Electronic Engineering, Toyohashi University of Technology, Toyohashi, Japan; 2. Toyota National College of Technology, Toyota, Japan; 3. Kyungsung University, Pusan, South Korea; 4. JST-CREST, Kawaguch, Japan*

DX-06. Magneto-optical Properties of $CoFe_{2-x}Ga_xO_4$ *S. Lee*[1], S. Song[2,3], C. Lo[1], S.T. Aldini[2] and D.C. Jiles[4] *1. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA; 2. Materials and Engineering Physics Program, Ames Laboratory, US Dept. of Energy, Iowa State University, Ames, IA, USA; 3. Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA; 4. Wolfson Centre for Magnetics, Cardiff University, Cardiff, Cardiff CF24 3AA, United Kingdom*

DX-07. Magneto-optical energy gap of MnZnFe2O4 magnetic thin film with nanohole arrays on PAA/GaN/sapphire multiple thin films. *C. Hsu*[1] and H. Liu[1] *1. Mechanical department, Chung Cheng Institute of Technology, Taoyuan, Taiwan*

DX-08. Stress dependence of the magnetic domains in FeCoSiB amorphous thin films. *B. Peng*[1], Q. Xie[1], W. Zhang[1], H. Jiang[1] and W. Zhang[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, ChengDu, SiChuan, China*

DX-09. Effect of Mn substitution on some properties of spinel $CoFe_2O_4$ prepared by citrate method. *M.N. Palamaru*[1], A.R. Iordan[1], I. Dumitru[2] and O. Caltun[2] *1. Faculty of Chemistry, "Alexandru Ioan Cuza" University, Iasi, Romania; 2. Department of Solid State and Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Romania*

DX-10. Magnetic and magnetoelastic behavior of Mn substituted CoFe2O4. *S.D. Bhame*[1] and P.A. Joy[1] *1. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune, Maharashtra, India; 2. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune, Maharashtra, India*

DX-11. 1600 ppm Unloaded Magnetostriction in Epoxy-Bonded Terfenol-D Continuous-Fiber Composites with [112] Crystallographic Orientation. *C. Lo*[1], S. Or[1] and H. Chan[1] *1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

DX-12. Magnetomechanical performance of directionally solidified Fe-Ga alloys. *X.. Zhao*[1], D.G. Lord[1] and N.J. Mellors[1] *1. Institute for Materials Research, University of Salford, Salford, United Kingdom*

DX-13. Magnetism and phase transition of NiTi shape memory alloys. *B. Hou*[1], Q. Zhou[1], S. Mao[1], Y. Ma[2], F. Liu[1] and X. Han[1] *1. College of Applied Sciences, Beijing University of Technology, Beijing, Beijing, China; 2. Institute of Physics, Chinese Academy of Science, Beijing 100080, China, Beijing, China*

DX-14. MAGNETO-ACOUSTIC PROPERTIES OF SELF BIASED TERFENOL-D 2-2 COMPOSITES. *L. Garcia-Gancedo*[1], S.C. Busbridge[1], P. Pernod[2] and V. Preobrazhensky[2] *1. School of Engineering, University of Brighton, Brighton, East Sussex, United Kingdom; 2. IEMN-DOAE, Ecole Centrale de Lille, Villeneuve d'Ascq Cedex, France*

DX-15. Structure and magnetic properties of melt-spun ribbons of Tb0.27Dy0.73Fex alloys. X. Meng[1], *Y. Li*[1], H. Liu[1], Z. Lu[1], J. Qu[1], X. Xu[1] and Y. Zhao[1] *1. Hebei University of Technology, Tianjin, China*

TUESDAY AFTERNOON 1:00 **GRAND BALLROOM**

Session DY
HARD MAGNETIC FILMS (POSTER SESSION)

Alejandra Lukaszew, Session Chair

DY-01. Magnetic properties of epitaxial Nd-Fe-B films on Mo buffer deposited on different substrates. *A. Kwon*[1], S. Faler[1], V. Neu[1] and L. Schultz[1] *1. institute for the metallic materials, IFW-Dresden, Dresden, Germany*

DY-02. An effective route to fabricate RE-Fe-B thin films with highly c-axis texture and excellent permanent magnetic properties. *S. Tang*[1], M. Gibbs[2] and H. Davies[2] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

DY-03. Enhancement in coercivity of PLD-made Nd-Fe-B thick film magnets by high-speed crystallization. *H. Takeda*[1], S. Sato[1], T. Yanai[1], M. Nakano[1], H. Fukunaga[1] and F. Yamashita[2] *1. Nagasaki University, Nagasaki, Japan; 2. Motor R&D Lab. Matsushita Electric Industrial Co. Ltd., Osaka, Japan*

DY-04. THE Co CONTENT AND STRATIFICATION EFFECT ON THE MAGNETIC PROPERTIES, MICROSTRUCTURE AND PHASE EVOLUTION OF [NdFeBNbCu/Co]xn THIN FILMS. *H. Chiriac*[1], M. Grigoras[1] and M. Urse[1] *1. MDM, NIRDTP Iasi, Iasi, Romania*

DY-05. Structural and magnetic properties of 5μm thick sputter deposited SmCo films. *A. Walther*[1,2], K. Khlopkov[3], O. Gutfleisch[3], D. Givord[1] and N.M. Dempsey[1] *1. Laboratoire Louis Néel, CNRS, Grenoble, France; 2. LCMS, CEA-LETI, Grenoble, France; 3. IFW Dresden, Institute of Metallic Materials, Dresden, Germany*

DY-06. Development of nano-structured, stress-free Co-rich CoPtP films for magnetic MEMS applications. S. Kulkarni[1] and *S. Roy*[1] *1. Energy Processing for ICT, Tyndall National Institute, Cork, Ireland*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DZ
MAGNETIZATION PROCESSES AND MAGNETIC CHARACTERIZATION (POSTER SESSION)

Jian-Ping Wang, Session Chair

DZ-01. Pinning in Epitaxial Exchange Coupled $SmCo_5$ Films. *A. Singh*[1], V. Neu[1], S. Fahler[1], K. Nenkov[1], L. Schultz[1] and B. Holzapfel[1] *1. IFW Dresden, Institute for Metallic Materials, Dresden, Germany*

DZ-02. Self-Pinning: the dominant coercivity mechanism in exchange-coupled nanomagnets? *G. Zhao*[1,2] and X. Wang[2] *1. Institute of Solid State Physics, Sichuan Normal University, Chengdu, Sichuan, China; 2. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia*

DZ-03. Magnetic Characterization of the (Zr,Sm)Co3 phase in Sm(CoFeCuZr)z magnets. *M.F. de Campos*[1], R.K. Murakami[2], S.A. Romero[3], H.R. Rechenberg[3] and F.P. Missell[1,4] *1. Dimat - Predio 3, Inmetro, Duque de Caxias RJ, RJ, Brazil; 2. Universidade Federal do ABC, Santo André, SP, SP, Brazil; 3. Instituto de Física, Universidade de São Paulo, São Paulo, SP, SP, Brazil; 4. Universidade de Caxias do Sul, Caxias do Sul RS, RS, Brazil*

DZ-04. Fine pole-pitch magnetizing method for Nd-Fe-B isotropic magnet with high coercivity. *H. Komura*[1], M. Kitaoka[1], T. Kiyomiya[1] and Y. Matsuo[1] *1. R & D, FDK Corporation, Kosai, Japan*

DZ-05. Demagnetization of high-performance permanent magnets with superconducting magnet. *S. Kato*[1], G. Kido[1] and N. Kishimoto[1] *1. National Institute for Materials Science, Tsukuba, Japan*

TUESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DAA
HARD MAGNETIC MATERIALS (POSTER SESSION)

Ichiro Takeuchi, Session Chair

DAA-01. HIGH MAGNETIC FIELD PROPERTIES OF YTTRIUM-SUBSTITUTED Ho6Fe23 ALLOYS AND DEUTERIDES. J. Ostoréro[1] and *M. Guillot*[2] *1. UPR 209, CNRS, 94320 Thiais Cedex, France; 2. Grenoble High Magnetic Field Laboratory, CNRS, GRENOBLE Cedex 9, France*

DAA-02. ^{119}Sn hyperfine fields in $ErMn_6Sn_{6-x}Ga_x$ L.K. Perry[1], *D.H. Ryan*[1] and G. Venturini[2] *1. Physics, McGill, Montreal, QC, Canada; 2. Laboratoire de Chimie du Solide Minéral, Université Henri Poincaré-Nancy I, Vandoeuvre les Nancy, Cedex, France*

DAA-03. Spin flop transition driven by exchange springs in ErFe2/YFe2 multilayers. *K.N. Martin*[1], J.P. Zimmermann[2], K. Wang[1], G.J. Bowden[1], A.A. Zhukov[1], H. Fangohr[2], R. Ward[3] and P. de Groot[1] *1. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; 2. Computational Engineering and Design Group, School of Engineering Sciences, University of Southampton, Southampton, Hampshire, United Kingdom; 3. Clarendon Laboratory, Oxford University, Oxford, Oxfordshire, United Kingdom*

DAA-04. Anomalous magnetic properties of Er_2Ni_{17} D. Banerjee[1], *P. Kumar*[1], K. Suresh[1] and A.K. Nigam[2] *1. Department of Physics, IIT Bombay, Mumbai, Maharashtra, India; 2. Tata Institute of Fundamental Research, Mumbai, Maharashtra, India*

DAA-05. Anomalous Magnetic Age Hardening in a Co-Ni-Al Ferromagnetic Shape Memory Alloy. *T.M. Apple*[1], E.A. Lass[1], G.J. Shiflet[1] and W.A. Soffa[1] *1. Materials Science & Engineering, University of Virginia, Charlottesville, VA, USA*

DAA-06. Magnetic anisotropy and high coercivity of epitaxial Co-ferrite films prepared by pulsed laser deposition. *J. Yin*[1,2], J. Ding[1], B. Liu[1], J. Yi[1], X. Miao[2] and J. Chen[1,2] *1. Department of materials science and engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

TUESDAY EVENING 7:30 — HARBORSIDE

Session YA
SYMPOSIUM ON MAGNETIC MEMORIES, PAST AND PRESENT

William Gallagher, Session Chair

7:30

YA-01. Magnetic Memories and Especially Magnetic Bubbles – An Historical Perspective. ***(Invited)*** *R. Fontana*[1] and B. Doyle[2] *1. Hitachi Global Storage Technologies, San Jose, CA, USA; 2. University of Alabama, Tuscaloosa, AL, USA*

8:50

YA-02. MRAM: From Concept to First Commercialization and Beyond. ***(Invited)*** *B.N. Engel*[1] *1. Freescale Semiconductor, Inc., Chandler, AZ, USA*

WEDNESDAY MORNING 9:00 — HARBORSIDE C

Session EA
SYMPOSIUM ON INTERFACES IN MAGNETIC TUNNEL JUNCTIONS

Amanda Petford-Long, Session Chair

9:00

EA-01. Theory of Tunneling in Epitaxial Magnetic Tunnel Junctions. ***(Invited)*** *W.H. Butler*[1,2], X. Zhang[3], T.C. Schulthess[3], J.M. Maclaren[4], M. Chshiev[1] and S. Vutukuri[1,2] *1. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 2. Department of Physics, University of Alabama, Tuscaloosa, AL, USA; 3. ORNL, Oak Ridge, TN, USA; 4. Tulane University, New Orleans, LA, USA*

9:36

EA-02. Evidence for WKB Failure in Contemporary Magnetic Tunnel Junctions. ***(Invited)*** *C.W. Miller*[1], Z. Li[1], I.K. Schuller[1], R.W. Dave[2], J.M. Slaughter[2] and J. Akerman[3] *1. Physics, University of California, San Diego, La Jolla, CA, USA; 2. Technology Solutions Organization, Freescale Semiconductor, Inc., Chandler, AZ, USA; 3. Department of Microelectronics and Applied Physics, Royal Institute of Technology, Kista, Sweden*

10:12

EA-03. Interfacial oxides and oxide order in MgO based magnetic tunnel junctions. ***(Invited)*** *R. Buhrman*[1], J.C. Read[1] and P.G. Mather[1] *1. Center for Nanoscale Systems, Cornell University, Ithaca, NY, USA*

10:48

EA-04. High temperature properties of MgO based magnetic tunneling junctions. ***(Invited)*** *G. Xiao*[1] *1. Dept. of Physics, Brown University, Providence, RI, USA*

11:24

EA-05. Polarity dependent and barrier parameter driven reliability of magnetic tunnel junctions. ***(Invited)*** *J. Akerman*[1] *1. Department of Microelectronics and Applied Physics, Royal Institute of Technology, Kista, Sweden*

WEDNESDAY MORNING 9:00 — HARBORSIDE A

Session EB
PERPENDICULAR MEDIA

Hiroaki Muraoka, Session Chair

9:00

EB-01. Small Angle Neutron Scattering Measurements of the Local Magnetic Structure of Perpendicular Recording Media. ***(Invited)*** *S.L. Lee*[1], M.P. Wismayer[1], S.J. Lister[1], T. Thomson[2], C.D. Dewhurst[3], J. Kohlbrecher[4], S. Weekes[5] and F.Y. Ogrin[5] *1. School Of Physics and Astronomy, University of St Andrews, St Andrews, Fife, United Kingdom; 2. Hitachi San Jose Research Centre, San Jose, CA, USA; 3. Large Scale Structures Group, Institute Laue Langevin, Grenoble, France; 4. Laboratory for Neutron Scattering, ETH & PSI, Villigen, Switzerland; 5. Department of Physics, University of Exeter, Exeter, United Kingdom*

9:36

EB-02. Magnetic-Recording Patterns of CoPtCr-SiO_2 Perpendicular Media at Linear Density of 1,500 kfci. *M. Kitano*[1], E. Miyashita[1], N. Hayashi[1] and S. Takenoiri[2] *1. NHK Science&Technical Research Laboratories, Tokyo, Japan; 2. Fuji Electric Device Technology Co.,Ltd, Nagano, Japan*

9:48

EB-03. CORRELATION OF SIGNAL AND SNR THERMAL DECAY. *B.F. Valcu*[1], R. Brockie[1], N.H. Yeh[1] and H.J. Richter[1] *1. seagate technology, fremont, CA, USA*

10:00

EB-04. Energy Barriers in Composite Media Grains. B.H. Lengsfield[1] and *H. Bertram*[1] *1. Hitachi GST San Jose Research Center, San Jose, CA, USA*

10:12

EB-05. SNR and Microstructure Improvement of CoCrPt-SiO2 Based Capping layer Perpendicular Media by Stacked Ru Underlayer with NSL. *R. Mukai*[1] and T. Uzumaki[1] *1. Advanced Magnetic Recording Lab., Fujitsu Laboratories Ltd., Atsugi, Japan*

10:24

EB-06. The Effects of Post-deposition Annealing on the Microstructure and Magnetic Properties of Percolated Perpendicular Media. *Y. Qin*[1,2], Y. Peng[1,2], D.E. Laughlin[1,3] and J. Zhu[1,2] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Electrical and Computer Engineering Department, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Materials Science and Engineering Department, Carnegie Mellon University, Pittsburgh, PA, USA*

10:36

EB-07. Continuous/Cluster-Pinned Recording Media. *R. Skomski*[1], M.L. Yan[1], Y.F. Xu[1] and D.J. Sellmyer[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA*

10:48

EB-08. The effect of intrinsic magnetic properties of negative–K_u material for p–/n–K_u stacked ECC media. *N. Itagaki*[1], S. Saito[1], A. Hashimoto[1] and M. Takahashi[1,2] *1. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Mitagi, Japan*

11:00

EB-09. Recording simulations on gradient media for densities up to 1 Tbit/in^2 *T. Schrefl*[1], D. Suess[2], A. Goncharov[1], O. Ertl[2], G. Hrkac[1], S. Bance[1], F. Dorfbauer[2] and J. Fidler[2] *1. Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Solid State Physics, Vienna University of Technology, Vienna, Austria*

11:12

EB-10. Optimization of exchange spring media with gradual changing anistropy. *G. Zimanyi*[2], D. Suess[1], T. Schrefl[3] and J. Fidler[1] *1. Institut of Solid State Physics, Technical University of Vienna, Vienna, Austria; 2. Physics Department, University of California, Davis, CA, USA; 3. Department of Enginering Materials, University of Sheffield, Sheffield, United Kingdom*

11:24

EB-11. Effect of dual magnetic layer on performance in CoCrPt-SiO2 perpendicular media. *Y. Hirayama*[1] and I. Tamai[1] *1. Central Research Laboratory, Hitachi, Ltd., Odawara, Kanagawa, Japan*

11:36

EB-12. A New Method of Producing Small Grain Ru Intermediate Layers for Perpendicular Magnetic Media. *H. Yuan*[1,2], Y. Qin[1,3] and D.E. Laughlin[1,2] *1. Data Storage Systems Center, Pittsburgh, PA, USA; 2. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

11:48

EB-13. CoCrPtO-based Granular Composite Perpendicular Recording Media. *H. Jung*[1], E.M. Velu[1], S.S. Malhotra[1], U. Kwon[2], D. Suess[3] and G. Bertero[1] *1. Komag Inc., San Jose, CA, USA; 2. Materials and Engineering, Stanford University, Stanford, CA, USA; 3. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

WEDNESDAY MORNING **HARBORSIDE B**
9:00

Session EC
III-V MAGNETIC SEMICONDUCTORS
Ezekiel Johnston-Halperin, Session Chair

9:00

EC-01. Giant anisotropic magnetoresistance in ultrathin GaMnAs films. *R. Gareev*[1], M. Döppe[1], J. Sadowski[1], W. Wegscheider[1] and D. Weiss[1] *1. Institute of Experimental and Applied Physics, Regensburg, Germany*

9:12

EC-02. Coulomb blockade anisotropic magnetoresistance effect in a (Ga,Mn)As single-electron transistor. *J. Wunderlich*[1], T. Jungwirth[2,3], A.C. Irvine[4], B. Kaestner[5], A.B. Shick[2], R.P. Campain[3], B.L. Gallagher[3] and D.A. Williams[1] *1. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 2. Institute of Physics ASCR, Praha 6, Czech Republic; 3. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom; 4. Microelectronics Research Centre, University of Cambridge, Cambridge, United Kingdom; 5. National Physical Laboratory, Teddington, United Kingdom*

9:24

EC-03. Atomic Spin Scattering and Giant Magnetoresistance in Magnetic Semiconductors. *M.G. Foygel*[1] and A.G. Petukhov[1] *1. Physics, South Dakota School of Mines and Technology, Rapid City, SD, USA*

9:36

EC-04. Spin-dependent transport in metal-insulator-semiconductor Fe/ZnSe/$Ga_{1-x}Mn_xAs$ magnetic tunnel diodes. *H. Saito*[1], Y. Hamada[2], Y. Suzuki[2,1], S. Yuasa[1] and K. Ando[1] *1. Naloelectronics Reserach Institute, AIST, Tsukuba, Ibaraki, Japan; 2. Graduate School of Engineering Science, Osaka University, Osaka, Japan*

9:48

EC-05. Control of magnetism in (Ga,Mn)As by electric-field. *D. Chiba*[1,2], F. Matsukura[2,1] and H. Ohno[2,1] *1. ERATO Semiconductor Spintronics Project, Japan Science and Technology Agency, Sendai, Miyagi, Japan; 2. Research Institute of Electrical Communication, Tohoku university, Sendai, Miyagi, Japan*

10:00

EC-06. Magnetic Anisotropy, Spin Pinning and Exchange Constants of (Ga,Mn)As films. Y. Zhou[1], Y. Cho[1], Z. Ge[1], *X. Liu*[1], M. Dobrowolska[1] and J.K. Furdyna[1] *1. Department of Physics, UNIVERSITY OF NOTRE DAME, Notre Dame, IN, USA*

10:12

EC-07. Low frequency 1/f and random telegraph noise in (Ga,Mn)As epilayers. *M. Zhu*[1], X. Li[1], G. Xiang[1] and N. Samarth[1] *1. Physics, Penn State University, University Park, PA, USA*

10:24

EC-08. Nucleation and collapse of domains with reverse magnetization in (Ga,Mn)As epilayers with perpendicular magnetic easy axis. A. Dourlat[1], *V. Jeudy*[1], C. Gourdon[1], C. Testelin[1], K. Khazen[1], J. Cantin[1], H. von Bardeleben[1], L. Thevenard[2] and A. Lemaître[2] *1. Institut des Nanosciences de Paris, CNRS-University Paris 6, Paris, France; 2. Laboratoire de Photonique et Nanostructures, CNRS, Marcoussis, France*

10:36

EC-09. Discerning intrinsic properties of diluted magnetic semiconductors by the anomalous Hall Effect. H.K. Choi[1], Y.S. Kim[2], S.S. Seo[3], I.T. Jeong[4], W.O. Lee[1], S.W. Cho[1], Y.S. Oh[1], K.H. Kim[1], J.C. Woo[2], T.W. Noh[3], Z.G. Khim[2], S.H. Chun[4] and *Y. Park*[1] *1. CSCMR and Department of Physics & Astronomy, Seoul National University, Seoul, South Korea; 2. Department of Physics & Astronomy, Seoul National University, Seoul, South Korea; 3. ReCOE and Department of Physics & Astronomy, Seoul National University, Seoul, South Korea; 4. Department of Physics and Institute of Fundamental Physics, Sejong University, Seoul, South Korea*

10:48

EC-10. Properties of (Ga,Mn)As codoped with Si. *T. Tanikawa*[1,2], F. Matsukura[2,1] and H. Ohno[2,1] *1. ERATO Semiconductor Spintronics Project, Japan Science and Technology Agency, Sendai, Miyagi, Japan; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan*

11:00

EC-11. Exchange Bias and Coercivity in (Ga,Mn)As/MnO Bilayer Structures. *Z. Ge*[1], W. Lim[1], Y. Cho[1], X. Liu[1], J.K. Furdyna[1] and M. Dobrowolska[1] *1. Physics, University of Notre Dame, Notre Dame, IN, USA*

11:12

EC-12. Neutron Reflectivity Study of the Anomalous Magnetization Shift in MnO/GaMnAs Bilayers. *B.J. Kirby*[1,2], J. Borchers[1], M. Fitzsimmons[2], Z. Ge[3], X. Liu[3] and J. Furdyna[3] *1. Center for Neutron Research, NIST, Gaithersburg, MD, USA; 2. Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, NM, USA; 3. Physics, University of Notre Dame, Notre Dame, IN, USA*

11:24

EC-13. Unusual Room Temperature Ferromagnetism in GaP Doped with Copper. F. Owens[1], *A. Gupta*[2], K.V. Rao[2], Z. Iqbal[3], R. Ahuja[4,2] and J.M. Osorio Guille[4] *1. Army Armament Research, Development and Engineering Center, Army Armament Research, Development and Engineering Center, Picatinny, NJ, USA; 2. Materials Science and enigneering, Royal Institute of Technology, Stockholm, Sweden; 3. Department of Chemistry, New Jersey Institute of Technology, Newark, NJ, USA; 4. Condensed Matter Theory Group, Department of Physics, Uppsala University, Uppsala, Sweden*

WEDNESDAY MORNING 9:00 — HARBORSIDE D

Session ED
SPIN TORQUE: DOMAIN WALLS
Shufeng Zhang, Session Chair

9:00

ED-01. Imaging nsec current-induced vortex-domain wall motion and deformation with magnetic soft x-ray microscopy. *G. Meier*[1], M. Bolte[1], R. Eiselt[1], U. Merkt[1], B. Krüger[2], D. Pfannkuche[2], D. Kim[3] and P. Fischer[3] *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. I. Institute of Theoretical Physics, University of Hamburg, Hamburg, Germany; 3. Center for X-Ray Optics, Lawrence Berkeley National Lab, Berkeley, CA, USA*

9:12

ED-02. Direct observation of current-excited magnetization dynamics using Lorentz microscopy. *Y. Togawa*[1], T. Kimura[1,2], K. Harada[1,3], T. Akashi[3,4], T. Matsuda[1,3], A. Tonomura[1,3] and Y. Otani[1,2] *1. Frontier Research System, The Institute of Physical and Chemical Research (RIKEN), Hatoyama, Saitama, Japan; 2. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Chiba, Japan; 3. Advanced Research Laboratory, Hitachi, Ltd., Hatoyama, Saitama, Japan; 4. Hitachi High-Tec Fielding Co., Shinjuku, Tokyo, Japan*

9:24

ED-03. Temperature dependence of the spin torque effect in current-induced domain wall motion. *M. Klaui*[1], M. Laufenberg[1], W. Buhrer[1], D. Bedau[1], P. Melchy[1], P. Dagras[1], L. Vila[2], G. Faini[2], C.F. Vaz[3], J.C. Bland[3] and U. Rudiger[1] *1. Physics, University of Konstanz, Konstanz, Germany; 2. LPN-CNRS, Marcoussis, France; 3. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

9:36

ED-04. Thermal effects on domain wall depinning from a single notch. *E. Martinez*[1], L. Lopez-Diaz[2], L. Torres[2], C. Tristan[2] and O. Alejos[3] *1. Electromechanics Engineering, University of Burgos, Burgos, Spain; 2. Applied Physics, University of Salamanca, Salamanca, Spain; 3. Electricity and Electronics, University of Valladolid, Valladolid, Spain*

9:48

ED-05. Relation Between Damping, Current-Induced Forces And Wall Resistance For Domain Walls In Magnetic Nanowires. *L. Berger*[1] *1. Physics Dept., Carnegie Mellon University, Pittsburgh, PA, USA*

10:00

ED-06. Dissipative dynamics of domain walls in submicron ferromagnetic strips. *O.A. Tretiakov*[1], Y.B. Bazaliy[2,1] and O. Tchernyshyov[1] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA; 2. IBM Almaden Research Center, San Jose, MD, USA*

10:12

ED-07. Magnetic domain wall formation in ferromagnetic wires with a nanoconstriction. G. Li[1], P. Wong[1], S. Lepadapu[2], Y. Zhai[1], *Y. Xu*[1] and J. Wu[2] *1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom*

10:24

ED-08. Current-induced domain wall motion in Pseudo Spin Valve notched bars. *D. Morecroft*[1,2], I.A. Colin[1], F.J. Castano[1] and C.A. Ross[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA; 2. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom*

10:36

ED-09. Current-induced domain wall motion in $SrRuO_3$ *M. Feigenson*[1], J.W. Reiner[2], M.R. Beasley[2] and L. Klein[1] *1. Department of Physics, Bar-Ilan University, Ramat-Gan, Israel; 2. T.H. Geballe Laboratory for Advanced Materials, Stanford University, Stanford, CA, USA*

10:48

ED-10. Current-induced magnetic domain wall motion in (Ga,Mn)As microstructures. *K.F. Eid*[1], A. Balk[1], B. Cooley[1], G. Xiang[1] and N. Samarth[1] *1. Physics, The Pennsylvania State University, University Park, PA, USA*

WEDNESDAY MORNING 9:00

HARBORSIDE E

Session EE
MULTIFERROICS: BULK MATERIALS AND THEORY

Venkat Rao, Session Chair

9:00

EE-01. Magnetic inversion symmetry breaking in multiferroic transition metal oxides. ***(Invited)*** *M. Kenzelmann[1] 1. Laboratory for Solid State Physics, ETH Zürich, Zürich, Switzerland*

9:36

EE-02. Original features of the model multiferroic BiFeO3: Effect of temperature, pressure and strain. *H. Raphael[1,2]*, K. Jens[2] and B. Pierre[2] *1. LPCES-ICMMO, Orsay, France; 2. LMGP, Grenoble, France*

9:48

EE-03. Novel multiferroic system:Rare earth chromiates. X. Wang[1], *Z. Cheng[1]* and H. Kimura[2] *1. Institute for Superconducting and Electronics Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Crystal Science and Technology Team, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

10:00

EE-04. Magnetoelectric Effect driven by Interface Bonding. C. Duan[1], S.S. Jaswal[1] and *E.Y. Tsymbal[1] 1. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA*

10:12

EE-05. Probing multiferroicity and spin-spin interactions via angular dependent dielectric measurements on doped HoMnO3 in high magnetic fields. *R. Vasic[1,2]*, J.S. Brooks[1,2], C.R. Wiebe[1,2] and H.D. Zhou[1,2] *1. Condensed Matter Group/Experimental, National High Magnetic Field Laboratory, Tallahassee, FL, USA; 2. Department of Physics, Florida State University, Tallahassee, FL, USA*

10:24

EE-06. Crystal Field Excitations in Multiferroic HoMnO3. *O. Vajk[1]*, M. Kenzelmann[2,3], J.W. Lynn[1], S.B. Kim[4] and S.W. Cheong[4] *1. Center for Neutron Research, NIST, Gaithersburg, MD, USA; 2. Laboratory for Solid State Physics, ETH Honggerberg, Zurich, Switzerland; 3. Laboratory for Neutron Scattering, ETHZ and Paul Scherrer Institute, Villigen, Switzerland; 4. Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, USA*

10:36

EE-07. Electric quadrupole interaction in $HoMn_{0.99}{}^{57}Fe_{0.01}O_3$ *S. Kim[1]*, S. Cheong[2] and C. Kim[1] *1. Physics, Kookmin University, Seoul, South Korea; 2. Physics and Astronomy, Rutgers University, Piscataway, NJ, USA*

WEDNESDAY MORNING 9:00

ESSEX

Session EF
ELECTRONIC STRUCTURE II

Roy Willis, Session Chair

9:00

EF-01. Ferromagnetic Order in Metal Free Carbon at Room Temperature. *H. Ohldag[1]*, T. Tyliszczak[2], R. Höhne[3], D. Spemann[3], P. Esquinazi[3], M. Ungureanu[3] and T. Butz[3] *1. SSRL, Stanford University, Menlo Park, CA, USA; 2. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Institute for Experimental Physics, University of Leipzig, Leipzig, Germany*

9:12

EF-02. Magnetic Transitions in Manganese-Benzoquinone Coordination Polymers. *R. Bah[1]*, R. Rakhimov[1], J.S. Hwang[2], A.I. Prokof'ev[3], A. Andreyev[1], T. Chisholm[1], N. Noginova[1], S.P. Solodovnikov[3], I.A. Alexandrov[4] and A.I. Aleksandrov[4] *1. Norfolk State University, Noroflk, VA, USA; 2. Texas A & M University at Qatar, Doha, Qatar; 3. Institute of Organoelement Compounds, Moscow, Russian Federation; 4. Institute of Synthetic Polymer Materials, Moscow, Russian Federation*

9:24

EF-03. Surface Anisotropy and the Anomalous Temperature Dependence of the Peak Temperature in Chemically Synthesized MnO Nanoparticles. *M. Morales[1]*, R. Skomski[1], S. Fritz[1], G. Shelburne[1], J. Shield[2], M. Yin[3], S. O'Brien[3] and D. Leslie-Pelecky[1] *1. Department of Physics and Astronomy, and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA; 2. Department of Mechanical Engineering, and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA; 3. Department of Applied Mathematics and Physics, and Materials Research Science and Engineering Center, Columbia University, New York, NY, USA*

9:36

EF-04. Tip-induced Stark effect on quantum well states in Au/Fe(100). *S. Ogawa*[1], S. Heike[1], T. Hashizume[1] and H. Takahashi[1] *1. Hitachi Advanced Research Lab., Saitama, Japan*

9:48

EF-05. Magnetic Impurities in Magic-Number Clusters. *R. Skomski*[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA*

10:00

EF-06. Structure and Properties of A-site Ordered Manganite Films and Superlattices. *V. Moshnyaga*[1], S. Lakshmana[1], O.I. Lebedev[2], K. Gehrke[1], A. Belenchuk[3], O. Shapoval[3], S.A. Köster[1], B. Damaschke[1], G. van Tendeloo[2] and K. Samwer[1] *1. I. Physical Isntiute, University of Goettingen, Goettingen, Germany; 2. EMAT, University of Antwerp (RUCA), Antwerpen, Belgium; 3. Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova*

10:12

EF-07. Influence of ligand states on the relationship between orbital moment and magneto-crystalline anisotropy. *O. Karis*[1], O. Eriksson[1], C. Andersson[1], L. Nordström[1], B. Sanyal[1], D. Arvanitis[1], T. Konishi[2], E. Holub-Krappe[3] and J. Hunter Dunn[4] *1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. Department of Chemistry, Faculty of Scince, Chiba University, Chiba, Japan; 3. Hahn-Meitner Institute, Berlin, Germany; 4. MAX-lab, Lund University, Lund, Sweden*

10:24

EF-08. Charge State and Local Structure of Room Temperature Ferromagnetic Mn Doped ZnO from X-ray Spectroscopy. *J. Guo*[1], A. Gupta[2], P. Sharma[2], K. Rao[2], M. Marcus[1], P. Glans[5], K. Smith[5], R. Ahuja[4], C. Dong[3] and C. Chang[3] *1. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 2. Materials Science, Royal Institute of Technology, Stockholm, Sweden; 3. Physics, Tamkang University, Tamsui, Taiwan; 4. Physics, Uppsala University, Uppsala, Sweden; 5. Physics, Boston University, Boston, MA, USA*

10:36

EF-09. Enhanced spin-polarization at Fe(001)/MgO interfaces. *M. Müller*[1], F. Matthes[1] and C.M. Schneider[1] *1. Institute of Solid State Research, Reseach Center Jülich, Jülich, Germany*

10:48

EF-10. Atom-by-atom substitution of Mn in GaAs and visualization of their hole-mediated interactions. *(Invited)* *A. Yazdani*[1] *1. Department of Physics, Princeton University, Princeton, NJ, USA*

11:24

EF-11. Influence of the antiferromagnetic spin density wave on the magnetoresistance of Cr. *Y. Soh*[1] and R. Kummamuru[1] *1. Physics and Astronomy, Dartmouth College, Hanover, NH, USA*

11:36

EF-12. Non-collinear magnetism, magnetocrystalline anisotropy and spin-spiral structures in Fe/ W(110). *K. Nakamura*[1], N. Mizuno[1], T. Akiyama[1], T. Ito[1] and A.J. Freeman[2] *1. Physics Engineering, Mie University, Tsu, Mie, Japan; 2. Physics and Astronomy, Northwestern University, Evanston, IL, USA*

11:48

EF-13. Non-collinear magnetism in Permalloy ($Ni_{0.8}$ $Fe_{0.2}$). *M. Eisenbach*[1] and G. Stocks[1] *1. Materials Science and Technology Division, Oak Ridge National Lab, Oak Ridge, TN, USA*

WEDNESDAY MORNING 9:00 LAUREL

Session EG
RECORDING MODELING, SYSTEMS AND THEORY

Terry Olson, Session Chair

9:00

EG-01. Simple Model for Transition Width and Cluster Size in Perpendicular Recording. *H.J. Richter*[1] and A.Y. Dobin[1] *1. Seagate Technology, Fremont, CA, USA*

9:12

EG-02. Simulation of Temperature Dependent Coercivity at Long Time Scales for Magnetic Recording. *D. Suess*[1], H. Jung[2], E. Velu[2], S. Malhotra[2], G. Bertero[2], J. Fidler[1] and T. Schrefl[3] *1. Institut of Solid State Physics, Technical University of Vienna, Vienna, Austria; 2. Komag Inc, San Jose, CA, USA; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

9:24

EG-03. Domain Wall Pinning and Corresponding Energy Barrier in Percolated Perpendicular Media. *Y. Tang*[1] and J. Zhu[1] *1. Data Storage Systems Center and Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

9:36

EG-04. Relation between transition width and jitter in perpendicular magnetic recording. *K. Miura*[1], T. Kato[1], M. Hashimoto[1], H. Muraoka[1], H. Aoi[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan*

9:48

EG-05. High-accuracy measurement of erase band width using a new off-track profile derivative method. *K. Miura*[1], Y. Yamakawa[1], H. Muraoka[1], H. Aoi[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan*

10:00

EG-06. Analysis of Read/Write Characteristics on Head/Media Contact. *S. Ohki*[1], A. Yatagai[1] and H. Ide[1] *1. Hitachi Global Storage Technologies Japan, Ltd., Odawara, Japan*

10:12

EG-07. A Novel in Situ Monitoring Method for Head/Media Contact. *Z. Lin*[1], T. Lam[1], X. Che[2], A. Shteyn[1] and W. Huang[1] *1. AdTech of Head BU, Hitachi Global Storage Technologies, Inc, San Jose, CA, USA; 2. Samsung Electronics, San Jose, CA, USA*

10:24

EG-08. Micromagnetic analysis of attempt frequencies for perpendicular and exchange coupled composite grains. *M. Kapoor*[1] and R.H. Victora[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

10:36

EG-09. Recording Performance Study of PMR Media with Patterned Tracks. *X. Che*[1], Y. Tang[1], H. Lee[1], S. Zhang[1], N. Takahashi[3], M. Moneck[2] and J. Zhu[2] *1. Samsung Information Systems America, San Jose, CA, USA; 2. ECE, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Fuji Electric Advanced Technology Co., Ltd, Matsumoto,, Nagano 390-0821, Japan*

10:48

EG-10. Servo Control Design for a High TPI Servo Track Writer with Microactuators. C. Thum[1,2], *C. Du*[2], J. Zhang[2], K. Tan[2], B.M. Chen[1] and E. Ong[2] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Mechatronics and Recording Channel Division, A*STAR, Data Storage Institute, Singapore, Singapore*

11:00

EG-11. Joint Gain and Timing Recovery for Magnetic Tape Storage. *J. Moon*[1], J. Lee[1] and D. Yoon[1] *1. CDS Lab., Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

11:12

EG-12. Redesign of Multi-rate Digital Control for Computation Saving. *Q. Jia*[1] and S. Yoshida[1] *1. Storage Mechanics Lab, HitachiAsia Ltd, Singapore, Singapore*

11:24

EG-13. Clustering Frequent Data near the Edge of a Magnetic Disk to Improve Disk Performance. *F.Z. Wang*[1], Y. Deng[1], S. Wu[1], N. Helian[1] and V. Khare[1] *1. Centre for Grid Computing, Cambridge-Cranfield HPCF, Cranfield, Bedfordshire, United Kingdom*

11:36

EG-14. Transition Response Characteristics of Heat-Assisted Magnetic Recording (HAMR) and their performance with Maximum Transition Run (MTR) codes. *R. Radhakrishnan*[1], F. Erden[2], C. He[2] and B. Vasic[1] *1. Electrical and Computer Engineering, University of Arizona, Tucson, AZ, USA; 2. Seagate Technology, Pittsburgh, PA, USA*

11:48

EG-15. A write head integrated with a solid-immersion-lens system for heat-assisted magnetic recording. *N. Kojima*[1], N. Ide[2], Y. Urakawa[3] and M. Kaneko[2] *1. Core Technology Development Group, Core Component Business Unit, Sony Corporation, Tokyo, Japan; 2. Optical Media Labolatory, Materials Laboratories, Sony Corporation, Tokyo, Japan; 3. Storage System Development Division, TV&Video Business Group, Sony Corporation, Tokyo, Japan*

WEDNESDAY MORNING 9:00

DOVER

Session EH
FERRITES, GARNETS, AND MICROWAVE MATERIALS I

Mohammed Asfar, Session Chair

9:00

EH-01. Magnetic Anisotropy and Crystalline Texture in $BaO(Fe_2O_3)_6$ Thin Films Deposited on GaN/Al_2O_3 P.R. Ohodnicki[1], Y. Hanlumyuang[1], K. Ramos[1], *M.E. McHenry*[1], Z. Cai[2], K. Ziemer[2], Z. Chen[3] and V.G. Harris[3] *1. Materials Sci & Eng, Carnegie Mellon Univ., Pittsburgh, PA, USA; 2. Chemical Eng. Dept., Northeastern Univ., Boston, MA, USA; 3. Dept. of Elec. and Comp. Eng., Northeastern Univ., Boston, MA, USA*

9:12

EH-02. Substrate independent oriented growth of Fe3O4 thin by pulsed laser deposition. S. Tiwari[1], R. Prakash[1], *R.J. Choudhary*[1] and D.M. Phase[1] *1. Thin film laboratory, UGC-DAE Consortium for Scientific Research, Indore, Madhya Pradesh, India*

9:24

EH-03. Magnetodielectric Composites for High Frequency Device and EM Shielding Applications. *X. Zhang*[1], J.Q. Xiao[1], M.C. Golt[2], T.F. Ekiert[1], S. Yarlagadda[2] and K.M. Unruh[1] *1. Dept. Physics & Astronomy, University of Delaware, Newark, DE, USA; 2. Center for composite materials, University of Delaware, Newark, DE, USA*

9:36

EH-04. Spin sprayed Ni-Co ferrite films with natural resonance frequency f_r > 5 GHz and static permeability $\mu'(0) = 9$. *K. Kondo*[1], S. Yoshida[1], H. Ono[1] and M. Abe[2] *1. R&D Unit, NEC TOKIN Corporation, Sendai, Miyagi, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

9:48

EH-05. Structural and magnetic studies on $CoFe_2O_4$-$PbTiO_3$ multiferroic thin films. K. Mohan Kant[1,2], R. Adarsh[1,3], K. Sethupathi[2] and *M. S.R.Rao*[1,2] *1. Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, Tamilnadu, India; 2. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamilnadu, India; 3. Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, Tamilnadu, India*

10:00

EH-06. Magnetic and electromagnetic evaluation of the magnetic nanoparticle filled polyurethane nanocomposites. *Z. Guo*[1], S. Park[1,2], A. Karki[3], D. Young[3] and . H. Thomas[1,4] *1. Multifunctional Compsoites Lab, Mechanical & Aerospace Engineering Department, University of California at Los Angeles, Los Angeles, CA, USA; 2. Advanced Materials & Processing Development, Northrop Grumman Corporation Integrated Systems, El Segundo, CA, USA; 3. Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA, USA; 4. Materials Science & Engineering Department, University of California at Los Angeles, Los Angeles, CA, USA*

10:12

EH-07. Orientation Phase Transition in Fe_3BO_6 L.T. Tsymbal[1], *Y.B. Bazaliy*[1,2], L.N. Bezmaternykh[3], A. Slawska-Waniewska[4], S.V. Vasiliev[1], N. Nedelko[4], A.I. Linnik[1], A.N. Cherkasov[1], Y.I. Nepochatykh[1], V.I. Dmitrenko[1], G.N. Kakazei[5] and P.E. Wigen[6] *1. O. Galkin Donetsk Physics & Technology Institute, National Academy of Scienc of Ukraine,, Donetsk, Ukraine; 2. IBM Almaden Research Center, San Jose, CA, USA; 3. Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 4. Institute of Physics, PAN, Warsaw, Poland; 5. Institute of Magnetism, National Academy of Science of Ukraine, Kyiv, Ukraine; 6. Department of Physics, Ohio State University, Columbus, OH, USA*

10:24

EH-08. Structure, magnetism and microwave properties of PLD-grown Barium Ferrite/Barium Strontium Titanate bilayer thin films . *H. Srikanth*[2], R. Heindl[1], S. Witanachchi[1], P. Mukherjee[1], T. Weller[2], A. Tatarenko[3] and G. Srinivasan[3] *1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. Department of Electrical Engineering, University of South Florida, Tampa, FL, USA; 3. Department of Physics, Oakland University, Oakland, MI, USA*

10:36

EH-09. Solid State Reaction Synthesis of NiFe2O4 Nanoparticles. *A. Ceylan*[1,3], I. Shah[1,2], S. Ozcan[3] and C. Ni[2] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Material Science and Engineering, University of Delaware, Newark, DE, USA; 3. Physics Engineering, Hacettepe University, Ankara, Turkey*

10:48

EH-10. A NOVEL AND SIMPLE PROCESS FOR FERRITE FILM PREPARATION FROM ONE SOLUTION WITHOUT USING HAZARDOUS OXIDIZING AGENT.
A.K. Subramani[1], M. Nobuhiro[1], W. Tomoaki[1], T. Masaru[2], A. Masanori[2] and Y. Masahiro[1] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

11:00

EH-11. High Frequency Tunneling Magnetic Loss in Soft Ferrites.
W. Roshen[1] *1. Ohio State Univ., SSUPower Technology, Hilliard, OH, USA*

11:12

EH-12. Ferromagnetic Resonance Study of Magnetic Anisotropies in Arrays of Ni/Cu and CoFe/Cu Multilayered Nanowires.
L. Carignan[1], C. Lacroix[1], A. Ouimet[1], M. Ciureanu[1], A. Yelon[1] and D. Menard[1] *1. Physics engineering, Ecole Polytechnique de Montréal, Montréal, QC, Canada*

11:24

EH-13. Anisotropic polymer-metal nanocomposites for high-frequency applications. H. Greve[1], V. Zaporojtchenko[1], A. Gerber[2], E. Quandt[2] and *F. Faupel*[1] *1. Chair for Multicomponent Materials, Faculty of Engineering of the Christian-Albrechts University of Kiel, Kiel, Germany; 2. Smart Materials Group, Center of Advanced European Studies and Research, Bonn, Germany*

11:36

EH-14. Magnetic Properties of Cobalt Ferrite Nanoparticles Dispersed in a Sulfonated Poly [styrene-(ethylene/butylene)-styrene] Triblock Copolymer Matrix via in Situ Precipitation.
S.K. Peddini[1], K.A. Mauritz[1], D.E. Nikles[2], J. Weston[2] and G. Miao[2] *1. School of Polymers and High Performance Materials, University of Southern Mississippi, Hattiesburg, MS, USA; 2. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, USA*

11:48

EH-15. Possible sign of negative refraction index of NiFe/SiO2 multilayers in the microwave region. *R. Cao*[1], X. Zhang[1], J.Q. Xiao[1] and R. Wu[2] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Electronic Sciences and Engineering, Nanjing University, Nanjing, Jiangsu, China*

WEDNESDAY MORNING
8:00

GRAND BALLROOM

Session EP
SUPERCONDUCTIVITY, CRITICAL PHENOMENA (POSTER SESSION)

Oleg Tchernyshyov, Session Co-chair
Patrick LeClair, Session Co-chair

EP-01. Proximity effect of ferromagnetism/superconductivity in Nd0.7Ca0.3MnO3/YBa2Cu3O7 bilayer. *J. Lin*[1,2], D. Hsu[1,3], C. Chiang[4], W. Chan[4] and W. Wu[3] *1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Department of Mechanical Engineering, National Taiwan University, Taipei, Taiwan; 4. Department of Physics, Tamkang University, Taipei, Taiwan*

EP-02. Magnetocaloric effect in the magnetic superconductor $RuSr_2Eu_{1.5}Ce_{0.5}Cu_2O_{10-\delta}$ M.G. das Virgens[2,4], *A.M. Gomes*[1], J.C. Checon[2], A. Lopez[5], I.S. Azevedo[5] and M.A. Continentino[3] *1. Inst. Física, Univ. Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil; 2. Dept. Fisica, Univ. Federal do Espírito Santo, Vitória, ES, Brazil; 3. Inst. de Física, Univ. Federal Fluminense, Niterói, RJ, Brazil; 4. Univ. Federal do Espírito Santo, Vitória, ES, Brazil; 5. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, RJ, Brazil*

EP-03. Avalanche of flux jumps in polycrystalline MgB2 superconductor. *I. Felner*[1], V. Awana[2] and H. Kishan[2] *1. Racah Institute of Physics, Jerusalem, Israel; 2. NPL, New Delhi, India*

EP-04. Impact of sintering temperature on the physical properties of the Superconducting Ferromagnet – RuSr2Eu1.5Ce0.5Cu2O10. *R. Nigam*[1], V.P. Awana[2], A.V. Pan[1] and S.X. Dou[1] *1. Institute of Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Superconductivity & Cryogenics, NPL, New Delhi, India*

EP-05. High pressure and high temperature (HPHT) synthesis and magnetic characterization of magneto-superconducting Nb0.9Sr2YCu2.1O7.9 (Nb-1212Y) compound.
S. Balamurugan[1], V. Awana[2] and E. Takayama-Muromachi[1] *1. Advanced Nano Materials Laboratory, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan; 2. Superconductivity and Cryogenic Division, National Physical Laboratory, K.S. Krishnan Marg, New Delhi, India*

EP-06. Impact of nano-Mo addition/substitution on the phase formation and superconductivity of Mg1-xMoxB2 (x = 0.0 to 0.50). *V. Awana*[1], A. Vajpayee[1], S. Balamurugan[2], L.S. Sharath Chandra[3], R. Rawat[3], V. Ganesan[3], H. Kishan[1], E. Takayama-Muromachi[2] and A.V. Narlikar[3] *1. Sup & Cryo, NPL, New Delhi, India; 2. ANML, NIMS, TSUKUBA, Japan; 3. CSR, IUC, INDORE, India*

EP-07. Structure and Transport properties in $YBa_{2-x}Eu_xCu_3O_{7-\delta}$ Sperconductors. B. Qian[1,2], J. Xing[1,2], Z. Jiang[1] and *X. Wu*[1]*1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Jiangsu Laboratory of Advanced Functional Materials and Department of Physics, Changshu Institute of Technology, Changshu, China*

EP-08. Nonlinear magnetic response of the Ru0.9Sr2Cu2.1O7.9 magneto superconductor and its resultant phase separation. *I. Zivkovic*[1], V.P. Awana[2], H. Kishan[2], E. Balamurugan[3], E. Takayama-Muromachi[3] and I. Felner[4]*1. Institute of Physics, Zagreb, Croatia; 2. Sup&Cryo, NPL, New Delhi, India; 3. ANML, NIMS, Tsukuba, Japan; 4. Racah Inst. of Physics, Hebrew University, Jerusalem, Israel*

EP-09. Possible manipulation of spin and charges in magnetic semiconductors using Josephson vortices. *X. Wang*[1], S. Yu[2], C. Lin[3], B. Liang[3], S. Ooi[2], K. Hirata[2], S. Dou[1] and Z. Lin[4]*1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Superconducting materials Centers, NIMS, Tsukuba, Japan; 3. Crystal Growth Group, Max-Plank-Institute, Stutgart, Germany; 4. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia*

EP-10. Influence of trapped magnetic flux quantum on two-dimensional magnetic field dependence of a Josephson junction. *N. Watanabe*[1], A. Nakayama[1] and S. Abe[1]*1. Faculty of Engineering, Kanagawa University, Yokohama, Japan*

EP-11. Low annealing temperatures are possible to fabricate MgB_2 thin films by two-step in situ approach. X. Sun[1], Y. Zhang[1], H. Zhu[1], Z. Gao[1], S. Zhou[1], *Z. Lin*[2] and J. Zhu[2]*1. Department of Physics, Shanghai University, Shanghai, China; 2. Faculty of Engineering, University of Technology, Sydney, Broadway, NSW, Australia*

EP-12. The Superconducting Properties of Indium Nanoparticles. *F. Wu*[1], C. Li[1], T. Pan[1], C. Wang[1], C. Yang[3], S. Wu[2] and W. Li[1]*1. Department of Physics, National Central University, Chung-Li 32054, Taiwan; 2. Department of Physics, National Dong Hwa University, Hua-Lien 97401, Taiwan; 3. Institude of Physics, Academia Sinica, Taipei 11529, Taiwan*

EP-13. Properties of vortex motion in a niobium film with graded-density of pinning sites. T. Wu[2], *R. Cao*[1], L. Horng[1], J. Kolacek[3], J. Wu[1] and T. Yang[2]*1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan; 3. Institute of Physics, ASCR, Prague, Czech Republic*

EP-14. Single Electron Charging Effects and Bloch Oscillations in High-T_C Superconducting Tunnel Junctions. *G.A. Alvarez*[1,2], I. Iguchi[2] and X. Wang[1]*1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Applied Physics, Tokyo Institute of Technology, Tokyo, Japan*

EP-15. Dilution Dependence of the Ordering Temperature of a 3D-XY Ferromagnet. *G.C. DeFotis*[1], R.A. Huddleston[1], B.R. Rothermel[1], J.H. Boyle[1], E.S. Vos[1], Y. Matsuyama[1], A.T. Hopkinson[1], T.M. Owens[1] and W.M. May[1]*1. Chemistry, College of William and Mary, Williamsburg, VA, USA*

EP-16. Random Field Effects and Low-field Remanent Magnetization on High Anisotropy Antiferromagnet Fe1-xZnxF2.(x = 0; 0.28; 0.54 and 0.69). *C.C. Becerra*[1], Z.V. Carvalho[1] and F. Montenegro[2]*1. Instituto de Fisica, Universidade de São Paulo, Sao Paulo, SP, Brazil; 2. Departamento de Fisica, Universidade Federal de Pernambuco, Recife, Brazil*

EP-17. GROWTH AND DECAY OF MICRODROPLETS ON THE MAGNETIC DISK SURFACE DURING DEWETTING. *S. Ohno*[1], T. Kato[1] and M. Kawaguchi[2]*1. Mechanical Engineering, Tokyo University, Tokyo, Japan; 2. Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Tokyo, Japan*

EP-18. Anomalous specific heat and its field dependence in the magnetic polaron system : EuB6. *B. Kim*[1], U. Yu[2] and B. Min[1]*1. Physics, Pohang University of Science and Technology, Pohang, Gyungbuk, South Korea; 2. Theoretical Physics III, Center for Electronic Correlations and Magnetism, University of Augsburg, Augsburg, Germany*

EP-19. Latent heat of a first order phase transition: the fcc Ising antiferromagnet. *A.D. Beath*[1] and D.H. Ryan[1]*1. Physics Department and the Centre for the Physics of Materials, McGill University, Montreal, QC, Canada*

WEDNESDAY MORNING 8:00 — GRAND BALLROOM

Session EQ
EXCHANGE BIAS IV (POSTER SESSION)

Kai Liu, Session Co-chair
Jingsheng Chen, Session Co-chair

EQ-01. Perpendicular exchange bias mechanism in FePt/FeMn multilayers. N.N. Phuoc[1] and *T. Suzuki*[1]*1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Aichi, Japan*

EQ-02. Exchange bias in $[Pt/Co]_n$/IrMn multilayers with perpendicular magnetic anisotropy. *J. Rhee*[1], J. Hwang[1], H. Yim[1], M. Kim[1], S. Lee[2], D. Hwang[2], S. Yu[3] and H. Lee[4]*1. Physics, Sookmyung Women's University, Seoul, South Korea; 2. Computer and Electronic Physics, Sangji University, Wonju, South Korea; 3. Physics, Chungbuk National University, Cheongju, South Korea; 4. Physics Education, Kongju National University, Kongju, South Korea*

EQ-03. Co-existence of vertical and horizontal shift in exchanged biased ZnCoO/NiO system. *P. Huang*[1], H. Huang[1] and C. Lai[1] *1. Materials Science and Engineering, National Tsing Hu University, HsinChu, Taiwan*

EQ-04. Spin structure of exchange-biased NiFe/FeMn/NiFe trilayers. *A.M. Alsmadi*[1,2], S. te Velthuis[1], G.P. Felcher[1], H.G. Yoon[3] and C.G. Kim[3] *1. Argonne National Laboratory, Argonne, IL, USA; 2. Physics Department, Hashemite University, Zarqa, 13115, Jordan; 3. Department of Material Science and Engineering, Chungnam National University, Daejon, 305-764, South Korea*

EQ-05. Enhancement of exchange field in CoFe/IrMn by Os/Cu buffer layer. T. Peng[1], C. Lo[2], S. Chen[1] and *Y. Yao*[3,1] *1. The Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Electronics and Optoelectronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

EQ-06. Distribution of magnetic anisotropy field in IrMn/ CoFe exchange-coupled multilayers by permeability measurement. *R. Jiang*[1], C. Lai[1] and M. Yamaguchi[2] *1. Materials Science and Engineering, National Tsing Hu University, HsinChu, Taiwan; 2. Electrical and Communication Engineering, Tohoku University, Sendai, Japan*

EQ-07. Estimation of the anisotropy of (111) textured IrMn films of low thickness. K. Steenbeck[1], R. Mattheis[1] and *M. Diegel*[1] *1. Magnetoelectronics, IPHT, Jena, Germany*

EQ-08. Partial magnetization reversal in perpendicular exchange biased [Co/Pd]/FeMn film by using laser annealing. S. Choi[1], H. Joo[2], J. Choi[3], K. Lee[3], S. Kim[4], S. Bae[4], S. Lee[5] and *D. Hwang*[5] *1. Life Science Institute, Sangji University, Wonju, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea; 3. Department of Physics, Dankook University, Cheonan, South Korea; 4. Biomagnetics Lab., Department of Electrical and Computer Engineering, National University of Singapore, Singapore 117576, Singapore; 5. Department of Applied Physics and Electronics, Oriental Biomedical Engneering, Sangji University, Wonju, South Korea*

EQ-09. INDIRECT EXCHANGE INTERACTION BETWEEN Ferromagnetic F AND AF LAYERS. P.D. Kim[1,2], Y.Y. Song[1], Y.G. Yoo[3], I.A. Turpanov[2], D.L. Khalyapin[2], D.A. Maruschenko[5], K.W. Lee[4] and *S. Yu*[1] *1. Physics Department, Chungbuk National University, Cheongju, South Korea; 2. Kirensky Institute of Physics, Russian Academy of Sciences, SB RAS, 660036 Krasnoyarsk, Russian Federation; 3. Electronics and Telecommunications Research Institute, Daejeon, 305-700, South Korea; 4. Korea Research Institute of Standard and Science, Yusong, 305-340, South Korea; 5. Krasnoyarsk State University, 660041 Krasnoyarsk, Russian Federation*

EQ-10. Measuring exchange anisotropy in Fe/MnPd using inductive magnetometry. *K.J. Kennewell*[1], X. Ji[2], J.G. Hu[3], K.M. Krishnan[2] and R. Stamps[1] *1. Physics, University of Western Australia, Crawley, WA, Australia; 2. Physics, Yangzhou University, Yangzhou, China; 3. Physics, University of Washington, Seattle, WA, USA*

EQ-11. Training effect in specular spin valves. *J. Ventura*[1], J.B. Sousa[1], A. Veloso[2] and P.P. Freitas[2] *1. IFIMUP, Porto, Portugal; 2. INESC-MN, Lisbon, Portugal*

EQ-12. Effect of annealing temperature on exchange coupling in NiFe/FeMn and FeMn/NiFe systems. *K. Chen*[1], Y. Wu[1], K. Wu[1] and L. Horng[1] *1. Department of Physics and Tawian SPIN research center, National Changhua University of Education, Changhua, Taiwan*

EQ-13. Critical thickness investigation of magnetic properties in exchange-coupled bilayers. R.L. Rodríguez-Suárez[1], A.B. Oliveira[1], J.R. de Almeida[1], S.M. Rezende[1] and *A. Azevedo*[1] *1. Departamento de Fisica, Universidade Federal de Pernambuco, Recife, PE, Brazil*

EQ-14. Influence of Co/NiO interface in perpendicular exchange-biased Co/Pt multilayer. M. Huang[1], W. Lin[1], D. Liu[1] and *H. Sang*[1] *1. National Lab of Solid State Microstructures, and Department of Physics, Nanjing University, Nanjing, China*

EQ-15. Characterization of CoFe-NOL by Conversion Electron Mössbauer Spectroscopy. *M. Doi*[1], H. Endo[1], K. Sawada[1] and M. Sahashi[1] *1. Electronic Engineering, Tohoku University, Sendai, Japan*

EQ-16. Exchange bias in a $Ni_{80}Fe_{20}/\alpha$-Fe_2O_3 thin-film. *J. van Lierop*[1], K. Lin[2], P. Ko[2], J. Guo[2] and H. Ouyang[2] *1. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada; 2. Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan*

EQ-17. REACTIVE SPUTTERING SYNTHESIS OF Co-CoO/Ag NANOGRANULAR AND MULTILAYER FILMS CONTAINING CORE-SHELL PARTICLES. *J.A. De Toro*[1], J.P. Andres[1], P.S. Normile[1], P. Muñiz[1], J.A. Gonzalez[1], T. Muñoz[1], A.J. Barbero[1] and J.M. Riveiro[1] *1. Departamento de Fisica Aplicada, Universidad de Castilla-La Mancha, Ciudad Real, Spain*

EQ-18. Temperature dependence of magnetotransport properties of NiFe/FeMn/NiFe trilayers. K. Chui[1], D. Tripathy[1] and *A.O. Adeyeye*[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

EQ-19. Magnetic viscosity phenomena in exchange coupled CoFe/MnIr bilayers. *D. Kim*[1,3], C. Kim[1], C. Kim[1], M. Tsunoda[2] and M. Takahashi[2,3] *1. Research Center for Advanced Magnetic Materials, Chungnam National University, Daejeon, South Korea; 2. Electronic Engineering, Tohoku University, Sendai, Japan; 3. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

EQ-20. Giant uncompensated magnetization in $Fe_xNi_{1-x}F_2$/Co bilayers. *M. Cheon*[1], Z. Liu[1] and D. Lederman[1] *1. Physics, West Virginia University, Morgantowm, WV, USA*

WEDNESDAY MORNING 8:00

GRAND BALLROOM

Session ER
MAGNETIC TUNNEL JUNCTIONS: IV (POSTER SESSION)

Jeff Childress, Session Chair

ER-01. A TEM study of thermal stability of magnetic tunnel junctions integrated with CMOS devices. *V.K. Lazarov*[1], D. Kirk[1], A. Kohn[1], T. Dimopoulos[2], T. Uhrmann[2] and H. Brueckl[2] *1. Materials, University of Oxford, Oxford, United Kingdom; 2. Nano-SystemTechnologies, ARC-Sr, Vienna, Austria*

ER-02. Band diagram of spin tunneling junctions based on perovskite oxides heterointerfaces. *M. Minohara*[1], D. Toyota[2], I. Ohkubo[2], H. Kumigashira[2], M. Oshima[1,2], M. Lippmaa[3], M. Kawasaki[4] and H. Koinuma[5] *1. Department of Arts and Sciences, The University of Tokyo, Tokyo, Japan; 2. Department of Applied Chemistry, The University of Tokyo, Tokyo, Japan; 3. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 4. Institute for Materials Research, Tohoku University, Sendai, Japan; 5. Graduate School of Frontier Science, The University of Tokyo, Kashiwa, Japan*

ER-03. A Trial for a Spin-filtering Device Operating at Room Temperature using a Co-ferrite Ferromagnetic Barrier. *R. Goto*[1], Y. Takahashi[2], N. Tezuka[1,3], K. Inomata[2,3], S. Sugimoto[1] and K. Hono[2] *1. Department of Materials Science, Tohoku university, Sendai, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. CREST-JST, Saitama, Japan*

ER-04. Spin Filter Based Tunnel Junctions. *M.G. Chapline*[1] and S.X. Wang[2] *1. Western Digital, Fremont, CA, USA; 2. Material Sciences and Engineering, Stanford University, Stanford, CA, USA*

ER-05. Electronic structure and spin-filter effect of spinel ferrite. *J. Ozeki*[1], H. Itoh[1] and J. Inoue[1] *1. Applied Physics, Nagoya University, Nagoya, Japan*

ER-06. Spin-Dependent Tunneling Device Utilizing the Magneto-Coulomb Effect. *M.B. Jalil*[1] and S. Tan[2] *1. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

ER-07. Magnetic properties and microstructures of FeN electrode for MTJ. *K. Kim*[1], J. Koo[1], S. Woo[1] and J. Hong[1] *1. Physics, Hanyang University, Seoul, South Korea*

ER-08. Oscillation of low-bias tunnel conductance with applied magnetic field in manganite/alumina tunnel structures. *Y. Luo*[1] and K. Samwer[1] *1. I.Phys. Institute, University Göttingen, Göttingen, Germany*

ER-09. Conductance Behaviors of Magnetic Tunneling Transistors with FeCo Base. *H.D. Quang*[1], S.K. Oh[1], C.O. Kim[2], M. Tsunoda[3] and S.C. Yu[1] *1. Department of Physics, College of Natural Science, Chungbuk National University, 361-763 Cheongju, South Korea; 2. Research Center for Advanced Magnetic Materials, Chungnam National University, 305-764 Daejeon, South Korea; 3. Department of Electronic Engineering, Tohoku University, Aobayama 05, 980-8579 Sendai, Japan*

ER-10. Effects of field cool direction on the magnetoresistance of magnetic tunnel junction rings. *C. Chen*[1], C. Chao[1], C. Kuo[1], L. Horng[1], J. Wu[1], T. Wu[2], G. Chern[3], C. Huang[4], S. Isogami[5], M. Tsunoda[5] and M. Takahashi[5] *1. Physics, National Changhua Univ. of Education, Taiwan, Changhua, Taiwan; 2. Taiwan spin research center, National Yunlin Univ. of Science & Technology, Yunlin, Taiwan; 3. Taiwan Spin Research Center, National Chung-Cheng University, Chia-Yi, Taiwan; 4. National Taiwan Normal University, Taipei, Taiwan; 5. Electronic Engineering, National Taiwan Normal University, Sendai, Japan*

ER-11. Controllable remanent states on microstructured magnetic tunnel junction rings. C. Chen[1], C. Chao[1], C. Kuo[1], L. Horng[1], *J. Wu*[1], T. Wu[2], G. Chern[3], C. Huang[4], M. Tsunoda[5] and M. Takahashi[5] *1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Taiwan Spin Research Center, National Yunlin University of Science & Technology, Yunlin, Taiwan; 3. Taiwan Spin Research Center, National Chung-Cheng University, Chia-Yi, Taiwan; 4. National Taiwan Normal University, Taipei, Taiwan; 5. Tohoku University, Sendai, Miyagi, Japan*

ER-12. Chemical and magnetic interface properties of tunnel junctions with Co2MnSi / Co2FeSi multilayer electrode showing large tunneling magnetoresistance. *J.M. Schmalhorst*[1], D. Ebke[1], M.D. Sacher[1], N. Liu[1], A. Thomas[1], G. Reiss[1] and A. Huetten[2] *1. Department of Physics, Thin Films and Nanostructures, Bielefeld University, Bielefeld, Germany; 2. Institute for Nano-Technology, Research Center Karlsruhe, Karlsruhe, Germany*

ER-13. Fabrication and characterization of Cr/Fe/MgO/Fe(001) magnetic tunnel junctions with an ultra thin Fe electrode. *T. Niizeki*[1], N. Tezuka[1,2] and K. Inomata[1,3] *1. CREST-JST, Kawaguchi, Saitama, Japan; 2. Tohoku University, Sendai, Miyagi, Japan; 3. National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan*

ER-14. Formation of Fe-oxide layer and its role on effective barrier height in CoFeB/MgO/CoFeB tunnel junction. *Y. Jang*[1], C. Nam[1], K. Lee[1], Y. Cho[2], T. Kim[2] and B. Cho[1] *1. Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwang-Ju, Gwang-Ju, South Korea; 2. Devices Lab, Samsung Advanced Institute of Technology (SAIT), YoungIn, Gyeonggi-do, South Korea*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session ES
SPIN INJECTION IN SEMICONDUCTORS AND METALS II (POSTER SESSION)

Nikoleta Theodoropoulou, Session Chair

ES-01. Transport Characteristics and Interface of Fe3O4/GaAs Hybrid Structure. S. Hassan[1], *Y. Xu*[1], E. Ahmad[1] and Y. Lu[1] *1. Electronics, University of York, York, United Kingdom*

ES-02. Non-Linear Spin Injection and Spin Extraction in Ferromagnet-Semiconductor Heterostructures. *A.G. Petukhov*[1], S. Osipov[2] and V.N. Smelyanskiy[2] *1. Physics, South Dakota School of Mines and Technology, Rapid City, SD, USA; 2. NASA Ames Research Center, Moffett Field, CA, USA*

ES-03. Spin injection and accumulation in epitaxially grown MnAs/GaAs lateral spin-valves. D. Saha[1], *M. Holub*[1] and P. Bhattacharya[1] *1. Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI, USA*

ES-04. Tunneling Characteristics through SDT Junction Nano-lines into Doped-Si. M. Zhang[1], *J. Wang*[1], P. Eames[2] and J.M. Daughton[2] *1. Physics Department, State University of New York Binghamton, Binghamton, NY, USA; 2. NVE Corporation, Eden Prairie, MN, USA*

ES-05. Non-local spin injection and relaxation in ferromagnet/nonmagnet/ferromagnet trilayers. *Y. Ando*[1], S. Yakata[1], M. Oogane[1] and T. Miyazaki[1] *1. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

ES-06. Spin accumulation and magnetotransport in NiFe/Al/NiFe single-electron transistors. *J. Shyu*[1,2], F. Tang[2], Y. Yao[2] and J. Chen[1] *1. National Taiwan University, Physics, Taipei, Taiwan; 2. Academia Sinica, Physics, Taipei, Taiwan*

ES-07. Theory of the resonance signal in a bimetallic film (normal/ferromagnetic). *H.J. Hurdequint*[1] *1. Laboratoire de Physique des Solides, CNRS-Universite Paris-Sud, Orsay, France*

ES-08. An investigation of spin current detection in single-walled carbon nanotubes. *M. Shiraishi*[1], K. Matsuoka[1], M. Mizuguchi[1], H. Kataura[2], T. Shinjo[1] and Y. Suzuki[1] *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan; 2. NRI, AIST, Tsukuba, Japan*

ES-09. Saw-tooth typed domain wall jumps in epitaxial ferromagnetic MnAs film on GaAs(001). *K. Ryu*[1], H. Akinaga[2], T. Manago[2] and S. Shin[1] *1. Department of Physics and Center for Nanospinics of Spintronic Materials, Korea Advanced Institute of Science and Technology, Daejon, South Korea; 2. Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology, 1-1-1 Higashi, Tsukuba, Ibaraki 305-8562, Japan*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session ET
PERMANENT MAGNET MOTORS I (POSTER SESSION)

David Dorrell, Session Chair

ET-01. Analysis of a Novel Axial Flux PM Machine Considering the Laminated Stack Directions. *W. Jo*[1], I. Lee[1], Y. Cho[1], Y. Chun[2] and D. Koo[2] *1. Dep. of Electrical Eng. of Dong-A Univ., Pusan, South Korea; 2. Mechatronics Group, Korea Electrotechnology Research Institute, Changwon-si, South Korea*

ET-02. The study on the lumped parameter design method for permanent magnet motor with the overhang coefficient by using FEM and simulation DOE. *K. Kim*[1] and J. Lee[1] *1. Dept. of Electrical Engineering, Hanyang University, Seoul, South Korea*

ET-03. Bias-magnetic force for vibration reduction of magnetic bearing motors. *C. Wang*[1,3] and Y. Yao[1,2] *1. Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Electronics and Optoelectronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan*

ET-04. The Position Tracking Characteristic Analysis of 3-DOF Spherical PM Motor. *J. Ahn*[1], S. Won[1], K. Kim[1] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seoul, South Korea*

ET-05. Post assembly magnetization patterns in rare earth permanent magnet motors. *D.G. Dorrell*[1] and M. Hsieh[2] *1. Dept of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom; 2. Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*

ET-06. Influences of PWM modes on the iron loss of Flux Reversal Machine. *T. Kim*[1] *1. Electrical Engineering, Gyeongsang National University, Jinju, Gyeongnam, South Korea*

ET-07. A Study on design to reduce cogging torque in flux reversal machines. *T. Kim*[1] *1. Electrical Engineering, Gyeongsang National University, Jinju, Gyeongnam, South Korea*

ET-08. Design and Analysis of a High Speed Claw Pole Motor with Soft Magnetic Composite Core for Micro Turbine Application. *Y. Huang*[1,2], Y. Guo[2], J. Zhu[2], Z. Lin[2] and Q. Hu[1] *1. Dept. of Electrical Eng., Southeast University, Nanjing, Jiangsu, China; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia*

ET-09. Electromechanical Parameters Calculation of Permanent Magnet Synchronous Motor using the Transfer Relations Theorem. S. Jang[1], *K. Ko*[1], H. Cho[1] and J. Choi[1] *1. Chungnam Nat'l Univ, Daejeon, South Korea*

ET-10. A brushless permanent magnet motor with integrated torque limiter. *K. Atallah*[1], S.D. Calverley[1] and D. Howe[1] *1. Electronic & Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom*

ET-11. A new 3-phase, flux-switching permanent magnet machine topology. A.S. Thomas[1], Z. Zhu[1], G.W. Jewell[1] and *D. Howe*[1] *1. University of Sheffield, Sheffield, United Kingdom*

ET-12. Design and control of a new double-stator cup-rotor permanent-magnet machine for wind power generation. *S. Niu*[1], K. Chau[1] and J. Jiang[2] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Department of Automation, Shanghai University, Shanghai, China*

ET-13. Design of a magnetic-geared outer-rotor permanent-magnet brushless motor for electric vehicles. *K. Chau*[1], D. Zhang[2], J. Jiang[2], C. Liu[1] and Y. Zhang[2] *1. The Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Department of Automation, Shanghai University, Shanghai, China*

ET-14. 2D-Finite Element analysis of a novel permanent magnet motor with 74 magnet poles and 111 stator poles. *G.F. Rodriguez*[1], G. Hughes[1], Y. Morel[2], O. Zucker[2] and A.E. Berkowitz[1] *1. Center for Magnetic Recording Research, Univ of California-San Diego, La Jolla, CA, USA; 2. BAE Systems, Advanced Technologies, Inc, Washington, DC, USA*

ET-15. Investigation of magnetic drag torque in PM brushless motors. Y.S. Chen[1], Z. Zhu[2] and *D. Howe*[2] *1. Zhejiang University, Hangzhou, China; 2. University of Sheffield, Sheffield, United Kingdom*

WEDNESDAY MORNING 8:00

GRAND BALLROOM

Session EU
NEW APPLICATIONS II (POSTER SESSION)

Yves Idzerda, Session Chair

EU-01. Magneticcally controlled switches for optoelectronics networking: The problem, available technology, new implementations. *J. Tioh*[1], M. Mina[1] and R. Weber[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA, USA; 2. Electrical and Computer Engineering, Iowa State University, Ames, IA, USA*

EU-02. Improvement of Torque Ripple for Magnetic Gears. *S. Huang*[1] and L. Wang[1] *1. Department of Mechanical Engineering, National United University, Miaoli, Taiwan*

EU-03. The effect of bcc-Cu precipitation on magnetization process in thermally aged Fe-1wt%Cu model alloys. *Y. Kamada*[1], D. Park[2], S. Takahashi[1], H. Kikuchi[1], S. Kobayashi[1], K. Ara[1], J. Hong[2] and I. Park[3] *1. NDE&Science Research Center, Iwate University, Morioka, Japan; 2. Korea Atomic Energy Research Institute, Daejeon, South Korea; 3. Sunmoon University, Chonan, South Korea*

EU-04. Development of slim rectangular microspeaker used for mini-multimedia phones. *S. Hwang*[1] and J. Kwon[1] *1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea*

EU-05. A disturbance observer applied to a high speed voice coil motor auto-focusing system. *T. Lee*[1] and S. Lin[1] *1. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan*

EU-06. Design method of Micro-Actuator with Magnetic Alloy Iron-based Amorphous plates for loudspeaker. *T. Lin*[1] and T. Meydan[2] *1. Electrical Engineering, Yung Ta Institute of Tehnology & Commerce, Pingtung County, Taiwan; 2. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

EU-07. A Continuous Model for Magnetization Torque on Axially Symmetric Bodies. *J.J. Abbott*[1], O. Ergeneman[1], M.P. Kummer[1], A.M. Hirt[2] and B.J. Nelson[1] *1. Institute of Robotics and Intelligent Systems, ETH Zurich, Zurich, Switzerland; 2. Institute of Geophysics, ETH Zurich, Zurich, Switzerland*

EU-08. Optimial design of a variable stiffness joint using permanent magnets. M. Hyun[1], J. Yoo[1], *S. Hwang*[1], J. Choi[2], S. Kang[2] and S. Kim[3] *1. Mechanical Engineering, Yonsei University, Seoul, South Korea; 2. Intelligent Robotics Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 3. Tribology Research Center, Korea Institute of Science and Technology, Seoul, South Korea*

EU-09. Investigation of Microscale Magnetic Forces for Magnet Array Self-Assembly. *S.B. Shetye*[1], J.S. Agashe[1] and D.P. Arnold[1] *1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA*

EU-10. The Magnetic Structure Design Analysis of Single Phase Line-Start Synchronous Reluctance Motor for Air Conditioner Compressor. *T. Jung*[1], C. Yun[1], H. Cha[1] and J. Hong[2] *1. Gwang-Ju Research Center, Korea Institute of Industrial Technology, Gwangju, South Korea; 2. Dep. of Electrical Engneering, Changwon Nat'l University, Changwon, South Korea*

EU-11. Development and Evaluation of an Active Magnetic Guide for Microsystems with an Integrated Air Gap Measurement System. C. Ruffert[1], J. Li[2], F. Kallage[2], B. Denkena[2] and *H.H. Gatzen[1] 1. Institute for Microtechnology, Leibniz Universität Hannover, Garbsen, Lower Saxony, Germany; 2. Institute of Production Engineering and Machine Tools, Leibniz Universität Hannover, Garbsen, Lower Saxony, Germany*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session EV
NANOSTRUCTURED FILMS AND PATTERNED MEDIA (POSTER SESSION)

Andreas Moser, Session Chair

EV-01. Ordering kinetics of FePt thin films with different crystalline growth modes. *C. Zha*[1], B. Ma[1], Z. Zhang[1] and Q. Jin[1] *1. Deparment of Optical Science and Engineering, Fudan University, Shanghai, China*

EV-02. Calorimetric Studies of the A1 to $L1_0$ Phase Transformation in FeNiPt Thin Films. *D.C. Berry*[1,2], K. Barmak[1,2], M.A. Kosowski[1] and N.M. Cheung[1] *1. Dept. of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

EV-03. ROLE OF THE SOFT LAYER IN EXCHANGE-SPRING FILMS: TEMPERATURE DEPENDENT MAGNETIC VISCOSITY EFFECTS IN L10 FEPT THIN FILMS AND FE FEPT BILAYERS. *C. Pernechele*[1], M. Solzi[1], R. Pellicelli[1], M. Ghidini[1], G. Asti[1], F. Casoli[2], F. Albertini[2] and L. Pareti[2] *1. Physics, University of Parma, Parma, Italy- Pr-, Italy; 2. IMEM-CNR, Parma, Parma, Italy*

EV-04. Magnetic properties and microstructure of $(FePt)_{77}Ag_{23}$ alloy thin films: Segregation effect of Ag in Ll_0 phase. *F. Yuan*[1], H.W. Chang[1], Y.D. Yao[1], S.N. Hsiao[2], S.K. Chen[2] and A.C. Sun[3] *1. physics, Acdemia Sinica, taipei, Taiwan; 2. materials science and engeering, Feng Chia University, taichung, Taiwan; 3. physics, National Taiwan University, taipei, Taiwan*

EV-05. Grain refining and decoupling in FePt/SiO2 nanogranular films for magnetic recording. *S. Fong*[1,3], D. Wei[1], F. Yuan[1], K. You[1], Y. Yao[1], Y. Liou[1], C. Yu[2] and T. Chin[3] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Applied Physics, National Kaohsiung University, Kaohsiung, Taiwan; 3. Department of Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan*

EV-06. Annealing effects on the magnetic properties of FePd films grown on Si antidots. *C. Yu*[1] and Y. Yao[2] *1. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

EV-07. Magnetic Properties of Co/Pt-Pd and Co-Ni/Pt Multilayer Perpendicular Magnetic Recording Media. *N. Inaba*[1], S. Igarashi[1], F. Kirino[2], K. Koike[3] and H. Morita[3] *1. Department of Electrical Engineering, Yamagata University, Yonezawa, Japan; 2. National University of Fine Arts and Music, Taitou-ku, Japan; 3. Faculty of Engineering, Yamagata University, Yonezawa, Japan*

EV-08. Large uniaxial magnetic anisotropy of Co-Pt perpendicular films induced by lattice deformation. T. Shimatsu[1], *Y. Okazaki*[1], H. Sato[1], O. Kitakami[2], S. Okamoto[2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. IMRAM, Tohoku University, Sendai, Japan*

EV-09. Fabrication of percolated perpendicular magnetic (PPM) recording media at room temperature. *M. Rahman*[1], C. Lai[1], Y. Huang[1], V. David[1] and N.N. Shams[1] *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

EV-10. FePt patterned media fabricated by deep ultraviolet lithography and sputtering. L. Qiu[1], J. Ding[1], A.O. Adeyeye[2], *J. Yin*[1] and J. Chen[3,1] *1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, Singapore, Singapore*

EV-11. Electrodeposition and Characterization of CoPt Thin Films for Patterned Media. *M. Lee*[1], D. Lee[1], H. Kim[1], E. Cho[1], B. Lee[1] and J. Sohn[1] *1. Semiconductor Device and Material Lab., Samsung Advanced Institute of Technology, Yongin-Si, Gyeonggi-Do, South Korea*

EV-12. Influence of magnetic dots on a continuous layer: A new approach for patterned media. *P. Zermatten*[1], B. Rodmacq[1], L. Prejbeanu[1] and G. Gaudin[1] *1. SPINTEC (CNRS/CEA), Grenoble, France*

EV-13. He^+ Ion Irradiation study of Continuous and Patterned Co/Pd Multilayers. *V.A. Parekh*[1,2], D. Smith[1,2], C. E[1,2], J. Rantschler[1,2], S. Khizroev[4] and D. Litvinov[1,2] *1. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical and Computer Engineering, University of Houston, Houston, TX, USA; 3. Chemical and Biomedical Engineering, University of Houston, Houston, TX, USA; 4. Electrical Engineering, University of California-Riverside, Riverside, CA, USA*

EV-14. Thickness dependence of the switching field and thermal stability of CoPt/Ru dot arrays. *K. Mitsuzuka*[1], N. Kikuchi[2], T. Shimatsu[1], O. Kitakami[2], H. Aoi[1], H. Muraoka[1] and J.C. Lodder[3] *1. RIEC, Tohoku University, Sendai, Japan; 2. IMRAM, Tohoku University, Sendai, Japan; 3. SMI, MESA+, University of Twente, Enschede, Netherlands*

EV-15. Simulation of Magnetization Reversal in Sub-micron Dots Formed by Lateral Gradient Magnetic Materials. *Z. Zhong*[1], H. Zhang[1], X. Tang[1], K. Tang[1] and S. Liu[2] *1. State Key Laboratory of Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 2. School of Optoelectronic Information, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session EW
PERPENDICULAR AND LONGITUDINAL RECORDING (POSTER SESSION)

Akira Kikitsu, Session Chair

EW-01. A comparative study of perpendicular recording media. *S. Greaves*[1], Y. Kanai[2] and H. Muraoka[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. Information and Electronics Engineering, Niigata Institute of Technology, Kashiwazaki, Japan*

EW-02. Modeling of Nonlinear Transition Shift in Perpendicular Recording Process. *Z. Liu*[1], J.T. Li[1,2] and H.N. Phyu[1] *1. Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore*

EW-03. Micromagnetic Simulation of a Composite Media Using a Negative Ku Layer. *A. Kikitsu*[1] and T. Maeda[1] *1. Storage Materials & Devices Laboratory, Toshiba Corp., Corporate R&D Center, Kawasaki, Kanagawa, Japan*

EW-04. Write field analysis of single pole writer encircled by split shields. *Y. Im*[1], H. Oh[1], Y. Kim[1] and N. Park[2] *1. Samsung Advanced Institute of Technology, Yongin, Gyeonggi Do, South Korea; 2. Samsung Electronics, Suwon, Gyeonggi Do, South Korea*

EW-05. THE WRITING CURRENT OPTIMIZATION OF THE SHIELDED POLE TYPE HEAD – A SIMULATION STUDY. *C.K. Lim*[1], H.S. Lee[1], H.S. Oh[1] and S.H. Choa[1] *1. HDD Program Team, Samsung Advanced Institute of Technology, Suwon, South Korea*

EW-06. Finite Element Analysis of Stress Induced Magnetic Anisotropy in Perpendicular Writers. *S. Song*[1], W. Yu[1], K. Stoev[1], D. Bai[1], P. Luo[1] and F. Liu[1] *1. R&D, Western Digital Corporation, Fremont, CA, USA*

EW-07. Off-track and Azimuth Angle Effects in Perpendicular Replay. *H.A. Shute*[1], J.C. Mallinson[2] and D.T. Wilton[1] *1. School of Mathematics and Statistics, University of Plymouth, Plymouth, United Kingdom; 2. Mallinson Magnetics Inc., Belmont, CA, USA*

EW-08. Analytic 3-D Model of a Double Shielded GMR Perpendicular Head Using a Singular Function Expansion. *P.M. Jermey*[1], H.A. Shute[1] and D.T. Wilton[1] *1. School of Mathematics and Statistics, University of Plymouth, Plymouth, United Kingdom*

EW-09. Observation of stray fields from harddisk writer poles up to 2 GHz. *M.R. Koblischka*[1], J. Wei[1], T. Sulzbach[2], A.B. Johnston[3] and U. Hartmann[1] *1. Institute of Experimental Physics, University of the Saarland, Saarbruecken, Germany; 2. Nanoworld Services GmbH, Erlangen, Germany; 3. Seagate Technology, Derry, United Kingdom*

EW-10. Anisotropic Crystalline Orientation of Micro-grains in Magnetic Recording Media on Ion-Beam Textured Substrates. Y. Maekawa[1], K. Sato[2], *T. Mizoguchi*[1] and E. Chason[3] *1. Faculty of Science, Gakushuin University, Tokyo, Japan; 2. Yamagata Fujitsu Limited, Yamagata, Japan; 3. Division of Engineering, Brown University, Providence, RI, USA*

EW-11. Duplex top recording layered structure for Longitudinal Magnetic Recording Media with double recording layer system - Compatibility of low media noise and high resolution -. *T.Q. Li*[1], H. Ohyama[1], D. Hasegawa[2], S. Saito[2], M. Imakawa[1] and M. Takahashi[2,3] *1. Disk Media Div., Fuji Electric Device Technology Co., Ltd., 4-18-1, Tukama, Matumoto, Nagano 390-0821, Japan; 2. Dept. of Electronic Engng., Grad. School of Engng., Tohoku University, Aoba 6-6-10, Aramaki, Aoba-ku, Sendai, 980-8579, Japan; 3. New Industry Creation Hatchery Center (NICHe), Tohoku University, Aoba 6-6-05, Aramaki, Aoba-ku, Sendai, 980-8579, Japan*

EW-12. Duplex bottom recording layered structure for Longitudinal Magnetic Recording Media with double recording layer system (Exchange-decoupling and high controllability of media properties). *H. Ohyama*[1], D. Hasegawa[2], S. Saito[2], M. Imakawa[1] and M. Takahashi[2,3] *1. Disk Media Div., Fuji Electric Device Technology Co., Ltd., 4-18-1, Tukama, Matumoto, Nagano 390-0821, Japan; 2. Dept. of Electronic Engng., Grad. School of Engng., Tohoku University, Aoba 6-6-05, Aramaki, Aoba-ku, Sendai, 980-8579, Japan; 3. New Industry Creation Hatchery Center (NICHe), Tohoku University, Aoba 6-6-10, Aramaki, Aoba-ku, Sendai, 980-8579, Japan*

EW-13. Investigation of Higher Recording Density using an Improved Co-CoO Metal Evaporated Tape with a GMR Reproducing Head. *K. Motohashi*[1], T. Sato[1], T. Samoto[1], N. Ikeda[1], T. Sato[1], H. Ono[1] and S. Onodera[1] *1. Chemical Device Business Group, Sony Corporation, Tagajo, Miyagi, Japan*

EW-14. Longitudinal magnetic recording tape media using CoCrPt-SiO2/Ru bilayers deposited by facing target sputtering. S. Nakagawa[1], *H. Fujiura*[1] and A. Mohamad[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan*

EW-15. Use of carbon nitride smoothing layer to improve media roughness. *H. Lee*[1], J. Kim[2], J.A. Bain[1] and D.E. Laughlin[1]*1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Komag, San Jose, CA, USA*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session EX
HEAD MATERIALS, SOFT MAGNETIC ALLOYS AND DOMAINS (POSTER SESSION)

Robert O'Handley, Session Chair

EX-01. Mechanism of Step-like Change of Impedance for Thin-film GMI Element with Inclined Stripe Magnetic Domain. *T. Nakai*[1], K. Ishiyama[2] and J. Yamasaki[3]*1. Industrial Technology Institute, Miyagi Prefectural Government, Sendai, Miyagi-ken, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi-ken, Japan; 3. Kyushu Institute of Technology, Kitakyushu, Fukuoka-ken, Japan*

EX-02. Magnetic Domain Observations in FeCo-base Nanocrystalline Alloys by Lorentz Microscopy. *J. Long*[1], Y. Qin[1], T. Nuhfer[1], M. De Graef[1], D.E. Laughlin[1] and M.E. McHenry[1]*1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

EX-03. Manipulation of magnetization reversal of permalloy ring element. C. Chang[1], Y. Chang[1], C. Lee[2], *C. Chen*[1] and J. Wu[1]*1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Electrical Engineering, Chungchou Institue of Technology, Changhua, Taiwan*

EX-04. Magnetization processes of cross-tie states in permalloy thin films. *M. Lai*[2], Z. Wei[1], C. Chang[2] and J. Wu[3]*1. National Tsing Hua University, Hsinchu, Taiwan; 2. National Taiwan University, Taipei, Taiwan; 3. National Changhua University of Education, Changhua, Taiwan*

EX-05. OBSERVATION OF MAGNETIC DOMAIN PATTERNS IN BULK BARIUM FERRITE SINGLE CRYSTALS. *J. Jalli*[1], Y.K. Hong[2], S.H. Gee[1], C.C. Juan[1], H. Han[1], G. Abo[2], I.T. Nam[3,1], J. Jabal[1] and K. Essiam[1]*1. Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 2. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Advanced Materials Engineering, Kangwon National University, Chooncheon, South Korea*

EX-06. Vortex evolution in magnetic astroid patterns and chains. *L.K. Verma*[1] and V. Ng[1]*1. Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

EX-07. The role of temperature, anisotropy dispersion and roughness in determining head field rise times calculated with micromagnetics. *A. Kaya*[1] and J.A. Bain[1]*1. Data Storage Center Systems, Carnegie Mellon University, Pittsburgh, PA, USA*

EX-08. Effect of Pre-annealing on Final Texture and Magnetic Induction in Thin-gauged 3% Si-Fe Strips Containing 0.1% Mn and 0.011% S. *S. Cho*[1], S. Kim[1], J. Soh[1], N. Heo[1] and S. Han[2]*1. Korea Electiric Power Research Institute, Daejeon, South Korea; 2. Chungnam National University, Daejeon, South Korea*

EX-09. Intermediate annealing temperature and the number of final {110} grains in 3% silicon steels. *S. Kim*[1], S. Cho[1], J. Soh[1] and N. Heo[1]*1. Advanced Materials Research Group, Korea Electric Power Research Institute, Daejon, South Korea*

EX-10. Effect of small deformations (4-19% cold rolling) on the texture, residual stresses and magnetic properties of a 0.5% Si electrical steel. *M.F. de Campos*[1], M.J. Sablik[2], R. Machado[1], T.K. Hirsch[3], R. Magnabosco[4], F.G. Landgraf[5], C. Gutierrez[6] and A. Bandyopadhyay[7]*1. Dimat - Predio 3, Inmetro, Duque de Caxias RJ, RJ, Brazil; 2. Applied Physics Division, Southwest Research Institute, San Antonio, TX, USA; 3. IWT - Stiftung Institut für Werkstofftechnik - Bremen, Bremen, Germany; 4. FEI, Sao Bernardo do Campo SP, SP, Brazil; 5. Dept Metalurgia e Materiais - Escola Politecnica, Universidade de Sao Paulo, Sao Paulo SP, SP, Brazil; 6. Sandia National Laboratories, Albuquerque, NM, USA; 7. Texas State University, San Marcos, TX, USA*

EX-11. Magnetic evaluation of the hardening and softening of thermally aged iron-copper alloys. *L.P. Vandenbossche*[1], M. Konstantinovic[2], L. Dupre[1] and E. van Walle[2]*1. Electrical Energy, Systems and Automation, Ghent University, Gent, Belgium; 2. Belgian Nuclear Research Centre (SCK-CEN), Mol, Belgium*

WEDNESDAY AFTERNOON 2:00 HARBORSIDE C

Session FA
SYMPOSIUM ON PROBING THE MAGNETIC STRUCTURE OF NANOSTRUCTURED EXCHANGE

Randall Victora, Session Chair

2:00

FA-01. Probing the Internal Magnetic Structure in Exchange Biased Bilayers and Trilayers. ***(Invited)*** *R. Morales*[1,2], Z.P. Li[1], O. Petracic[1,3], S. Roy[1], M.R. Fitzsimmons[4], M. Vélez[2], I.V. Roshchin[1], J. Olamit[5], X. Batlle[1,6], K. Liu[5], S.K. Sinha[1], J.M. Alameda[2] and I.K. Schuller[1]*1. Physics Department, University of California San Diego, La Jolla, CA, USA; 2. Departamento de Física, Universidad de Oviedo, Oviedo, Spain; 3. Experimental Solid State Physics, Imperial College London, London, United Kingdom; 4. Los Alamos National Laboratory, Los Alamos, NM, USA; 5. Physics Department, University of California Davis, Davis, CA, USA; 6. Departament de Física Fonamental, Universitat de Barcelona, Barcelona, Spain*

2:36

FA-02. Exchange-bias instability in a bilayer with ion-beam imprinted stripe pattern of F/AF interfaces. ***(Invited)*** *K. Theis-Broehl*[1] *1. Department of Physics, Ruhr-University Bochum, D-44780-Bochum, Germany*

3:12

FA-03. Resonant s-ray scattering studies of magnetism in coupled nanoparticles and perpendicular anisotropy films. ***(Invited)*** *J.B. Kortright*[1] *1. Materials Sciences Division, Lawrence Berkeley National Lab, Berkeley, CA, USA*

3:48

FA-04. Electric and Magnetic Field control of Exchange Bias. ***(Invited)*** *C. Binek*[1], S. Polisetty[1], X. He[1], S. Sahoo[1], P. Borisov[2], A. Hochstrat[2] and W. Kleemann[2] *1. Physics and Astronomy, University of Nebraska, Lincoln, NE, USA; 2. Physics, University Duisburg-Essen, Duisburg, Germany*

4:24

FA-05. SPIN TRANSFER IN ANTIFERROMAGNETS. ***(Invited)*** *M. Tsoi*[1] *1. Physics Department, The University of Texas at Austin, Austin, TX, USA*

WEDNESDAY AFTERNOON 2:00 — HARBORSIDE A

Session FB
MAGNETIC MEMORY AND ELEMENTS
William Gallagher, Session Chair

2:00

FB-01. Role of thickness imbalance, Neel coupling, and intrinsic anisotropy mismatch in Toggle MRAM. *D. Worledge*[1], P.L. Trouilloud[1], D.W. Abraham[1] and W.J. Gallagher[1] *1. TJ Watson Research Center, IBM, Yorktown Heights, NY, USA*

2:12

FB-02. Adjacent Cell Interaction and MRAM Error Rate Prediction. *L. Zhu*[1] and Y. Guo[2] *1. Husko Inc., Milpitas, CA, USA; 2. MagIC Technologies, Inc., Milpitas, CA, USA*

2:24

FB-03. Magnetoresistive random access memory with dumbbell shape. *Y. Nakatani*[1], S. Kasai[2], K. Kobayashi[2], H. Kohno[3], G. Tatara[4] and T. Ono[1] *1. Department of Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan; 2. Kyoto University, Uji, Kyoto, Japan; 3. Osaka University, Toyonaka, Osaka, Japan; 4. Tokyo Metropolitan University, Hatioji, Tokyo, Japan*

2:36

FB-04. Dynamic simulation of toggle mode MRAM operating field margin. S. Wang[1], *H. Fujiwara*[2], J. Dou[2], Z. Li[1] and Y. Huai[1] *1. Grandis Inc, Milpitas, CA, USA; 2. MINT Center and Department Physics and Astronomy, Unviersity of Alabama, Tuscaloosa, AL, USA*

2:48

FB-05. Low Power Multi-bit Cells for Toggle Magnetic Random Access Memory. *K. Ju*[1] *1. MagLabs Inc., Monte Sereno, CA, USA*

3:00

FB-06. Thermal stability and writing margin of the multi-layer GSAF MRAM. *Y. Zheng*[1], J. Qiu[1], P. Luo[1], L. An[1], K. Li[1], G. Han[1], Z. Guo[1], S. Tan[1], Z. Liu[1] and B. Liu[1] *1. Spintronics, Media and Interface Division, Data Storage Institute, Singapore, Singapore*

3:12

FB-07. Effect of structures of NiFe-based free layers in toggle magnetic random access memories. *Y. Fukumoto*[1] and N. Kasai[1] *1. System Devices Research Laboratories, NEC Corporation, Sagamihara, Japan*

3:24

FB-08. Analysis of thermal relaxation rate for magnetization in toggle MRAM. *M. Dimian*[1] and H. Kachkachi[2] *1. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany; 2. Groupe d'Etude de la Matière Condensée, Université de Versailles St. Quentin, Versailles, France*

3:36

FB-09. Magnetization reversal technique of DyTbFeCo films at magnetic field as low as 1/6 of coercivity using a stress-induced magnetic anisotropy. M. Yamada[1] and *S. Nakagawa*[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan*

3:48

FB-10. Effect of Damping Constant on Magnetic Switching in Spin Torque Driven Perpendicular MRAM. *X. Zhu*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon Univ., Pittsburgh, PA, USA*

4:00

FB-11. Scalability of domain wall pinning in permalloy nanostructures for ultra high density data storage applications. *D. Read*[1], A. Jausovec[1], D. Petit[1], O. Petracic[1] and R.P. Cowburn[1] *1. Department of Physics, Imperial College London, London, United Kingdom*

4:12

FB-12. Current Confined Effect of Magnetic Nano-Current-Channel (NCC) for Magnetic Random Access Memory. *H. Meng*[1] and J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN, USA*

4:24

FB-13. Suppression of switching-field variation by surface oxidation depending on the shape of the CoFeB free layer. *T. Takenaga*[1], T. Kuroiwa[1], J. Tsuchimoto[2], R. Matsuda[2], S. Ueno[2], H. Takada[1], Y. Abe[1] and Y. Tokuda[1] *1. Advanced Technology R&D Center, Mitsubishi Electric Corporation, Amagasaki, Hyogo, Japan; 2. Production and Technology Unit, Renesas Technology Corporation, Itami, Hyogo, Japan*

WEDNESDAY AFTERNOON 2:00 — HARBORSIDE B

Session FC
PATTERNED STRUCTURES III
Manfred Schabes, Session Chair

2:00

FC-01. SEMPA studies of size dependent transition from shape to exchange dominated magnetic nanostructure. ***(Invited)*** *W. Uhlig*[1] *1. Electron Physics Group, NIST, Gaithersburg, MD, USA*

2:36

FC-02. Nucleation and propagation of domain walls in a perpendicularly magnetised nanowire. *L. San Emeterio Alvarez*[1], M. Hickey[1], C.H. Marrows[1], K.Y. Wang[2], A. Blackburn[2], D. Williams[2] and D. McGrouther[3] *1. Condensed Matter, Physics & Astronomy University of Leeds, Leeds, United Kingdom; 2. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 3. Physics & Astronomy, University of Glasgow, Glasgow, United Kingdom*

2:48

FC-03. Influence of transverse magnetic fields and nanowire geometry on domain wall propagation. M.T. Bryan[1], D. Atkinson[2], T. Schrefl[1] and *D.A. Allwood*[1] *1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics, Durham University, Durham, United Kingdom*

3:00

FC-04. Systematic tuning of magnetization reversal properties in Permalloy nanowires using sloped ends. *O. Petracic*[1], D. Read[1] and R.P. Cowburn[1] *1. Department of Physics, Imperial College London, London, United Kingdom*

3:12

FC-05. Vortices in ferromagnetic elements with perpendicular anisotropy. C. Moutafis[2], *S. Komineas*[1], C.A. Vaz[2], T. Bland[2] and P. Eames[3] *1. Max-Planck Institute for the Physics of Complex Systems, Dresden, Germany; 2. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 3. NVE Corporation, Eden Prairie, MN, USA*

3:24

FC-06. Probing the Potential Landscape in Asymmetric and Symmetric Inwards and Outwards Notches in Magnetic Nanowires. *A. Jausovec*[1], D. Petit[1], D. Read[1] and R.P. Cowburn[1] *1. Physics, Imperial College London, London, United Kingdom*

3:36

FC-07. Sub ns-magnetization dynamics of a single cross-tie wall. *K. Kuepper*[1], M. Buess[2], J. Raabe[2], C. Quitmann[2], L. Bischoff[1] and J. Fassbender[1] *1. Ion Beam Physics and Materials Research, FZ Rossendorf, Dresden, Germany; 2. Swiss Light Source, Paul Scherrer Institut, 5232 Villigen, - PSI, Switzerland*

3:48

FC-08. Layer-resolved Study of Vortex Formation in Heterostructure Circular and Square Ring Arrays with Off-center Hole. *V. Rose*[1], V. Metlushko[2], B. Ilic[3] and J.W. Freeland[4] *1. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL, USA; 2. Electrical and Computer Engineering, University of Illinois at Chicago, Chicago, IL, USA; 3. Cornell Nanofabrication Facility, Cornell University, Ithaca, NY, USA; 4. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA*

4:00

FC-09. Spin-wave spectrum of NiFe/Cu/NiFe nano-pillars with elliptical cross-section. *G. Carlotti*[1], G. Gubbiotti[2,1], M. Madami[1], S. Tacchi[1] and T. Ono[3] *1. Dipartimento di Fisica, University of Perugia, 06123, Perugia, Italy; 2. Research center SOFT-INFM-CNR, Universita' di Roma "La Sapienza",, Italy, I-00185, Roma, Italy; 3. Institute for Chemical Research, Kyoto University, Uji 611-0011, Kyoto, Japan*

4:12

FC-10. Correlation of edge roughness to nucleation field and nucleation field distribution in patterned Permalloy elements. *J.W. Lau*[1], R.D. McMichael[1], M.A. Schofield[2] and Y. Zhu[2] *1. Metallurgy Division, National Institute of Standards and Technology, Gaithersburg, MD, USA; 2. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY, USA*

4:24

FC-11. Measurement of magnetic edge properties in stripe arrays. *R.D. McMichael*[1], B.B. Maranville[1] and D.W. Abraham[2] *1. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. IBM T.J. Watson Research Center, Yorktown Heights, NY, USA*

4:36

FC-12. A Study on Spin wave Resonance in Patterned Trilayer Films. *Y. Zhai*[1,3], D. Zhang[1], Y. Zhang[1], J. Shi[2], P. Wong[3], D. Niu[3], G. Li[3], Y. Xu[3] and H. Zhai[4] *1. Department of Physics,Southeast University, Nanjing, China; 2. Department of Physics, University of California, Riverside, CA, USA; 3. Department of Electronics, University of York, York, United Kingdom; 4. Center for Materials Analysis, National Laboratory for Solid State Microstructures, Nanjing University, Nanjing, China*

4:48

FC-13. Mechanical-FMR studies of individual Py disks. G. de Loubens[1], *O. Klein*[1], V. Naletov[1], H. Hurdequint[2] and J. Ben Youssef[3] *1. Service de Physique de l'Etat Condensé, Commissariat à l'Energie Atomique, Gif-Sur-Yvette, France; 2. Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France; 3. Laboratoire de Magnétisme de Bretagne, Université de Bretagne Ouest, Brest, France*

WEDNESDAY AFTERNOON
2:00

HARBORSIDE D

Session FD
SPIN TORQUE: TUNNELING
Jonathan Sun, Session Chair

2:00

FD-01. Dependence of spin-torque diode effect spectra on free layer thickness in magnetic tunnel junctions. *H. Kubota*[1], A. Fukushima[1], Y. Otani[1], S. Yuasa[1], K. Ando[1], H. Maehara[2], K. Tsunekawa[2], D.D. Djayaprawira[2], N. Watanabe[2] and Y. Suzuki[3,1] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Electron Device Equipment Division, Canon ANELVA Corporation, Fuchu, Tokyo, Japan; 3. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan*

2:12

FD-02. Systematic study of spin-transfer induced precession in MgO-based magnetic tunnel junctions. *A.M. Deac*[2,1], A. Fukushima[1], H. Kubota[1], Y. Suzuki[2,1], S. Yuasa[1], H. Maehara[3], K. Tsunekawa[3], D.D. Djayaprawira[3] and N. Watanabe[3] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Graduate School of Engineering Science, Osaka University, Osaka, Japan; 3. Electron Device Devision, Canon ANELVA Corporation, Fuchu, Japan*

2:24

FD-03. Effect of Bias on Spin-Transfer Torque in Magnetic Tunnel Junctions. I. Theodonis[1,2], *N. Kioussis*[1], A. Kalitsov[1], M. Chshiev[3] and W.H. Butler[3] *1. Physics, California State University Northridge, Northridge, CA, USA; 2. Physics, National Technical University Athens, Zografou, Athens, Greece; 3. MINT Center, University of Alabama, Tuscaloosa, AL, USA*

2:36

FD-04. Spin-Transfer Torque and Biquadratic Exchange Coupling in Double-Barrier Magnetic Tunnel Junctions. *I. Theodonis*[1,2], N. Kioussis[1] and A. Kalitsov[1] *1. Physics & Astronomy, California State University Northridge, Northridge, CA, USA; 2. Physics, National Technical University Athens, Zografou, Athens, Greece*

2:48

FD-05. RF noise and spin-transfer torque in tunneling magnetoresistive heads. *M. Mizuguchi*[1], Y. Suzuki[1], Y. Uehara[2], H. Akimoto[2], H. Kanai[2] and K. Kobayashi[2] *1. Division of Materials Physics, Department of Physical Science, Osaka University, Osaka, Japan; 2. Advance Head Technology Development Department, Fujitsu Limited, Nagano, Japan*

3:00

FD-06. Spin torque influence on the noise spectrum of TMR read-heads. *S. Petit*[1], C. Baraduc[1], C. Thirion[1], U. Ebels[1], Y. Liu[2], M. Li[2], P. Wang[2] and B. Dieny[1] *1. SPINTEC, CEA/CNRS, Grenoble, France; 2. Headway Technologies, Milpitas, CA, USA*

3:12

FD-07. Spin and Energy Transfer in Magnetic Tunnel Junctions. *Z. Yang*[1] and S. Zhang[1] *1. Department of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO, USA*

3:24

FD-08. Reduction of critical current density for spin-transfer switching in MTJ structures. *Y. Huai*[1], Y. Ding[1], Z. Li[1], Z. Diao[1], S. Wang[1], A. Panchula[1], D. Apalkov[1], A. Driskill-Smith[1], E. Chen[1] and L. Wang[1] *1. Grandis Inc, Milpitas, CA, USA*

3:36

FD-09. Current-induced magnetization switching in MgO based magnetic tunnel junctions with synthetic ferromagnetic free layers. *S. Ikeda*[1], J. Hayakawa[2,1], Y. Lee[1], R. Sasaki[1], F. Matsukura[1], T. Meguro[1], H. Takahashi[2] and H. Ohno[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. ARL, Hitachi Ltd.,, Tokyo, Japan*

3:48

FD-10. Dielectric strength of low RA MgO tunnel barrier layers for SMT MRAM. *P.G. Mather*[1], R.W. Dave[1], F.B. Mancoff[1], N.D. Rizzo[1] and B.N. Engel[1] *1. Freescale Semiconductor, Inc., Chandler, AZ, USA*

4:00

FD-11. Impurity-induced resonant spin torque and spin transport in a magnetic tunnel junction. *A. Manchon*[1], N. Ryzhanova[1,2], A. Vedyayev[1,2] and B. Dieny[1] *1. CEA-Grenoble/ DRFMC-SPINTEC, Grenoble, France; 2. Physics, Lomonosov University, Moscow, Russian Federation*

4:12

FD-12. Spin transfer experiments on (Ga,Mn)As/(In,Ga)As/(Ga,Mn)As tunnel junctions. *J. George*[1], M. Elsen[1], O. Boulle[1], H. Jaffres[1], R. Mattana[1], V. Cros[1], A. Fert[1], A. Lemaitre[2] and G. Faini[2] *1. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 2. Laboratoire de Photonique et Nanostructures, Marcoussis, France*

WEDNESDAY AFTERNOON
2:00

HARBORSIDE E

Session FE
MULTILAYER FILMS AND SUPERLATTICES II

Bin Lu, Session Chair

2:00

FE-01. Influence of exchange coupling and Dipolar interaction on magnetic configurations in perpendicular [Pt /Co]n/TbFe and [Pt /Co]n/Pt/TbFe. *S. Mangin*[1,2], E.E. Fullerton[1], T. Hauet[2], P. Fischer[3], D.H. Kim[3], J. Kortright[3], K. Chesnel[3] and E. Arenholz[3] *1. CenterHitachi Global Storage Technologies, San Jose, CA, USA; 2. Laboratoire de Physique des Matériaux, Nancy-University CNRS, Vandoeuvre, France; 3. LBNL, Berkeley, CA, USA*

2:12

FE-02. Ultrafast magnetization dynamics in high perpendicular anisotropy $[Co/Pt]_n$ multilayers. *A. Barman*[1,3], S. Wang[1], O. Hellwig[2], A. Berger[2], E. Fullerton[2] and H. Schmidt[1] *1. School of Engineering, University of California Santa Cruz, Santa Cruz, CA, USA; 2. Hitachi Global Storage Technologies, San Jose Research Center, San Jose, CA, USA; 3. NanoCenter and Physics and Astronomy, University of South Carolina, Columbia, SC, USA*

2:24

FE-03. Coupled Precession Modes in Indirect Exchanged-Coupled [Pt/Co]-Co Thin Films. *S.A. Michalski*[1], J. Zhou[1], R. Skomski[1] and R.D. Kirby[1] *1. Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA*

2:36

FE-04. Asymmetrical domain nucleation and unusual magnetization reversal of ultrathin Co films and $[Co/Pt]_n$ multilayers with perpendicular anisotropy. Y.L. Iunin[1], Y.P. Kabanov[1], V.I. Nikitenko[1,3], X.M. Cheng[2], D. Clarke[2], O.A. Tretiakov[1], O. Tchernyshyov[2], A.J. Sharpiro[3], R.D. Shull[3] and *C.L. Chien*[2] *1. Institute of Solid State Physics, Russian Academy of Sciences, Chernogolovka, Russian Federation; 2. Johns Hopkins University, Baltimore, MD, USA; 3. National Institute of Standards and Technology, Gaithersburg, MD, USA*

2:48

FE-05. Structural and magnetic studies of Co layer in epitaxially grown Fe/Co bilayers. *S. Wang*[1], C. Wang[2], A. Kohn[2], S. Lee[3], J.P. Goff[4], L.J. Singh[4], Z.H. Barber[4] and R.C. Ward[4] *1. Department of Physics, University of Oxford, Oxford, United Kingdom; 2. Department of Materials, University of Oxford, Oxford, United Kingdom; 3. Department of Physics, University of Liverpool, Oxford, United Kingdom; 4. Department of Material Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

3:00

FE-06. Study of Néel orange peel coupling on surfaces with controlled artificial roughness. *S. Chang*[1] and Y. Hao[1] *1. Materials Science and Engineering, University of Texas at Arlington, Arlington, TX, USA*

3:12

FE-07. Non-destructive characterization of buried interfaces. W. Olovsson[1], *E. Holmström*[2], O. Karis[1], M. Gorgoi[4], S. Svensson[1], G. Andersson[1], I.A. Abrikosov[3], A.M. Niklasson[3], B. Johansson[1], G. Öhrwall[1], M. Marcellini[1], F. Schäfers[4], N. Mårtensson[1] and W. Eberhardt[4] *1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM, USA; 3. Department of Physics and Measuremt Technology, Linköping University, Linköping, Sweden; 4. BESSY, Berlin, Germany*

3:24

FE-08. Probing magnetization reversal in reciprocal space. *C. Marrows*[1], J.A. Gonzalez[1,2], L.A. Michez[1,3], C.J. Kinane[1], M.C. Hickey[1], A. Potenza[1], B.J. Hickey[1], S.M. Weekes[4], F.Y. Ogrin[4], M. Wolff[5], T.R. Charlton[6] and S. Langridge[6] *1. Dept. of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom; 2. Departamento de Fisica, Universidad de Castilla-La Mancha, Ciudad Real, Spain; 3. CRMCN-CNRS UPR 7251, Universite Aix-Marseille 2, Marseille, France; 4. School of Physics, University of Exeter, Exeter, United Kingdom; 5. Institut Laue Langevin, Grenoble, France; 6. ISIS, Rutherford Appleton Laboratory, Chilton, Oxon, United Kingdom*

3:36

FE-09. Study of interface structure in magnetic multilayers using x-ray standing waves. *A. Gupta*[1], D. Kumar[1] and C. Meneghini[2] *1. Indore Center, UGC-DAE Consortium for Scientific Research, Indore, M.P., India; 2. Dip Di Fisica "E. Amaldi", Università di Roma Tre, I-00146, Roma, Italy*

3:48

FE-10. Anomalous X-Ray Diffraction to Resolve Structure and Strain of Nearly Lattice Matched Layers within Magnetic Thin Films. *K. Krycka*[1,2], C. Kao[1,2], J. Beaujour[3] and A. Kent[3] *1. Physics, State University of New York, Stony Brook, NY, USA; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 3. Physics, New York University, New York, NY, USA*

4:00

FE-11. Modulated magnetization depth profile in dipolarly coupled magnetic multilayers. S. Bedanta[1], *O. Petracic*[1,2], E. Kentzinger[3], W. Kleemann[1], U. Rücker[3], T. Brückel[3], A. Paul[3], S. Cardoso[4] and P.P. Freitas[4] *1. Angewandte Physik, Universität Duisburg-Essen, Duisburg, Germany; 2. Department of Physics, Imperial College London, London, United Kingdom; 3. IFF, Forschungszentrum Jülich, Jülich, Germany; 4. INESC, Lisbon, Portugal*

4:12

FE-12. Reorientation effects and switching instabilities in synthetic antiferromagnets. *U.K. Rossler*[1] and A.N. Bogdanov[1] *1. IFW Dresden, Dresden, Germany*

4:24

FE-13. Exchange stiffness of hcp Co_{1-x} M_x (M=Pt, Ru, Cr) ferromagnets. *E. Girt*[1], O.N. Mryasov[2] and A.Y. Dobin[1] *1. Seagate Technology, Freemont, CA, USA; 2. Seagate Research, Pittsburgh, PA, USA*

4:36

FE-14. Magnetic Reversal Phenomena in Pseudo Spin Valve Films with Perpendicular Anisotropy. *F. Ilievski*[1], J.C. Perkinson[1] and C.A. Ross[1] *1. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

4:48

FE-15. Fabrication and Magnetic Behavior of Co/Cu Multilayered Nanowires. *L. Tan*[1] and B.J. Stadler[2] *1. Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA; 2. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

WEDNESDAY AFTERNOON 2:00

ESSEX

Session FF
DRUG DELIVERY AND SEPARATION
Sara Majetich, Session Chair

2:00

FF-01. Nanosized Magnetic Drug Carrier Systems. ***(Invited)*** *P. de Morais[1] 1. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil*

2:36

FF-02. Synthesis of Ibuprofen Loaded Magnetic Solid Lipid Nanoparticles. X. Pang[1,2], J. Chen[1], J. Zhou[1], M. Yu[1], F. Cui[2] and *W. Zhou[1] 1. AMRI/Chemistry, University of New Orleans, New Orleans, LA, USA; 2. Dept. of Pharmacy, Shenyang Pharmaceutical Univ., Shenyang, China*

2:48

FF-03. Dramatic increase in stability and longevity of enzymes attached to monodispersive iron nanoparticles. *A.M. Sharma[1]*, P. Kornacki[2], A. Paszczynski[2], J. Anthony[1], D. Meyer[1] and Y. Qiang[1] *1. Physics, University of Idaho, Moscow, ID, USA; 2. Environmental Biotechnology Institute and Microbiology Molecular biology and biochemistry, University of Idaho, Moscow, ID, USA*

3:00

FF-04. Design and Synthesis of Biodegradable Magnetic Nanocomposite Carriers for In Vivo Biomedical Applications. *X. Liu[1]*, M.D. Kaminski[1], H. Chen[1], M. Torno[1] and .J. Rosengart[1] *1. Neurology, The University of Chicago, Chicago, IL, USA*

3:12

FF-05. Preparation of spherical monodisperse nanoparticles of γ-Fe_2O_3 from an aqueous solution containing complex carbohydrate. *R. Shimazu[1]*, M. Tada[1], T. Nakagawa[1], A. Sandhu[2], H. Handa[3] and M. Abe[1] *1. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Tokyo, Japan; 3. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan*

3:24

FF-06. Magnetite nanoparticles with almost bulk magnetic properties: the role of the surfactant. P. Guardia[1], B. Batlle-Brugal[1], A.G. Roca[2], O. Iglesias[1], M. Morales[2], C.J. Serna[2], A. Labarta[1] and *X. Batlle[1] 1. Departament de Fisica Fonamental and Institut de Nanociència i Nanotecnologia, U. Barcelona, Barcelona, Spain; 2. Instituto de Ciencia de los Materiales de Madrid, CSIC, Madrid, Spain*

3:36

FF-07. The Influence of Temperature on the Magnetic Behaviour of Colloidal Cobalt Nanoparticles. *C. Dennis[1]*, G. Cheng[2], K. Baler[1], B.B. Maranville[1], A.R. Hight Walker[2] and R.D. Shull[1] *1. Metallurgy Division/MSEL, NIST, Gaithersburg, MD, USA; 2. Optical Technology Division/PL, NIST, Gaithersburg, MD, USA*

3:48

FF-08. Design and Imaging of Plasmonic Magnetic Nanoparticles. *J. Lim[1]*, R.D. Tilton[1,3], A. Eggeman[2], F. Lanni[4], R. Erb[5], B. Yellen[5] and S.A. Majetich[2] *1. Chemical Engineerijng, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 4. Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, USA; 5. Mechanical Engineering, Duke University, Durham, NC, USA*

4:00

FF-09. Electroless CoNiWP magnetic films for the application in magnetically targeted therapy. *H. Cheng[1]*, S. Xu[1], S. Zou[2], Q. Zhang[1], J. Zhang[2], W. Zhao[1], J. Guan[1] and Z. Sun[1] *1. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, Hubei province, China; 2. Department of General Surgery of Tongji Hospital, Tongji Medical College of Huazhong University of Science and Technology, Wuhan, Hubei province, China*

4:12

FF-10. Ferromagnetic dipole-pair tweezers for biomedical applications. *F. Ogrin[1]*, P. Winlove[1] and P.G. Petrov[1] *1. School of Physics, University of Exeter, Exeter, United Kingdom*

4:24

FF-11. Development Of Functional Coated Magnetic Nanoparticles For Bio-separation. C. Yu[1], K.Y. Tam[2], C.H. Lo[3] and *E.S. Tsang[1] 1. Chemistry, University of Reading, Reading, Berkshire, United Kingdom; 2. Physical Chemistry, AstraZeneca, Macclesfield, Cheshire, United Kingdom; 3. Center for Nondestructive Evaluation and Ames Laboratory, Iowa State University, Ames, Iowa, IA, USA*

4:36

FF-12. An ab initio investigation of electronic structure and magnetism of free and supported Iron Porphyrin molecules. P.M. Panchmatia[1], B. Sanyal[1], H. Wende[2], O. Eriksson[1] and *P.M. Oppeneer[1] 1. Dept. of Physics, Uppsala University, Uppsala, Sweden; 2. Institute for Experimental Physics, Free University, Berlin, Germany*

4:48

FF-13. Magnetic separation of paramagnetic nano-particles in gas. *H. Okada*[1], H. Okuyama[1], M. Uda[1] and N. Hirota[1] *1. National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

WEDNESDAY AFTERNOON 2:00 LAUREL

Session FG
MAGNETO-ELASTIC MATERIALS
Harry Radousky, Session Chair

2:00

FG-01. Magnetic and Magnetoelastic Properties of Ga-substituted Cobalt Ferrite. S. Song[1,2], C. Lo[3], S. Lee[3], S. Aldini[1], J. Snyder[4] and *D. Jiles[4] 1. Materials and Engineering Physics Program, Ames Laboratory, US Dept. of Energy, Ames, IA, USA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA; 3. Center for Nondestructive Evaluation, Ames, IA, USA; 4. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

2:12

FG-02. Magnetostriction of Ternary Fe-Ga-X (X = C, V, Cr, Co, Rh) Alloys. *A.E. Clark*[1], J.B. Restorff[2], M. Wun-Fogle[2], K.B. Hathaway[3], T.A. Lograsso[4] and E. Summers[5] *1. Clark Associates, Adelphi, MD, USA; 2. Code 617, Naval Surface Warfare Center, Carderock Division, West Bethesda, MD, USA; 3. University of Maryland, College Park, MD, USA; 4. Ames Laboratory, Ames, IA, USA; 5. Etrema Products, Inc., Ames, IA, USA*

2:24

FG-03. Study of Thermal Mechanical Processed FeGa/Terfenol-D Composites. *M. Daniil*[3], S. Cheng[3], M. Marinescu[1], G.C. Hadjipanayis[1] and T.A. Lograsso[2] *1. Dept. of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Iowa State University, Ames, IA, USA; 3. Naval Research Laboratory, Washington, DC, USA*

2:36

FG-04. Compression-induced Texture Change in NiMnGa-Polymer-Composites observed by Synchrotron Radiation. *N. Scheerbaum*[1], D. Hinz[1], O. Gutfleisch[1], W. Skrotzki[2] and L. Schultz[1] *1. Institut für Metallische Werkstoffe, IFW-Dresden, D-01171 Dresden, Germany; 2. Institut für Strukturphysik, Technische Universität Dresden, D-01062 Dresden, Germany*

2:48

FG-05. Evidence of Magnetoelastic Spin Ordering in Dilute Magnetic Oxides. *G.F. Dionne[1,2] 1. Lincoln Laboratory, MIT, Lexington, MA, USA; 2. Department of Materials Science and Engineering, MIT, Cambridge, MA, USA*

3:00

FG-06. Magnetic properties of $Tb_{0.28}Dy_{0.57}Ho_{0.15}Fe_{2-x}Mn_x$ [x=0, 0.05, 0.1, 0.15, 0.2]. *J. S.Narayana*[1], G. Markandeyulu[1] and K. Balasubramaniam[2] *1. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India; 2. Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India*

3:12

FG-07. An Experimental Investigation into the Dynamic Performance of Iron-Gallium Alloys. *J. Yoo*[1] and A.B. Flatau[1] *1. Aerospace Engineering, University of Maryland, College Park, MD, USA*

3:24

FG-08. Modeling of Magnetostrictive Galfenol Sensor and Validation using Four Point Bending Test. *S. Datta*[1], J. Atulasimha[1] and A.B. Flatau[1] *1. Aerospace Engineering, University of Maryland, College Park, MD, USA*

3:36

FG-09. Actuation Field in Martensitic $Ni_{50.4}Mn_{25.8}Ga_{23.8}$ *P. Zhao*[1], J. Cullen[1], J. Cui[1] and M. Wuttig[1] *1. Dept. of Mater. Sci. and Eng., University of Maryland, College Park, MD, USA*

3:48

FG-10. Bulk ferromagnetism in $BiFeO_3$ of higher structural symmetry. R. Mazumder[1], P. Devi[1], *D. Bhattacharya*[1], P. Choudhury[1], A. Sen[1] and M. Raja[2] *1. Electroceramics, Central Glass and Ceramic Research Institute, Kolkata, India; 2. Defense Metallurgical Research Laboratory, Hyderabad, India*

4:00

FG-11. Does Twin Boundary Affect The Resistivity of single crystal Ni49Mn29Ga22 Heusler Alloy? V.K. Srivastava[1] and *R. Chatterjee[1] 1. Physics, Indian Institute Of Technology Delhi, New Delhi, India*

4:12

FG-12. Effect of B on the Microstructure and Magnetostriction of Zoned Dy0.7Tb0.3Fe1.95. A. Chelvane[1], M. Palit[1], S. Pandian[1], R. Balamuralikrishnan[1], A.K. Singh[1], V. Chandrasekaran[1] and *G. Markandeyulu[2] 1. Defence Metallurgical Research Laboratory, Hyderabad, Andhra Pradesh, India; 2. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India*

4:24

FG-13. Stress dependence and effect of plastic deformation on magnetic hysteresis and anhysteretic magnetization of FeNi-32% films. *P. Finkel*[1] and S. Lofland[2] *1. College of Engineering, Drexel University, Philadelphia, PA, USA; 2. Rowan University, Glassboro, NJ, USA*

4:36

FG-14. Magnetic Anisotropy for Ni_2MnGa above Martensitic Transition Temperature. *M. Matsui*[1], S. Yoshimura[1], T. Nakakura[1], Y. Takeda[1] and H. Asano[1] *1. Crystalline Materials Science, Nagoya University, Nagoya, Aichi Prefecture, Japan*

4:48

FG-15. New 3-D shaped polycrystalline and composite-containing active magnetostrictive materials. *N. Lupu*[1], H. Chiriac[1], M. Valeanu[2] and I. Mihalca[3] *1. Magnetic Materials and Devices, National Institute of R&D for Technical Physics, Iasi, Romania; 2. National Institute of Materials Physics, Bucharest-Magurele, Romania; 3. Condensed Matter Research Institute, Timisoara, Romania*

WEDNESDAY AFTERNOON 2:00 — DOVER

Session FH
MAGNETIC MICROSCOPY AND IMAGING I
Yimei Zhu, Session Chair

2:00

FH-01. A Lorentz Microscopy study of thin magnetic FePt and FePd layers with perpendicular anisotropy. A. Masseboeuf[1], *A. Marty*[1], C. Gatel[1] and P. Bayle-Guillemaud[1] *1. DRFMC/SP2M, CEA Grenoble, Grenoble, France*

2:12

FH-02. Understanding local response by manipulation of ferromagnetic nano-elements in TEM. *L. Huang*[1,2], T. Beetz[1], M.A. Schofield[1], M. Beleggia[1] and Y. Zhu[1,2] *1. Brookhaven National Laboratory, Upton, NY, USA; 2. Department of Physics and Astronomy, State University of New York at Stony Brook, Stony Brook, NY, USA*

2:24

FH-03. Magnetic Shape Anisotropy in Nanopatterned Co Ferromagnets using Off-axis Electron Holography and Lorentz Microscopy. *N. Agarwal*[1], D.J. Smith[1,2] and M.R. McCartney[2] *1. School of Materials, Arizona State University, Tempe, AZ, USA; 2. Department of Physics, Arizona State University, Tempe, AZ, USA*

2:36

FH-04. Electron Holography Imaging of Domain Structures in Co Nanoparticle Monolayers. K. Yamamoto[1,2], S.A. Majetich[3], M.R. McCartney[1], *M.S. Sachan*[3], S. Yamamuro[4], T. Hirayama[2] and D.J. Smith[1] *1. Center for Solid State Science, Arizona State University, Tempe, AZ, USA; 2. Japan Fine Ceramics Center, 2-4-1 Mutsuno, Atsuta-ku, Nagoya, Japan; 3. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 4. Materials Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan*

2:48

FH-05. Spin-transport of hot electrons in metallic ferromagnets using transmission and scattering detection modes of BEEM. *T. Banerjee*[1], E. Haq[1], J.C. Lodder[1] and R. Jansen[1] *1. SMI,Faculty of EWI, MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

3:00

FH-06. Comparative study of ferromagnetic domains for ultrathin Mn on Fe(001) and Ag/Fe(001). *C. Kuo*[1,2], K. Lin[1], H. Kang[1], Y. Chan[3] and D. Wei[3] *1. Department of Physics, National Sun-Yat Sen University, Kaohsiung, Taiwan; 2. Center for Nanoscience and Nanotechnology, National Sun Yat Sen University, Kaohsiung, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

3:12

FH-07. Magnetization dynamics in patterned structures imaged using time-resolved photoemission electron microscopy. *D.J. Keavney*[1], X. Han[1], M. Grimsditch[2], J. Meersschaut[2,3], A. Hoffmann[2], Y. Ji[2], J. Sort[4], J. Nogués[4], R. Divan[5], J. Pearson[2], K.Y. Guslienko[2] and S.D. Bader[2] *1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 3. Instituut voor Kern- en Stralingsfysica and INPAC, Leuven, Belgium; 4. Institució Catalana de Recerca i Estudis Avançats (ICREA) and Departament de Física, Universitat Autònoma de Barcelona, Barcelona, Spain; 5. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL, USA*

3:24

FH-08. Imaging vortex dynamics in confined magnetic nanoelements with high resolution soft X-ray microscopy. *P. Fischer*[1], D. Kim[1], B.L. Mesler[1] and E.H. Anderson[1] *1. CXRO, LBNL, Berkeley, CA, USA*

3:36

FH-09. Time-resolved imaging of the out-of-plane vortex core. *H. Stoll*[1], K.W. Chou[1], A. Puzic[1], D. Dolgos[1], G. Schuetz[1], B. Van Waeyenberge[2], T. Tyliszczak[3], I. Neudecker[4], G. Woltersdorf[4], D. Weiss[4] and C.H. Back[4] *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 3. Advanced Light Source, LBNL, Berkeley, CA, USA; 4. Department of Physics, Regensburg University, Regensburg, Germany*

3:48

FH-10. Suppression of vortex core motion in permalloy disks by means of focussed ion beams. *K. Kuepper*[1], L. Bischoff[1], J. Fassbender[1], K. Chou[2], B. Van Waeyenberge[3], H. Stoll[2], G. Schütz[2], T. Tyliszczak[4], I. Neudecker[5] and C.H. Back[5] *1. Ion Beam Physics and Materials Research, FZ Rossendorf e. V., Dresden, Germany; 2. Max-Planck-Institut für Metallforschung, Stuttgart, Germany; 3. Department of Subatomic and Radiation Physics, Ghent University, Gent, Belgium; 4. Advanced Light Source, LBNL, Berkeley, CA, USA; 5. Experimentelle Physik, Universität Regensburg, Regensburg, Germany*

4:00

FH-11. Direct Observation of the Propagation of Spin-Wave Packets in Ferromagnetic Thin Films. *K. Perzlmaier*[1], G. Woltersdorf[1] and C.H. Back[1] *1. Institut fuer Experimentelle und Angewandte Physik, University of Regensburg, Regensburg, Germany*

4:12

FH-12. Microwave assisted switching of micron sized elements. *G. Woltersdorf*[1], C.H. Back[1] and D. Weiss[1] *1. Physics, University of Regensburg, Regensburg, Germany*

4:24

FH-13. Visualization of Magnetization Processes of Soft Magnetic Composites by Magneto-optical Imaging Technique. *Z.W. Lin*[1], J.G. Zhu[1], J.J. Zhong[1], T.H. Johansen[2], X.L. Wang[3] and W.Y. Yu[4] *1. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia; 2. Department of Physics, University of Oslo, Oslo, Norway; 3. Spintronic and Electronic Materials Group, Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 4. Baosteel Group Shanghai Iron and Steel Research Institute, Shanghai, China*

4:36

FH-14. High temperature scanning Hall probe microscopy (HT-SHPM) using AlGaN/GaN 2DEG micro-Hall probes. *Z. Primadani*[1], H. Oosawa[1] and A. Sandhu[2,1] *1. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 2. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Meguro, Tokyo, Japan*

WEDNESDAY AFTERNOON 1:00 **GRAND BALLROOM**

Session FP
SPIN DYNAMICS AND RELAXATION II (POSTER SESSION)

Pavel Kabos, Session Chair

FP-01. Thickness dependence of ultrafast magnetization dynamics in Nickel films. *S. Wang*[1], A. Barman[1,3], J. Maas[2], A.R. Hawkins[2] and H. Schmidt[1] *1. School of Engineering, UC Santa Cruz, Santa Cruz, CA, USA; 2. ECEn, Brigham Young University, Provo, UT, USA; 3. USC NanoCenter and Department of Physics and Astronomy, University of South Carolina, Columbia, SC, USA*

FP-02. Ultrafast optically induced spin dynamics in patterned single-crystal Fe dot arrays. *L.G. Serban*[1,2], W. Jing[2], B. Chris[2], Z. Xiao[2], N. Daxin[1], X. Yongbing[1], K. Natalia[2], N. Ulrich[2] and C. Roy[2] *1. Electronics, University of York, York, United Kingdom; 2. Physics, University of York, York, United Kingdom*

FP-03. FMR study of thickness-dependent magnetization precession in $Ni_{80}Fe_{20}$ films. *Y. Chen*[1], D. Hung[2], Y. Yao[3], S. Lee[3], H. Ji[1] and C. Yu[3] *1. Department of Physics, National Cheng Kung University, Tainan, Taiwan; 2. Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

FP-04. Decoherence processes of a quantum two-level system coupled to a fermionic environment. *N. Yamada*[1], H. Tsuchiura[1] and A. Sakuma[1] *1. Department of Applied Physics, Tohoku University, Sendai, Japan*

FP-05. Triggering the symmetry break including the Oersted Field in the Magnetization Dynamics of Spin-Transfer Oscillators. *G. Consolo*[1], B. Azzerboni[1], G. Finocchio[1], L. Lopez-Diaz[2] and L. Torres[2] *1. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Italy, Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Spain*

FP-06. FMR study of the out-of-plane angular dependence of spin-wave spectra in circular magnetic dots. *G. Kakazei*[1,2], E. Tartakovskaya[1], T. Mewes[3], P. Wigen[2], V. Golub[1], S. Batra[4] and C. Hammel[2] *1. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; 2. Department of Physics, Ohio State University, Columbus, OH, USA; 3. MINT/Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 4. Seagate Research, Pittsburgh, PA, USA*

FP-07. Thermally activated magnetization reversal behavior of uniaxial ferromagnetic thin films in the μs ~ s time regime. *K. Ryu*[1], K. Lee[1], S. Choe[2] and S. Shin[1] *1. Department of Physics and Center for Nanospinics of Spintronic Materials, Korea Advanced Institute of Science and Technology, Daejon, South Korea; 2. Department of Physics, Seoul National University, Seoul, South Korea*

FP-08. NMR and Spin Relaxation in Systems with Magnetic Nanoparticles. *N. Noginova*[1], T. Weaver[1], M. King[1] and A.B. Bourlinos[2] *1. NSU, Norfolk, VA, USA; 2. NCSR Demoktitos, Athens, Greece*

FP-09. Nonlinear phenomenological model of magnetic dissipation for large precession angles. *A. Slavin*[1] and V. Tiberkevich[1] *1. Physics, Oakland University, Rochester, MI, USA*

FP-10. Spin-wave dynamics and inelastic neutron scattering in ferromagnetic nanowires and nanoparticles. *E.V. Tartakovskaya*[1] *1. Institute for Magnetism, Kiev, Ukraine*

FP-11. Theory of spin modes in the vortex state. *R. Zivieri*[1] and F. Nizzoli[1] *1. Department of Physics, University of Ferrara, Ferrara, Italy*

WEDNESDAY AFTERNOON 1:00

GRAND BALLROOM

Session FQ
AMORPHOUS AND NANOCRYSTALLINE SOFT MATERIALS I (POSTER SESSION)

Akihiro Makino, Session Chair

FQ-01. Field crystallization effect on magnetic properties and stability of nanocrystalline $Fe_{56}Co_{24}Nb_4B_{13}Si_2Cu_1$ alloy. *V. Keylin*[1], J. Long[1], M.E. McHenry[1], J.F. Huth[2] and E.V. Conley[2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Magnetics, Division of Spang, Pittsburgh, PA, USA*

FQ-02. Magnetic properties of toroidal cores prepared by continuous Joule heating under tensile stress. *T. Yanai*[1], K. Takagi[1], A. Shimada[1], K. Takahashi[1], M. Nakano[1], Y. Yoshizawa[2] and H. Fukunaga[1] *1. Electrical and Electronic Engineering, Nagasaki University, Nagasaki, Japan; 2. Advanced Electronics Research Laboratory, Hitachi Metals Ltd., Kumagaya, Japan*

FQ-03. Ion irradiation of exchange bias for a Co-based amorphous ribbon. *D. Park*[1], C. Kim[2], J. Lee[1], W. Kim[1] and J. Hong[1] *1. NMTD, KAERI, Taejeon, South Korea; 2. Department of Materials Engineering, Chungnam National University, Daejeon, Korea, South Korea*

FQ-04. Magnetic Properties of Co-Fe-B-Si-Nb Bulk Glassy Alloy with Zero Magnetostriction. *K. Amiya*[1], A. Urata[1], N. Nishiyama[1] and A. Inoue[2] *1. R&D Institute of Metals and Composites for Future Industries, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

FQ-05. X-ray diffraction analysis and magnetic study on amorphous $Fe_{15}Co_{17}Ni_{58}B_{10}$ nanowires, obtained by electrochemical deposition. M. Vieyra[1], *T. Meydan*[1] and F. Borza[1] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, South Glamorgan, United Kingdom*

FQ-06. Fe-based amorphous powder with high magnetic flux density produced by Spinning Water Atomization Process (SWAP). *I. Otsuka*[1], K. Wada[1], Y. Maeta[1], A. Watanabe[1], H. Izaki[1] and M. Yagi[2] *1. Epson Atmix Corporation, Aomori-ken, Japan; 2. Sojo University, Kumamoto-ken, Japan*

FQ-07. Processing, Microstructure and Properties of Crystalline FeCoB Thin Films. H.I. Imrane[1], Z. Cai[2], K. Ziemer[2], S. Yoon[1], V. Harris[1], C. Vittoria[1] and *N. Sun*[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 2. Chemical Engineering, Northeastern University, Boston, MA, USA*

FQ-08. Effect of Co addition upon microstructural evolution and magnetic properties of amorphous ferromagnetic CoFeSiB alloy films. *B. Chun*[1], Y. Kim[1], Y. Kim[1], J. Hwang[2], S. Kim[2], J. Rhee[2], J. Suk[3] and T. Kim[4] *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Physics, Sookmyung Women's University, Seoul, South Korea; 3. Nano Science and Technology, University of Seoul, Seoul, South Korea; 4. Samsung Advanced Institute of Technology, Suwon, South Korea*

FQ-09. Superior magnetic properties of high resistive CoFeHfO films. D. Nguyen[2], C. Kim[2], C. Kim[2], M. Takahashi[3], *M. Phan*[1] and H. Peng[1] *1. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1TR, United Kingdom; 2. Research Center for Advanced Magnetic Materials, Chungnam National University, Daejeon 305-764, South Korea; 3. Department of Electrical Engineering, Tohoku University, Sendai 980-8579, Japan*

WEDNESDAY AFTERNOON 1:00 GRAND BALLROOM

Session FR
MAGNETORESISTIVE OXIDES (POSTER SESSION)

Jinke Tang, Session Co-chair
Valentin Alek Dediu, Session Co-chair

FR-01. Charge-Orbital Ordering Phase Transitions in Self-Doped La(1-y)NdyMnO(3+δ). *F.N. Bukhanko*[1], V.P. Dyakonov[1] and V.I. Kamenev[1] *1. Electronic properties of metals, Donetsk Phys.&Techn.Institue, NASU, Donetsk, Donetsk, Ukraine*

FR-02. Study of Magneto-Refractive Measurements on La0.7Pb0.3MnO3 Epitaxial Thin Films. W. Gorman[1], M.S. Kim[1] and *J. Wang*[1] *1. Physics Department, State University of New York Binghamton, Binghamton, NY, USA*

FR-03. Magnetotransport properties of Ba_2MnRuO_6 and $LaBaMnRuO_6$ S. Savitha Pillai[1,2] and *P.N. Santhosh*[1,2] *1. X-ray Laboratory,Department of Physics, Indian Institute of Technology.Madras, Chennai, Tamilnadu, India; 2. Low Temperature Laboratory,Department of Physic, Indian Institute of Technology.Madras, Chennai, Tamilnadu, India*

FR-04. Anisotropy of magnetoresistance in epitaxial Fe_3O_4(110) films grown on MgO (110) substrates. *R.S. Sofin*[1], S.K. Arora[1] and I.V. Shvets[1] *1. Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN),School of physics, Trinity College, Dublin, Dublin, Ireland*

FR-05. Magnetic properties and the transport tuning of Cr2O3/(La,Sr)MnO3 hetero interface. *T. Yokota*[1], T. Kuribayashi[1], K. Hattori[1], T. Shundo[1] and M. Gomi[1] *1. Environmental and Materials Engineering, Nagoya Institute of Technology, Nagoya, Aichi, Japan*

FR-06. High room-temperature tunneling magnetoresistance of "bulrush-like" double perovskite. *W. Zhong*[1], N. Tang[1], C. Au[2] and Y. Du[1] *1. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiangsu, China; 2. Chemistry Department, Center for Surface Analysis and Research, Hong Kong Baptist University, Hong Kong, Hong Kong*

FR-07. Voltage-current hysteretic characteristics in ME/Nd0.7Ca0.3MnO3 thin films with ME = Au, Pt, Ag, Cu. *D. Hsu*[1,3], J. Lin[1,2] and W. Wu[3] *1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Department of Mechanical Engineering, National Taiwan University, Taipei, Taiwan*

FR-08. Comparison of $La_{0.7}Ca_{0.3}MnO_3$ manganite bulk and nanometer-sized crystals' magnetic properties. *E. Rozenberg*[1], M. Tzindlekht[2], I. Felner[2], E. Sominski[3], A. Gedanken[3] and Y.M. Mukovskii[4] *1. Dept. of Physics, BGU of the Negev, Beer-Sheva, -, Israel; 2. The Racah Institute of Physics, The Hebrew University, Jerusalem, Israel; 3. Chemistry, Bar-Ilan University, Ramat-Gan, Israel; 4. Moscow Steel and Alloys Institute, Moscow, Russian Federation*

FR-09. Synchrotron radiation spectroscopy study of valence states and electronic structures of transition-metal ions in $Fe_{1-x}Cu_xCr_2S_4$ spinel sulfides. *J. Kang*[1,2], S.S. Lee[1], G. Kim[1], S.W. Han[2], S.J. Kim[3], C.S. Kim[3], J.Y. Kim[4], H.J. Shin[4] and B.I. Min[5] *1. Physics, The Catholic University of Korea, Bucheon, South Korea; 2. CSCMR, Seoul National University, Seoul, South Korea; 3. Physics, Kookmin University, Seoul, South Korea; 4. Pohang Accelerator Laboratory, Pohang, South Korea; 5. Physics, POSTECH, Pohang, South Korea*

FR-10. Spin-Polarised Transport and Evidence for Novel Spin Valve Behaviour in $YBa_2Cu_3O_{7-\delta}$/ $La_{2/3}Sr_{1/3}MnO_3$/$YBa_2Cu_3O_{7-\delta}$ Hybrid Structures. *G.A. Alvarez*[1], X. Wang[1] and S. Dou[1] *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia*

FR-11. Phase separation study on La0.67Ca0.33CoO3 based granular system. B. Fan[1], *Q. Li*[1], C. Wu[1], S. Wei[2] and F. Xu[2] *1. Department of Physics, Southeast University, Nanjing, China; 2. National SR laboratory, University of Sci & Tech of China, Hefei, Anhui, China*

FR-12. Contactless measurement of temperature dependent colossal magnetoresistance using the magnetorefractive effect. P.R. Abernethy[1], A.J. Vick[1], *S.M. Thompson*[1], J.A. Matthew[1] and P.J. Wright[1] *1. Physics, University of York, York, United Kingdom; 2. Micro Nanotechnology Labs, QinetiQ, Malvern, United Kingdom*

FR-13. Effects of oxygen deficiency on the magnetic orderings of Mn and Tb in Tb0.9Na0.1MnO2.9. *C. Yang*[1], W. Li[2], T. Chan[3], R. Liu[3] and M. Avdeev[4] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics, National Central University, Chung-Li, Taiwan; 3. Department of Chemistry and Center for Nano Storage Research, National Taiwan University, Taipei, Taiwan; 4. The Bragg Institute, Australian Nuclear Science and Technology Organization, Lucas Heights, NSW, Australia*

FR-14. Transport Properties of Epitaxial $La_{0.9}Hf_{0.1}MnO_3$ Thin Films. *L. Wang*[1] and J. Gao[1] *1. Physics Department, The University of Hong Kong, Hong Kong, China*

FR-15. Phase diagram and magnetic properties of the electron doped manganite $La_{1-x}Sn_xMnO_3$ *T. Cheng*[1], C. Hsieh[1], J. Lin[2], J. Lee[3], J. Chen[3], K. Wu[1], Z. Wen[1], Y. Guo[4] and J. Juang[1,4] *1. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan; 2. Institute of Physics, National Chiao Tung University, Hsinchu, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Department of Physics, National Taiwan Normal University, Taipei, Taiwan*

FR-16. Oxygen content and magnetic properties of $SrRuO_{3-\delta}$ thin films. *J. Sakai*[1], N. Ito[2], S. Ito[3], K. Takahashi[3] and H. Funakubo[3] *1. School of Materials Science, Japan Advanced Institute of Science and Technology, Ishikawa, Japan; 2. Center for Nano Materials and Technology, Japan Advanced Institute of Science and Technology, Ishikawa, Japan; 3. Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Japan*

FR-17. Epitaxial growth and magnetic response of $La_{0.9}Ba_{0.1}MnO_3$/Si heterojunctions. *F. Hu*[1] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China*

FR-18. The response of transport properties to static electric field in $La_{0.7}Ce_{0.3}$ MnO_3 epitaxial thin films. *J. Gao*[1] and F. Hu[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China*

FR-19. Inter comparison of the magneto transport of La2/3Ca1/3MnO3: Ag/In polycrystalline composites. *R. Tripaathi*[1], V.P. Awana[1], S. Balamurugan[2], H. Kishan[1] and E. Takayama-Muromachi[2] *1. Superconductivity and Cryogenics, NPL, New Delhi, India; 2. SMC, NIMS, Tsukuba, Japan*

WEDNESDAY AFTERNOON 1:00 GRAND BALLROOM

Session FS
BIOMEDICAL APPLICATIONS OF MAGNETIC MATERIALS (POSTER SESSION)

Mike Miller, Session Chair

FS-01. Hybridisation of electrodeposited magnetic multilayer micropillars. *J.J. Palfreyman*[1], F. van Belle[1], T. Mitrelias[1], W. Lew[1], A. Bland[1], M. Lopalco[2] and M. Bradley[2] *1. Department of Physics, Cambridge University, Cambridge, United Kingdom; 2. School of Chemistry, University of Edinburgh, Edinburgh, United Kingdom*

FS-02. Detection of Magnetic Nanoparticles and Red Blood Cell by Using a Highly Sensitive Spin Valve Bio-sensor. *S. Park*[1], K. Soh[1], M. Ahn[2], D. Hwang[2] and S. Lee[2] *1. School of Physics, Seoul National Univ., Seoul, South Korea; 2. Oriental and Western Medical Engineering, Sangji University, Wonju, South Korea*

FS-03. Using ferromagnetic beads and magnetic devices for detection of antibodies. *Z. Jiang*[1], J. Palfreyman[1], J. Llandro[1], T. Mitrelias[1] and J. Bland[1] *1. Department of Physics, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom*

FS-04. Comparison of micrometer sized and nanosized magnetic particles for cell labeling. J. Hsiao[1,2], M. Tai[3], C. Yang[1,2], S. Chen[4], J. Wang[1] and *H. Liu*[2] *1. Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; 2. Department of Medical Imaging, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan; 3. Department of Science Education, Taipei Municipal University of Education, Taipei, Taiwan; 4. Musculoskeletal Disease Center, J.L. Pettis VA Medical Center; Department of Biochemistry Loma Linda University, Loma Linda, CA, USA*

FS-05. Magnetic beads with high saturation magnetization. *Y. Kaneko*[1], T. Nakabayashi[1], H. Tokoro[1] and S. Fujii[1] *1. Advanced Electronics Research Laboratory, Hitachi Metals Ltd., Kumagaya, Japan*

FS-06. Magnetic gas sensing using $Sn_{0.95}Fe_{0.05}O_2$: A novel application of magnetic semiconductor nanoparticles. *K. Reddy*[1], J. Hays[1], A. Thurber[1] and A. Punnoose[1] *1. Physics Department, Boise State University, Boise, ID, USA*

FS-07. High Spatial Resolutional Measurements of Biomagnetic Field. *K. Iramina*[1] and S. Ueno[2] *1. Department of Inteligent Systems, Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Graduate School of Engineering, Kyushu University, Fukuoka, Japan*

FS-08. Factors Influencing the Demagnetization Process Applied to a Complex Ferromagnetic Structure. *F. Thiel*[1], A. Schnabel[1], S. Knappe-Grüneberg[1], D. Stollfuss[1] and M. Burghoff[1] *1. AG 8.2 Biosignals, Physikalisch-Technische-Bundesanstalt, Berlin, Germany*

FS-09. Synthesis of LDH-type clay substituted with Fe, Ni, and Co ion for arsenic removal and its application to magnetic separation. *H. Murase*[1] and A. Nakahira[1] *1. Osaka Pref Univ, Osaka, Japan*

FS-10. AC-susceptibility of a ferrofluid: Langevin dynamics simulations. *D.V. Berkov*[1], N.L. Gorn[1] and D. Stock[1] *1. Magnetic and Optical Systems, Innovent Technology Development, Jena, Germany*

FS-11. Miniaturization of Micro Implantable Devices with thermosensitive ferrite for Soft-Heating Hyperthermia. *T. Takura*[1], T. Maruyama[1], F. Sato[1], H. Matsuki[1], S. Aiba[2] and T. Sato[3] *1. Dept. of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Medical Sciences, Graduate School of Tohoku University, Sendai, Miyagi, Japan; 3. NEC TOKIN Corp., Sendai, Miyagi, Japan*

FS-12. Effect of intense magnetic fields on hydrogen-bonded networks in water molecules. *M. Iwasaka*[1] *1. Faculty of Engineering, Chiba University, Chiba, Japan*

FS-13. Field Induced Concentration of Magnetic Nanoparticles on Magnetically Patterned Substrates: Empirical and Theoretical studies. *R. Erb*[1] and B.B. Yellen[1] *1. Mechanical Engineering and Material Science, Duke University, Durham, NC, USA*

FS-14. Magnetic Tracking System for Monitoring Mechanical Heart Valve Prostheses. *J. Baldoni*[1] and B. Yellen[1] *1. Mechanical Engineering and Materials Science, Duke University, Durham, NC, USA*

WEDNESDAY AFTERNOON 1:00

GRAND BALLROOM

Session FT
MAGNETIC SEMICONDUCTORS (POSTER SESSION)

Brian Kirby, Session Chair

FT-01. Collectivization of Electronic Spin Distributions and Magneto-Electronic Properties of Small Atomic Clusters of Ga and In With As, V and Mn. *L.A. Pozhar*[1], M. Chshiev[1] and W.C. Mitchel[2] *1. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, USA; 2. Materials and Manufacturing Directorate, Air Force Research Laboratory, Wright-Patterson Air Force Base, OH, USA*

FT-02. Room-Temperature Ferromagnetic Ordering in (Mn, Fe)-doped ZnS Nanobelts. *W. Shim*[1], T. Kang[2], B. Kim[2] and W. Lee[1] *1. Department of Materials Science and Engineering, Yonsei University, Seoul, South Korea; 2. Department of Chemistry, KAIST, Daejeon, South Korea*

FT-03. Precise investigation of domain pining energy in GaMnAs using planar Hall effect and magnetoresistance measurement. *D. Shin*[1], S. Chung[1], S. Lee[1], X. Liu[2] and J.K. Furdyna[2] *1. physics, Korea University, Seoul, South Korea; 2. Physics, University of Notre Dame, Notre Dame, IN, USA*

FT-04. FMR study of Ga0.95Mn0.05As thin films with variable hole concentrations. *H.J. von Bardeleben*[1], K. Khazen[1], J.L. Cantin[1], L. Thevenard[2] and A. Lemaitre[2] *1. INSP, University Paris 6, Paris, France; 2. LPN, CNRS, Marcoussis, France*

FT-05. Determination of Mn acceptor compensation in MBE-grown GaMnAs via magnetic circular dichroism (MCD). *R. Chakarvorty*[1], Y.Y. Zhou[1], Y.J. Cho[1], X. Liu[1], J.K. Furdyna[1] and M. Dobrowolska[1] *1. Department of Physics, University of Notre Dame, Notre Dame, IN, USA*

FT-06. Effects of substrate orientation on the magnetic properties of (Ga,Mn)As. *J. Huang*[2,1], W. Lee[1], Y. Chen[2], B. Huang[2], T. Chin[2] and C. Kuo[3] *1. Materials Science Center, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan*

FT-07. Temperature dependence of magnetization in GaMnAs. *M. Sperl*[1], J. Sadowski[1,2], U. Wurstbauer[1], W. Wegscheider[1] and G. Bayreuther[1] *1. Institut für Experimentelle und Angewandte Physik, Universitaet Regensburg, Regensburg, Germany; 2. Institute of Physics, Polish Academy of Sciences, al Lotników 32/46, Warszawa, Poland*

FT-08. Growth and transport studies in M/I/*p*-SC magnetic tunnel diodes containing different tunnel barrier materials. *K.C. Agarwal*[1], H. Saito[1], S. Yuasa[1] and K. Ando[1] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan*

FT-09. In-plane magnetotransport properties of MnAs epitaxially grown on GaAs(001). *S. Cho*[1], H. Choi[1] and Y. Park[1] *1. CSCMR and Department of Physics & Astronomy, Seoul National University, Seoul, South Korea*

FT-10. Tunneling magnetoresistance and colossal electro-resistance in semiconductor heterostructure with ferromagnetic *MnAs* nanoclusters. *N. Pham*[1], M. Yokoyama[1], S. Ohya[1] and M. Tanaka[1,2] *1. Department of Electronic Engineering, The University of Tokyo, Bunkyo, Tokyo, Japan; 2. Japan Science and Technology Corporation, Kawaguchi, Saitama, Japan*

FT-11. Magnetic properties of Ge/MnAs digital heterostructure. *J. Lee*[1], M. Kim[2], J. Song[3], Y. Cui[3] and J.B. Ketterson[3] *1. Division of Electrical and Computer Engineering, Ajou University, Suwon, Gyunggi-do, South Korea; 2. BK21 Physics Research Division, Seoul National University, Seoul, South Korea; 3. Department of Physics and Astronomy, Northwestern University, Evanston, IL, USA*

FT-12. Magnetic properties of non-equilibrium Fe-Si thin films grown on Si. *J. Zhou*[1], M. Wong[2], M. Liu[2], E. Helgren[1], M. Islam[3], D. Smith[3] and F. Hellman[1] *1. Department of Physics, University of California, Berkeley, CA, USA; 2. Materials Science and Engineering, UCSD, La Jolla, CA, USA; 3. Center for Solid State Science, Arizona State University, Tempe, AZ, USA*

FT-13. Feasibility of ion implantation in the realization of group-IV Mn_xGe_{1-x} diluted magnetic semiconductor. L. Ottaviano[1], M. Passacantando[1], *A. Verna*[1], F. D'Orazio[1], F. Lucari[1], P. Parisse[1], S. Picozzi[1], R. Gunnella[2], G. Impellizzeri[3] and F. Priolo[3] *1. Dipartimento di Fisica, Università dell'Aquila, L'Aquila, Italy; 2. Dipartimento di Fisica, Università di Camerino, Camerino, Italy; 3. Dipartimento di Fisica e Astronomia, Università di Catania, Catania, Italy*

FT-14. Epitaxial growth and properties of ferromagnetic $Ge_{1-x}Fe_x$ thin films on Si (001). *Y. Shuto*[1], M. Tanaka[1,2] and S. Sugahara[3] *1. Department of Electronic Engineering, The University of Tokyo, Tokyo, Japan; 2. SORST, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan*

FT-15. Effects of the Ce Concentration and the Carrier Concentration on the Magnetic Properties of Low Temperature grown Si:Ce Thin Films. *T. Terao*[1], Y. Nishimura[1], D. Shindo[1] and N. Fujimura[1] *1. Graduate School of Engineering, Osaka Prefecture University, Sakai, Japan*

FT-16. Negative GMR effect in (Zn,Cr)Te/ Cu / Co Spin Valves. *W. Wang*[1], C. Ni[2], T. Moriyama[1], Q. Wen[3], H. Zhang[3] and J.Q. Xiao[1] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Materials Science and Engineering, University of Delaware, Newark, DE, USA; 3. School of Micro-electronic and Solid-electronic, University of Electronic Science and Technology of China, Chengdu, China*

WEDNESDAY AFTERNOON 1:00 — GRAND BALLROOM

Session FU
MOTORS I (POSTER SESSION)
David Arnold, Session Chair

FU-01. Novel Variable Reluctance (VR) Micro Motors: Concept, Simulation, Fabrication and Test. *M. Feldmann*[1] and S. Buettgenbach[1] *1. Institute for microtechnology, Braunschweig, Germany*

FU-02. Development of a New HDD Spindle Motor with High Stiffness and Damping Coefficients by Utilizing the Stationary Permanent Magnet. *G. Jang*[1] and C. Lee[1] *1. Dept. of Mechanical Engineering, PREM Lab., Hanyang University, Seoul, South Korea*

FU-03. Magneto-electro-dynamical modeling and design of a micro-speaker used for mobile phones with considerations of diaphragm corrugation and air closures. *P. Chao*[1], J. Huang[2] and H. Yuan[2] *1. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung-Yuan Christian University, Chung-Li, Taiwan*

FU-04. Fabrication and Evaluation of a Linear Hybrid Micro Step Motor. M. Hahn[1], M. Bedenbecker[1] and *H. Gatzen*[1] *1. Institute for Microtechnology, Garbsen, Germany*

FU-05. Pulse Magnetization Process and PM Rotor Design for Multi-Megawatt High-Speed Rotating Electric Machines. *C.M. Stephens*[1], S. Galioto[1], J. Yagielski[2], J. VanDam[1] and K. Weeber[1] *1. General Electric Global Research Center, Schenectady, NY, USA; 2. GE Energy, Generator Technology, Schenectady, NY, USA*

FU-06. Design of Toroidal Stator, Axial Flux Permanent Magnet Motor. *R.H. Patel*[1], P.R. Upadhyay[1] and J.G. Jamnani[1] *1. Electrical Engineering, Nirma Institute of Technology, Ahmedabad, Gujarat, India*

FU-07. Optimization of the Magnetic Pole Shape of a PM Synchronous Motor. *P. Zheng*[1], J. Wang[1] and B. Xue[1] *1. Dept. of Electrical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

FU-08. Lumped Modeling of Magnetic Actuator Using the Inverse Magnetostrictive Effect. *D. Sul*[1], Y. Park[1] and H. Park[1] *1. Mechatronics Engineering, Chungnam National University, Daejeon, South Korea*

FU-09. Study on magnetic circuit for stress-based magnetic force control using Iron-Gallium alloy. *T. Ueno*[1] and T. Higuchi[1] *1. University of Tokyo, Tokyo, Japan*

FU-10. Magnetic Field and Torque Analysis of the Four-Quadrant Transducer Used for Hybrid Electric Vehicle. *P. Zheng*[1], R. Liu[1], J. Zhao[1] and Q. Wu[1] *1. Dept. of Electrical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

FU-11. Analysis of the starting torque of a long skewed-rotor induction motor for pump applications. *D.G. Dorrell*[1], P.J. Holik[1] and C.B. Rasmussen[2] *1. Dept of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom; 2. Grundfos Management A/S, Bjerringbro, Denmark*

FU-12. Decreasing the Rotor Eddy-Current Losses of a Medium-Speed Solid-Rotor Induction Motor. *T. Aho*[1], J. Nerg[1] and J. Pyrhonen[1] *1. Department of Electrical Engineering, Lappeenranta University of Technology, Lappeenranta, Finland*

FU-13. Fault Analysis of a DSPM Motor Drive by Using Transient Co-simulation of Magnetic and Electrical Circuits. W. Zhao[1,2], *M. Cheng*[1], W. Hua[1], X. Zhu[1,2] and J. Zhang[1] *1. Deapt. of Electrical Engineering, Southeast University, Nanjing, China; 2. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China*

FU-14. Optimization of Electromagnetic vibrational generator with voltage conversion. *C.R. Saha*[1], T. O'Donnell[1], J. Godsell[1], L. Carlioz[1], S. Beeby[2] and J. Tudor[2] *1. PEI, Tyndall National Institute, Cork, Ireland; 2. Electronic and Computer Science, University of Southampton, Southampton, United Kingdom*

FU-15. Comparing dynamic hysteresis models for further Finite Element Analysis. *V.G. Mazauric*[1,4], D. Ladas[1,3], P.F. Wendling[2] and G.J. Meunier[3] *1. Corporate Research and Development, Schneider Electric, Grenoble, France; 2. Magsoft Corporation, Ballston Spa, NY, USA; 3. Laboratoire d'Electrotechnique de Grenoble, CNRS, Saint Martin d'Hères, France; 4. Centre de Mathématiques Appliquées, Ecole des Mines de Paris, Sophia-Antipolis, France*

WEDNESDAY AFTERNOON 1:00 — GRAND BALLROOM

Session FV
ITINERANT MAGNETISM (POSTER SESSION)

Johan Van Lierop, Session Chair

FV-01. Effect of pressure on the itinerant ferromagnet CoS_2: a first principle study. *X. Liu*[1] and Z. Altounian[1] *1. physics department, McGill University, Montreal, QC, Canada*

FV-02. Effect of pressure on the magnetic and magnetocaloric properties of $Er(Co,Si)_2$ compounds. *N.K. Singh*[1], P. Kumar[1], K.G. Suresh[1], A.K. Nigam[2], A.A. Coelho[3] and S. Gama[3] *1. Physics, I.I.T. Bombay, Mumbai, Maharastra, India; 2. Tata Institute of Fundamental Research, Mumbai, Maharastra, India; 3. Instituto de Física "Gleb Wataghin," Universidade Estadual de Campinas-UNICAMP, C.P. 6165, Campinas 13 083 970,, Sao Paulo, Brazil*

FV-03. Strongly Enhanced Thermal Expansion of Low Dimensional Itinerant Weak Antiferromagnets near the Quantum Critical Points. *R. Konno*[1], Y. Takahashi[2] and H. Nakano[2] *1. General Education, Kinki University Technical College, Kumano-shi, Mie 519-4395, Japan; 2. Graduate School of Science, University of Hyougo, Ako, Hyogo 678-1297, Japan*

FV-04. Magnetic properties of alloys in the series $(Fe_{1-x}Co_x)_2P$. *S. Kumar*[1], A. Krishnamurthy[2] and B.K. Srivastava[2] *1. Department of Physics, ML Sukhadia University, Udaipur, Raj., India; 2. Department of Physics, University of Rajasthan, Jaipur, Raj., India*

FV-05. ISOTOPE EFFECT ON THE METAMAGNETIC TRANSITIONS IN RFe2(H,D)4.2 COMPOUNDS (R=Y, Tb). T. Leblond[1], V. Paul-Boncour[1] and *M. Guillot*[2] *1. LCMTR, CNRS, THIAIS, 94320 Cedex, France; 2. CNRS/MPI, GRENOBLE Cedex 9, France*

FV-06. "Powder neutron diffraction evidence for enhanced inter plane magnetic coupling in La1.2Sr1.8Mn2-xRuxO7 layered manganites" S.S. Manoharan[1,2], *B. Singh*[1] and R.K. Sahu[2,3] *1. Chemistry, Indian Institute of Technology Kanpur, Kanpur, India; 2. Center for Superconductivity, University of Maryland, Maryland, MD, USA; 3. National Metallurgical Laboratoory, Jamshedpur, Jharkhand, India*

FV-07. Ferromagnetism above the Gd Curie Temperature in $Gd_{100-x}Fe_x$ (x = 0 to 10) Nanostructures. *D. Schmitter*[1], J. Goertzen[2], G. Shelburne[1], T.M. Pekarek[3], J.E. Shield[2], P.M. Shand[4], D. Haskel[5] and D.L. Leslie-Pelecky[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska Lincoln, Lincoln, NE, USA; 2. Department of Mechanical Engineering and Nebraska Center for Materials and Nanoscience, University of Nebraska Lincoln, Lincoln, NE, USA; 3. Department of Chemistry and Physics, University of North Florida, Jacksonville, FL, USA; 4. Department of Physics, University of Northern Iowa, Cedar Falls, IA, USA; 5. Advanced Photon Source, Argonne National Lab, Argonne, IL, USA*

FV-08. Role of orbital degeneracy in Itinerant Ferromagnetism. P. Dua[1] and *I. Singh*[2] *1. AMITY Centre for Vacuum & Advanced Technologies, Amity University (U.P.), Noida-201301, Uttar Pradesh, India; 2. Physics Department, Indian Institute of Technology, Roorkee, Roorkee-247667, Uttaranchal, India*

FV-09. First-principles studies of spin disorder resistivity of Fe and Ni. *A.L. Wysocki*[1], K.D. Belashchenko[1], J.P. Velev[1] and M. van Schilfgaarde[2] *1. Department of Physics and Astronomy, University of Nebraska Lincoln, Lincoln, NE, USA; 2. Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ, USA*

FV-10. Dynamical spin-susceptibility of itinerant heavy electrons with nested Fermi surface. *P.U. Schlottmann*[1] *1. Department of Physics, Florida State University, Tallahassee, FL, USA*

FV-11. Enhanced magnetocapacitance in a metal-oxide-metal junction system. *K. Kim*[1], B. Kim[1] and B. Min[1] *1. Physics, POSTECH, Pohang, Kyungbuk, South Korea*

WEDNESDAY AFTERNOON 1:00 GRAND BALLROOM

Session FW
PERMANENT MAGNET MOTORS II (POSTER SESSION)
David Howe, Session Chair

FW-01. Performance of a High-Speed Permanent Magnet Synchronous Generator considering the Min-Max Operating Speed. *H. Cho*[1], K. Ko[1], S. Jang[1] and W. Oh[2] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea; 2. Kyongju Aerospace Electrical Systems Co.,Ltd., Kyongju, South Korea*

FW-02. Characteristics Regulation for Manufacture of Permanent-Magnet Motors Using Post-Assembly Magnetization. *M. Hsieh*[1] and Y. Hsu[1] *1. Systems and Naval Mechatronic Eng., National Cheng Kung University, Tainan, Taiwan*

FW-03. Investigation on End Winding Inductance in Stators of Permanent-Magnet Motors. *M. Hsieh*[1], Y. Hsu[1] and K. Hu[1] *1. Systems and Naval Mechatronic Eng., National Cheng Kung University, Tainan, Taiwan*

FW-04. An Application of Response Surface Method to Magnet Optimization of 5 MW BLDC Motor with Design Sensitivity Analysis. *P. Shin*[1], C. Koh[2] and G. Chung[1] *1. Eelectrical Engineering, Hongik University, Jochiwon, Chungnam, South Korea; 2. Electrical Engineering, Chugbuk University, Cheongju, Chungbuk, South Korea*

FW-05. The study on the characteristics of pole arc and salient pole ratio to improve torque performance of IPMSM. *K. Kim*[1] and J. Lee[1] *1. Dept. of electrical engineering, hanyang university, seoul, South Korea*

FW-06. Design and Analysis of a High-Speed BLDC Motor for Centrifugal Compressor. S. Jang[1], *H. Cho*[1] and S. Choi[2] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea; 2. KIMM, Daejeon, South Korea*

FW-07. Analysis on the Rotor Losses in High-Speed Permanent Magnet Synchronous Motor according to the Cooling Condition. *H. Cho*[1], J. Choi[1], D. You[1] and S. Jang[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

FW-08. Characteristic Analysis of Permanent Magnet Type Step Motor with claw poles by using 3 dimensional Finite Element Method. *D. Jung*[1] and J. Lee[1] *1. Hanyang university, Seoul, South Korea*

FW-09. Application of Polar Anisotropic Sintered NdFeB Ring-type Permanent Magnet to Brushless DC Motor. *H. Kim*[1], D. Kim[1] and C. Koh[2] *1. R&D, Jahwa Electronics, Cheongju, Chungbuk, South Korea; 2. School of ECE, Chungbuk National University, Cheongju, Chungbuk, South Korea*

FW-10. Effect of Radial Magnetic Forces in Permanent Magnet Motors with Rotor Eccentricity. J. Li[1], *Z. Liu*[2] and L. Nay[2] *1. ECE, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

FW-11. A Highly Efficient 200,000 RPM Motor System for Cryogenic Cooling Applications. L. Zhao[2], *C. Ham*[1], L. Zheng[3], T. Wu[1], K. Sundaram[1], J. Kapat[1] and L. Chow[1] *1. University of Central Florida, Orlando, FL, USA; 2. Siemens, Columbia, SC, USA; 3. Inc, LA, CA, USA*

FW-12. A study on the magnetic shield between permanent magnet motor and sensor for hybrid electric vehicle. *K. Kim*[1] and J. Lee[1] *1. Dept. of electrical engineering, hanyang university, seoul, South Korea*

FW-13. Torque Ripple Reduction of Permanent Magnet Spherical While Motor. *S. Won*[1] and J. Lee[1] *1. Electrical Eng., Hanyang University, Seoul, South Korea*

FW-14. Analysis of the claw pole alternator using a Coupled-Circuit Model considering 3D Fourier-series and 3D Finite Element Method. *S. Lim*[1], S. Ham[1] and J. Lee[1] *1. electrical engineering, Hanyang University, Seoul, South Korea*

FW-15. Magnetic bearing design for a 100kWh flywheel energy storage system. *M.D. Noh*[1], S. Mo[1], S. Yoo[1], S. Choi[2], J. Lee[3] and Y. Han[3] *1. Mechatronics Engineering, Chungnam National University, Daejeon, South Korea; 2. Korea Institute of Machinery and Materials, Daejeon, South Korea; 3. Korea Electric Power Research Institute, Daejeon, South Korea*

WEDNESDAY AFTERNOON 1:00 GRAND BALLROOM

Session FX
RECORDING MEDIA AND SYSTEM INTEGRATION (POSTER SESSION)
Bill Higgins, Session Chair

FX-01. Pt content dependence of the switching field distributions of $CoPtCr\text{-}SiO_2$ perpendicular media characterized by subtracting the effect of thermal agitation. T. Shimatsu[1], *T. Kondo*[1], K. Mitsuzuka[1], S. Watanabe[2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. Fuji Electric AT Co., Ltd., Matsumoto, Japan*

FX-02. Interfacial exchange coupling and magnetization reversal for Co-SiO_2/(Co-Pt)-SiO_2 hard/soft-stacked perpendicular media. *T. Shimatsu*[1], Y. Inaba[1], S. Watanabe[2], O. Kitakami[3], S. Okamoto[3], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. Fuji Electric AT Co., Ltd., Matsumoto, Japan; 3. IMRAM, Tohoku University, Sendai, Japan*

FX-03. Magnetic anisotropy of Co-M-Pt (M=Cr, Mo, Ru, W, Re) perpendicular films epitaxially deposited on various seed layers materials. *H. Sato*[1], T. Shimatsu[1], Y. Okazaki[1], O. Kitakami[2], S. Okamoto[2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. IMRAM, Tohoku University, Sendai, Miyagi, Japan*

FX-04. Exchange coupled composite media with the soft layer below the hard layer for CoCrPt:SiO_2 perpendicular recording media. *J. Shi*[1], L. Qiu[2], S. Piramanayagam[1], J. Zhao[1], C. Mah[1], C. Ong[1], J. Chen[1] and J. Ding[2] *1. Spintronics, Media and Interface, Data Storage Institute, singapore, Singapore; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

FX-05. Microstructure analysis of (001) oriented $L1_0$ FePt on NiTa seed layer exposed to O_2. *T. Seki*[1], Y.K. Takahashi[2], K. Hono[2,1], T. Maeda[3] and A. Kikitsu[3] *1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Corporate RD Center, Toshiba Corp., Kawasaki, Japan*

FX-06. Magnetic behaviors of (FePt-MgO)/Pt(001)/Cr(002) trilayers as the percolated perpendicular recording medium. A. Sun[1], J. Hsu[1], P. Kuo[2], *Y. Tsai*[2] and H. Huang[1] *1. Department of Physics and Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 2. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan*

FX-07. Noise reduction of the electroless plated soft magnetic under layers by annealing in a magnetic field. *M. Ito*[1], Y. Hamaguchi[1], Y. Takai[1] and K. Ohashi[1] *1. Magnetic Materials Research Center, Shin-Etsu Chemical Co., Ltd., Echizen, Fukui, Japan*

FX-08. A new stacked structure for high density perpendicular recording media. *J. Ariake*[1], S. Watanabe[1] and N. Honda[1] *1. Akita Prefectural R&D Center, Akita, Japan*

FX-09. Fabrication of $SmCo_5$ double-layered perpendicular magnetic recording media. *J. Sayama*[1], Y. Yamashita[1], T. Asahi[1,2] and T. Osaka[1] *1. Graduate School of Science and Engineering, Waseda University, Shinjuku, Tokyo, Japan; 2. Consolidated Research Institute for Advanced Science and Medical Care (ASMeW), Waseda University, Shinjuku, Tokyo, Japan*

FX-10. High anisotropy Y-Co films on thin Cu underlayer. *Y. Kubota*[1], Y. Fu[2], X. Wu[1] and T. Ambrose[1] *1. Seagate Research, Seagate Technology, LLC, Pittsburgh, PA, USA; 2. Department of materials science and engineering, Vanderbilt University, Nashville, TN, USA*

FX-11. Guideline for selecting materials of nonmagnetic intermediate layer for granular-type perpendicular recording media. *S. Saito*[1], A. Hashimoto[1], N. Itagaki[1] and M. Takahashi[1] *1. Electronic engineering, Tohoku university, Sendai, Miyagi, Japan*

FX-12. Exchange Coupled Soft Under Layer for Perpendicular Recording. *K. Gao*[1], F. Liu[1], C. Mathieu[1] and S. Mao[1] *1. Seagate Technology, Bloomington, MN, USA*

FX-13. Control of M-H Loop Shape in Perpendicular Recording Media by Ion Implantation. *C. Choi*[1,2], D. Hong[1], A.I. Gapin[1,2] and S. Jin[1,2] *1. Center for Magnetic Recording Research, University of California at San Diego, La Jolla, CA, USA; 2. Material Science & Engineering, University of California at San Diego, La Jolla, CA, USA*

FX-14. Written Transition Curvature Analysis at Ultra-High Linear Density. *S. Li*[1], C. Rea[1], K. Gao[1], N. Tebat[1] and M. Montemorra[1] *1. RSO, Seagate Technology Inc, Bloomington, MN, USA*

FX-15. PES Generation and Evaluation for High Density Perpendicular Recording with Microtrack Simulation. *S. Zhang*[1] and W. Wong[1] *1. Mechatronics and Recording Channel Division, Data Storage Institute, Singapore, Singapore*

WEDNESDAY AFTERNOON 1:00 — GRAND BALLROOM

Session FY
RECORDING MODELING AND NOISE (POSTER SESSION)

Shaoping Li, Session Chair

FY-01. Recording Simulation of Patterned Media toward 2 Tbit/in^2 *N. Honda*[1], K. Yamakawa[1] and K. Ouchi[1,2] *1. AIT, Akita Prefectural R & D Center, Akita, Akita, Japan; 2. Faculty of Systems Science and Technology, Akita Prefectural University, Yurihonjo, Akita, Japan*

FY-02. An Analytical Solution of Read Sensor Response for Perpendicular Recording. *Z. Liu*[1], J.T. Li[1,2] and K.S. Chai[1] *1. Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore*

FY-03. Multi-level Magnetic Recording System. *N. Amos*[2], R. Ikkawi[2], A. Lavrenov[2], R. Chomko[1,2], D. Litvinov[3] and S. Khizroev[1,2] *1. Electrical Engineering, University of California, Riverside, Riverside, CA, USA; 2. Center for Nanoscale Magnetic Devices, Florida International University, Miami, FL, USA; 3. Electrical and Computer Engineering, University of Houston, Houston, TX, USA*

FY-04. Two-dimensional data detection for probe recording on patterned media. *H. Groenland*[1] and L. Abelmann[1] *1. Mesa+ Institute for Microsystems and Nanotechnology, SMI, University of Twente, EWI, P.O. Box 217, NL-7500 AE Enschede, Netherlands*

FY-05. Micro-track calculation of CPP-type read head with an arbitrary magnetic shield shape. *M. Hatatani*[1], N. Miyamoto[1] and Y. Suzuki[2,3] *1. Head Advanced Technology, Hitachi Global Storage Technologies Japan, Odawara-shi, Kanagawa-ken, Japan; 2. RIEC, Tohoku University, Sendai-shi, Miyagi-ken, Japan; 3. Central Research Laboratory, Hitachi Ltd, Kokubunji, Tokyo, Japan*

FY-06. Optimum Design of Discrete Track Media based on Accurate Off-Track Noise Profile. *H. Tanabe*[1], J. Ohno[1] and T. Hamaguchi[1] *1. Hitachi Global Storage Technologise Japan, Ltd., Odawara-shi, Kanagawa-ken, Japan*

FY-07. Simulation and Stability Analysis of Current and Transverse Field Effects on Spin Transfer Noise. *L. Wang*[1], G.C. Han[1], Y.K. Zheng[1] and B. Liu[1] *1. Data Storage Institute, Singapore, Singapore*

FY-08. Glitch Measurements to Determine Instability Issues in Magnetoresistive Devices. *H. Xi*[1], B. Xu[1], J. Loven[1], R. Netzer[1], J.I. Guzman[1], S. Franzen[1] and S. Mao[1] *1. Advanced Transducer Development, Seagate Technology, Bloomington, MN, USA*

FY-09. High-frequency magnetic noise in tunneling magnetoresistive heads. *G. Han*[1], B. Zong[1], S. Tan[1], L. Wang[1], L. Gonzaga[1] and B. Liu[1] *1. Data Storage Institute, Singapore, Singapore*

FY-10. Distributions of magnetic resonant frequencies and phases in TMR heads. *J. Masuko*[1], H. Akimoto[1], M. Matsumoto[1], H. Kanai[1] and Y. Uehara[1] *1. Advanced Head Technology, Fujitsu Limited, Nagano, Japan*

THURSDAY MORNING 9:00 HARBORSIDE C

Session GA
SYMPOSIUM ON DRIVEN DOMAIN WALL DYNAMICS IN NANOSTRUCTURES

Jordan Katine, Session Chair

9:00

GA-01. Current induced motion of magnetic domain walls along permalloy nanowires: application to Magnetic Racetrack storage-memory. ***(Invited)*** *S. Parkin*[1] *1. IBM Almaden Research Center, San Jose, CA, USA*

9:36

GA-02. Domain Wall Assisted Magnetic Recording. ***(Invited)*** *A. Dobin*[1] and H.J. Richter[1] *1. Seagate Technology, Fremont, CA, USA*

10:12

GA-03. Vortex dynamic interactions and nonlinear excitations in patterned ferromagnets. ***(Invited)*** *K. Buchanan*[1], M. Grimsditch[1], F. Fradin[1], P. Roy[2], K. Guslienko[1], S. Bader[1] and V. Novosad[1] *1. Argonne National Laboratory, Argonne, IL, USA; 2. Uppsala University, Uppsala, Sweden*

10:48

GA-04. Microscopic Theory of Current-Driven Domain Wall Dynamics. ***(Invited)*** *G. Tatara*[1,2], H. Kohno[3] and J. Shibata[4] *1. Department of Physics, Tokyo Metropolitan University, Tokyo, Japan; 2. PRESTO, JST, Saitama, Japan; 3. Graduate School of Engineering Science, Osaka University, Osaka, Japan; 4. Frontier Research System, The Institute of Physical and Chemical Research (RIKEN), Saitama, Japan*

11:24

GA-05. Theory and simulation of current-driven domain wall dynamics. ***(Invited)*** *S. Zhang*[1] and J. He[1] *1. Physics, University of Misssouri-Columbia, Columbia, MO, USA*

THURSDAY MORNING 9:00 HARBORSIDE A

Session GB
CPP-TMR & GMR READ HEADS

Satoru Araki, Session Chair

9:00

GB-01. Comparison of Edge Damage in CIP, TMR, and CPP-GMR Sensors. *J. Katine*[1], J.R. Childress[1], M.J. Carey[1], S. Maat[1] and D. Mauri[2] *1. SJ Research, Hitachi GST, San Jose, CA, USA; 2. Ad Tech, Hitachi GST, San Jose, CA, USA*

9:12

GB-02. Study of very narrow track TMR read heads. *K. Mackay*[1], C. Tsang[1], M. Cyrille[1], K. Carey[1], A. Marley[2], S. Kiselev[2], D. Mauri[2], J. Moore[1], H. Nguyen[1], J. Piggott[2] and D. Werner[2] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. H/M Business Unit, Hitachi Global Storage Technologies, San Jose, CA, USA*

9:24

GB-03. Mag-Noise and Design Concerns of Tunneling Magnetoresistive Heads. *J. Zhu*[1], N. Kim[2] and V.J. Yusz[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Samsung Electronics, San Jose, CA, USA*

9:36

GB-04. Thermally excited low frequency magnetization switching in TMR and CPP GMR heads. ***(Invited)*** *Y. Zhou*[1] *1. R&D, Headway Technology, Milpitas, CA, USA*

10:12

GB-05. Highly sensitive long-height reader with toggle mode. *Y. Zheng*[1], G. Han[1], K. Li[1], J. Qiu[1], Z. Guo[1], P. Luo[1], L. An[1], S. Tan[1], Z. Liu[1], L. Wang[1], B. Zong[1] and B. Liu[1] *1. Spintronics, Media and Interface Division, Data Storage Institute, Singapore, Singapore*

10:24

GB-06. IS ELECTRICAL 1/F NOISE IN TMR HEADS EQUILIBRIUM NOISE? *K.B. Klaassen*[1] and A.M. Taratorin[1] *1. Recording Physics, Hitachi San Jose Research, San Jose CA, CA, USA*

10:36

GB-07. Spin torque induced noise effect in TMR Head. *E. Kim*[1], S.C. Lee[1] and K. Sunwoo[1] *1. Semiconductor Material and Device Lab., Samsung Advenced Institute of Technology, Yongin, Kyoungki-Do, South Korea*

10:48

GB-08. Study on the relationship between Cu-AlOx NOL morphology and CCP effect upon CPP-GMR. *K. Miyake*[1], S. Nou[1], S. Kawasaki[1], M. Doi[1] and M. Sahashi[1] *1. Dept. of Electronic Engineering, Graduate School of Engineering, TOHOKU University, Sendai, Japan*

11:00

GB-09. Annealing effect on crystalline structure of current screen layer for CPP-GMR. *K. Hoshino*[1], H. Hoshiya[1] and Y. Okada[1] *1. Central Research Laboratory, Hitachi, Ltd., Odawara-shi, Japan*

11:12

GB-10. Control of Cu confined current paths in CCP-CPP-GMR spin valves by rapid thermal annealing. *S. Gupta*[1,2], Z.R. Tadisina[1,2], C. Papusoi[2,3], H. Fujiwara[2,3], J. Zhong[1,2] and R.K. Pandey[1,2] *1. Metallurgical and Materials Engineering, The University of Alabama, Tuscaloosa, AL, USA; 2. MINT, The University of Alabama, Tuscaloosa, AL, USA; 3. Physics and Astronomy, The University of Alabama, Tuscaloosa, AL, USA; 4. Electrical and Computer Emgineering, The University of Alabama, Tuscaloosa, AZ, USA*

THURSDAY MORNING 9:00 HARBORSIDE B

Session GC
NANOPARTICLE ARRAYS II
Valentyn Novosad, Session Chair

9:00

GC-01. Self-assembled magnetic nanoclusters and cluster arrays. *A. Enders*[1], J. Zhang[1], V. Sessi[1], D. Repetto[1], J. Honolka[1] and K. Kern[1] *1. Max Planck Institute for Solid State Research, Stuttgart, Germany*

9:12

GC-02. Array Formation and Size Effects in Chemically Synthesized FePt Nanoparticles. *L. Colak*[1] and G.C. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA*

9:24

GC-03. Magnetic Properties of Self-organized nanodot Arrays. C. Kim[1], *H. Zeng*[1], S. Greenbaum[2], J. Flowers[2], Y. Ren[2], Z. Li[3], Y. Sui[3] and D.J. Sellmyer[3] *1. Department of Physics, University at Buffalo, SUNY, Buffalo, NY, USA; 2. Department of Physics and Astronomy, Hunter College, City University of New York, New York, NY, USA; 3. Department of Physics and Astronomy and NCMN, University of Nebraska, Lincoln, NE, USA*

9:36

GC-04. MAGNETOTRANSPORT IN MAGNETIC NANOPARTICLE 3D SUPER-LATTICES. ***(Invited)*** *T. Reasmey*[1], C. Julian[1], D. Céline[2,3], G. Jérémie[1], R. Philippe[2], C. Bruno[3] and R. Marc[1] *1. Laboratoire de Nanophysique Magnétisme et Optoélectronique INSA, Toulouse, France; 2. Freescale Semiconductor, Toulouse, France; 3. Laboratoire de Chimie de Coordination, Toulouse, France*

10:12

GC-05. Ferromagnetic Nanotubes by ALD Coatings of Al_2O_3 Membranes. *K. Nielsch*[1], M. Daub[1], M. Knez[1], J. Bachmann[1] and U. Gösele[1] *1. Max Planck Institute of Microstructure Physics, Halle, Germany*

10:24

GC-06. Synthesis and magnetic properties of self-organized FeRh nanoparticles. *Y.Y.K. Hnin*[1] and T. Suzuki[1] *1. Toyota Technological Institute, Nagoya, Japan*

10:36

GC-07. Microstructures and magnetic alignment of $L1_0$ FePt nanoparticles. *S. Kang*[1], S. Shi[1], Z. Jia[1], G.B. Thompson[1], D.E. Nikles[1], J.W. Harrell[1], D. Li[2], N. Poudyal[2] and J.P. Liu[2] *1. MINT Center, The University of Alabama, Tuscaloosa, AL, USA; 2. Physics Department, University of Texas at Arlington, Arlington, TX, USA*

10:48

GC-08. Angular Dependence of the Magnetostatic Interaction in Arrays of Magnetic Nanostructures. *M.A. Bolte*[1], H. Ziehlke[1], R. Eiselt[1], G. Meier[1], D. Kim[2] and P.J. Fischer[2] *1. Institute of Applied Physics and Center for Microstructure Research, University of Hamburg, Hamburg, Germany; 2. Center for X-ray Optics, LBL, Berkeley, CA, USA*

11:00

GC-09. Study of demagnetization protocols for frustrated interacting nanomagnet arrays. R.F. Wang[1], J. Li[1], W. McMconville[1], C. Nisoli[1], P. Lammert[1], V.H. Crespi[1] and *P. Schiffer*[1] *1. physics and materials research institute, penn state univ, University Park, PA, USA*

11:12

GC-10. Size and material dependence of in-plane and out-of-plane magnetic configurations in nanodots. *I.V. Roshchin*[1], C. Li[1], X. Batlle[2], R.K. Dumas[3], K. Liu[3], J. Mejia Lopez[4], D. Altbir[5], A.H. Romero[6] and I.K. Schuller[1] *1. Physics Department, University of California - San Diego, La Jolla, CA, USA; 2. Dept. de Fisica Fonamental, U. Barcelona, Barcelona, Catalonia, Spain; 3. Physics Dept., UC Davis, Davis, CA, USA; 4. Facultad de Fisica, Pontificia U. Católica de Chile, Santiago, Chile; 5. Dept. de Fisica, U. de Santiago, Santiago, Chile; 6. CINVESTAV, U. Querètaro, Querètaro, Mexico*

11:24

GC-11. Size Distributions of FePtAu Nanoparticles from Small Angle Neutron Scattering. *V.V. Krishnamurthy*[1], Z. Jia[2], D. Reed[2], M. Mandal[2], J.W. Harrell[2], D.E. Nikles[2], G.J. Mankey[2] and L. Porcar[3] *1. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. Center for Materials for Information Technology, The University of Alabama, Tuscaloosa, AL, USA; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA*

11:36

GC-12. Anisotropy of precessional dynamics in nanoscale magnetic elements. *V.V. Kruglyak*[1], P.S. Keatley[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, USA*

11:48

GC-13. In-plane reversible and irreversible magnetization reversal of ferromagnetic soft nanowire arrays. *F. Béron*[1], L. Clime[2], M. Ciureanu[1], D. Ménard[1], R.W. Cochrane[3] and A. Yelon[1] *1. Engineering Physics, École Polytechnique de Montréal, Montréal, QC, Canada; 2. NRC - Industrial Material Institute, Boucherville, QC, Canada; 3. Physics, Université de Montréal, Montréal, QC, Canada*

THURSDAY MORNING 9:00 — HARBORSIDE D

Session GD
HALF-METALLIC FERROMAGNETS II
Chris Leighton, Session Chair

9:00

GD-01. Experimental evidence of the depth dependence of the spin-polarization in Co2MnGe thin film Heusler alloys. *V. Baltz*[1], A. Hindmarch[1], A. Naylor[1], A. Walton[1], C. Allen[1], B. Hickey[1], K. Westerholt[2] and H. Zabel[2] *1. Condensed matter group, University of Leeds, Leeds, United Kingdom; 2. Department of Physics, Ruhr-University Bochum, Bochum, Germany*

9:12

GD-02. Oscillatory Interlayer Coupling in Epitaxial $Co_2MnSi/Cr/Co_2MnSi$ Trilayers. *H. Wang*[1], A. Sato[1], K. Yakushiji[2], K. Saito[1], S. Mitani[1] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan; 2. Nanoelectronics Research Institute(NeRI), National Institute of Andvanced Industrial Sciences and Technology (AIST), 1-1-1 Umezono, Tsukuba 305-8568, Japan*

9:24

GD-03. Theoretical Modeling of Half-metallic CPP Spin Valves. S. Tan[1], *M. Jalil*[2], S. Kumar[1,2], K. Li[1], Y. Zheng[1] and G. Han[1] *1. Data Storage Institute, Singapore, Singapore; 2. ISML, ECE, National University of Singapore, Singapore, Singapore*

9:36

GD-04. Properties of quaternary half metal-type Heusler compounds $Co_2Mn_{1-x}Fe_xSi$: Tuning the Fermi energy. ***(Invited)*** *C. Felser*[1], B. Balke[1] and K. Kobayashi[2] *1. Institute of Inorganic Chemistry, University of Mainz, Mainz, Germany; 2. Japan Synchrotron Radiation Research Institute (SPring-8/JASRI),, Hyogo, Japan*

10:12

GD-05. Structural and magneto-transport characterization of $Co_2Cr_{0.6}Fe_{0.4}Al$ Heusler alloy films. *D. Rata*[1], H. Braak[1], D.E. Bürgler[1], S. Cramm[1] and C.M. Schneider[1] *1. Institut für Festkörperforschung, Forschungszentrum Jülich GmbH, D-52425 Jülich, Germany*

10:24

GD-06. Spinpolarization of Ni_2MnIn and $Ni_{80}Fe_{20}$ determined by point-contact Andreev spectroscopy. *L. Bocklage*[1], J.M. Scholtyssek[1], U. Merkt[1] and G. Meier[1] *1. University of Hamburg, Hamburg, Hamburg, Germany*

10:36

GD-07. High spin polarization in a two phase quaternary Heusler alloy $Co_2MnAl_{1-x}Sn_x$. *A. Rajanikanth*[1,2], Y.K. Takahashi[2] and K. Hono[2,1] *1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba 305-0047, Ibaraki, Japan; 2. Magentic Materials Center, National Insitute for Materials Scinece (NIMS), Tsukuba 305-0047, Ibaraki, Japan*

10:48

GD-08. Electronic and magnetic structure of CrO_2-RuO_2 interfaces. *K.B. Chetry*[1,4], H. Sims[2], W.H. Butler[1,4] and A. Gupta[3,4] *1. Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 2. Physics, Tulane University, New Orleans, LA, USA; 3. Chemistry and Chemical Engineering, University of Alabama, Tuscaloosa, AL, USA; 4. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, USA*

11:00

GD-09. Magneto-transport in single crystal Fe3O4/MgO/Co magnetic tunnel junctions. F. Greullet[1], *E. Snoeck*[2], C.V. Tiusan[1], F. Montaigne[1], G. Lengaigne[1], L. Calmels[2], B. Warot[2] and M. Hehn[1] *1. Nancy University, CNRS, Institut de Physique des Materiaux, Vandoeuvre les Nancy, Lorraine, France; 2. CEMES, Toulouse, France*

11:12

GD-10. Dependence of magnetoresistance characteristics of magnetic tunnel junctions with a Heusler alloy thin film of either Co_2MnGe or Co_2MnSi on film composition. *S. Hakamata*[1], T. Ishikawa[1], T. Marukame[1], K. Matsuda[1], T. Uemura[1], M. Arita[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

11:24

GD-11. Growth and Characterization of $CuCr_2Se_4$ Thin Films. *J. Bettinger*[1], R.V. Chopdekar[1,2], M. Liberati[3,4], J.R. Neulinger[5], Y. Takamura[1], L.M. Alldredge[1,2], E. Arenholz[4], M. Chshiev[6], W.H. Butler[6,7], Y.U. Idzerda[3], A.M. Stacy[5] and Y. Suzuki[1] *1. Materials Science and Engineering, UC Berkeley, Berkeley, CA, USA; 2. Applied Physics, Cornell University, Ithaca, NY, USA; 3. Physics, Montana State University, Bozeman, MT, USA; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 5. Chemistry, UC Berkeley, Berkeley, CA, USA; 6. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 7. Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA*

11:36

GD-12. Element Specific Investigation of Ultra-Thin Co_2MnGa/GaAs Heterostructures. *J.S. Claydon*[1], S. Hassan[1], C.D. Damsgaard[2], J. Bindslev Hansen[3], Y.B. Xu[1] and G. van der Laan[4] *1. Electronics Department, University of York, York, United Kingdom; 2. Department of Micro and Nanotechnology, Technical University of Denmark, Lyngby, Denmark; 3. Department of Physics, Technical University of Denmark, Lyngby, Denmark; 4. Daresbury Laboratory, Warrington, United Kingdom*

11:48

GD-13. Influence of hot pressure on the low field magnetoresistance of CrO2. X. Wang[1], *Y. Sui*[1], X. Songf[1], R. Zhu[1], Z. Qian[1] and W. Su[1] *1. Physics, Harbin Institute of Technology, Harbin, Heilongjiang, China*

THURSDAY MORNING 9:00 HARBORSIDE E

Session GE
MICROMAGNETICS: APPLICATIONS II
Kaizhong Gao, Session Chair

9:00

GE-01. Reducing spin-wave reflections in computational micromagnetics. *S. Bance*[1], T. Schrefl[1], D.A. Allwood[1], G. Hrkac[1] and A. Goncharov[1] *1. Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

9:12

GE-02. Resonant switching using spin valves. *K. Rivkin*[1,2] and J. Ketterson[1] *1. Northwestern University, Evanston, IL, USA; 2. Texas A&M, College Station, TX, USA*

9:24

GE-03. Spin waves in ultra-thin films under far-from-equilibrium conditions. *G. Bertotti*[1], C. Serpico[2], I.D. Mayergoyz[3] and M. d'Aquino[2] *1. INRIM, Torino, Italy; 2. Dept. of Electrical Engineering, University of Napoli Federico II, Napoli, Italy; 3. Dept. of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA*

9:36

GE-04. Reflection and refraction of dipole-exchange spin waves. *S. Choi*[1], K. Lee[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul 151-744, South Korea*

9:48

GE-05. Micromagnetics on curved geometries using rectangular cells: error correction and analysis. *M.J. Donahue*[2] and R.D. McMichael[1] *1. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. Mathematical and Computational Sciences Division, NIST, Gaithersburg, MD, USA*

10:00

GE-06. Analysis of Coercivity and Magnetoresistance in Arrays of Connected Nano-Rings. *G. Bordignon*[1,2], T. Fischbacher[2], M. Franchin[1,2], J.P. Zimmermann[2], A.A. Zhukov[1], P.J. de Groot[1] and H. Fangohr[2] *1. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 2. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom*

10:12

GE-07. Magnetic Configurations and Phase Diagrams of sub-100 nm NiFe Nanorings. N. Benatmane[1], *W. Scholz*[1] and T.W. Clinton[1] *1. Research, Seagate, Pittsburgh, PA, USA*

10:24

GE-08. Hysteretic properties of symmetrical spin-valves with elliptical cross-section and exchange-biasing at a skewed angle. *J.E. Miltat*[1] and I. Krivorotov[2] *1. Lab. Physique des Solides, Univ. Paris-Sud & CNRS, Orsay, France; 2. Dept. of Physics and Astronomy, University of California, Irvine, CA, USA*

10:36

GE-09. Micromagnetic modelling of the dynamics of exchange springs in multilayer systems. *M. Franchin*[1,2], J.P. Zimmermann[2], T. Fischbacher[2], G. Bordignon[1,2], A.A. Zhukov[1], P.J. de Groot[1] and H. Fangohr[2] *1. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; 2. School of Engineering Sciences, University of Southampton, Southampton, Hampshire, United Kingdom*

10:48

GE-10. Magnetism at nanoscopic scale : numerical simulation and application to domain wall pinning. T. Jourdan[1], *A. Marty*[1] and F. Lançon[1] *1. DRFMC/SP2M, CEA Grenoble, Grenoble, France*

11:00

GE-11. Single spin model of a small magnetic grain with inhomogeneities at the atomic length scale. *E.D. Boerner*[1] *1. Seagate Technology, Pittsburgh, PA, USA*

11:12

GE-12. Magnetization Reversal in Cubic Nanoparticles with Uniaxial Surface Anisotropy. *R. Skomski*[1], X.H. Wei[1] and D.J. Sellmyer[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA*

11:24

GE-13. Accelerated LLG calculation of magnetic stability: "bounce" algorithm. *S. Wang*[1] and P.B. Visscher[1] *1. Physics and MINT Center, University of Alabama, Tuscaloosa, AL, USA*

THURSDAY MORNING 9:00 ESSEX

Session GF
MAGNETIC BIOSENSORS
Paulo Cesar de Morais, Session Chair

9:00

GF-01. On Controllability of Parallel Magnetic Manipulation of Multiple Micro-Particles in Fluids. S. Bhat[1], J. Guez[1], T. Kurzweg[1], A. Guez[1] and *G. Friedman*[1,2] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA; 2. Surgery, Drexel College of Medicine, Philadelphia, PA, USA*

9:12

GF-02. On-chip manipulation of magnetically labeled human T cells by simultaneous in-plane magnetophoresis and out-of-plane negative dielectrophoresis. *C. Liu*[1,2], L. Lagae[1], W. Laureyn[1] and G. Borghs[1] *1. MCP/ART, Interuniversity Microelectronics Center (IMEC), Heverlee, Belgium; 2. Department of Electrical Engineering (ESAT), Katholieke Universiteit Leuven, Leuven, Belgium*

9:24

GF-03. Noise characteristic of Diode+MTJ matrix elements for biochip applications. *F.A. Cardoso*[1,2], R. Ferreira[1,2], S. Cardoso[1,2], J. Conde[1,2], V. Chu[1], P.P. Freitas[1,2], J. Germano[2,3], T. Almeida[2,3], M.S. Piedade[2,3] and L. Sousa[2,3] *1. INESC-MN, Lisbon, Portugal; 2. Instituto Superior Tecnico, Lisbon, Portugal; 3. INESC-ID, Lisbon, Portugal*

9:36

GF-04. Magnetic Multilayer Ring-based Digital Biosensors. ***(Invited)*** *J. Llandro*[1], T.J. Hayward[1], Z. Jiang[1], D. Morecroft[1,2], T. Mitrelias[1], J.C. Bland[1], F.J. Castaño[2] and C.A. Ross[2] *1. Thin Film Magnetism Group, University of Cambridge, Cambridge, United Kingdom; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

10:12

GF-05. Detection of bio-magnetic labels by sensing their induced ferromagnetic resonance with magneto-resistive sensor. *Y. Zhou*[1] *1. R&D, Headway Technology, Milpitas, CA, USA*

10:24

GF-06. Hall Bio-Sensor Microfluidic Platform for Magnetic Labels. *M. Iino*[1], Y. Yamamoto[1], M. Abe[2], S. Sakamoto[4], H. Handa[4] and A. Sandhu[1,3] *1. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 3. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 4. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan*

10:36

GF-07. Assembly of superparamagnetic nanobeads via biological binding and their magnetic detection with an InAs Hall sensor. *P. Manandhar*[1], G. Mihajlović[1], S. von Molnár[1], P. Xiong[1], K. Ohtani[2], H. Ohno[2], M. Field[3] and G.J. Sullivan[3] *1. MARTECH and Department of Physics, Florida State University, Tallahassee, FL, USA; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Rockwell Scientific Company LLC, Thousand Oaks, CA, USA*

10:48

GF-08. Metallic Hall Effect Sensors for Biosensor Applications. *M.M. Miller*[1], J.A. Christodoulides[1], D.T. Smith[2], M.P. Raphael[1], D.J. Peña[1], L.K. Kurihara[1] and J.M. Byers[1] *1. Code 6363, Naval Research Lab, Washington, DC, USA; 2. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA*

11:00

GF-09. Nanoparticle (γ-Fe_2O_3) Magnetization and Fluctuation Detection by Micro-Hall Sensors. *S. Nakamae*[1], D. L'Hôte[1], F. Ladieu[1], V. Dupuis[2], E. Dubois[2], R. Perzynski[2], M. Konczykowski[3] and V. Mosser[4] *1. SPEC, CEA-Saclay, Gif sur Yvette, France; 2. Laboratoire des Liquides Ioniques et Interfaces Chargées, Université Pierre et Marie Curie, Paris, France; 3. Centre d'Etudes et de Recherches sur les Matériaux, Ecole Polytechniques, Palaiseau, France; 4. ITRON France, Malakof, France*

11:12

GF-10. Ultra-Sensitive magnetic bio-sensor. *W. Wang*[1] and Z. Jiang[1] *1. Electrical Engineering, University of Wisconsin - Milwaukee, Milwaukee, WI, USA*

11:24

GF-11. InAs quantum well mesoscopic Hall sensors for biomolecular applications. *G. Mihajlovic*[1], P. Xiong[1], v. Stephan[1], K. Ohtani[2], H. Ohno[2], M. Field[3] and G.J. Sullivan[3] *1. MARTECH and Department of Physics, Florida State University, Tallahassee, FL, USA; 2. Laboratory for Electronics Intelligent Systems, Research Institute of Electrical Communication,Tohoku University, Sendai, Japan; 3. Rockwell Scientific Company LLC, Thousand Oaks, CA, USA*

11:36

GF-12. Multilayer magnetic nanorods for biosensing and cell mechanics. *P. Punnakitikashem*[1], S. Chang[1] and Y. Hao[1] *1. Materials Science and Engineering, University of Texas at Arlington, Arlington, TX, USA*

11:48

GF-13. Novel Biomagnetic Sensing Technique for in vivo Characterization of Inflammatory Tissues. *I. Tan*[1] and A. Brazdeikis[1] *1. Department of Physics and Texas Center for Superconductivity, University of Houston, Houston, TX, USA*

THURSDAY MORNING 9:00 LAUREL

Session GG
GIANT MAGNETOIMPEDANCE
Peter Eames, Session Chair

9:00

GG-01. Oscillating voltage dependence of the magneto impedance in Magneto Tunneling Junctions. *W. Chien*[1], L. Hsieh[2], T. Peng[1], C. Lo[2], Y. Yao[1,3], P. Lin[1] and X. Han[4] *1. Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Electronics and Optoelectronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Institute of Physics, Chinese Academy of Sciences, Beijing, China*

9:12

GG-02. Optimized GMI response of Co-based amorphous glass-coated microwires by direct control over the surface magnetoelastic anisotropy. *H. Chiriac*[1], S. Corodeanu[1], M. Tibu[1] and T.A. Ovari[1] *1. National Institute of R&D for Technical Physics, Iasi, Romania*

9:24

GG-03. Influences of annealing and sample geometry on the giant magnetoimpedance effect in a glass-coated microwire LC-resonator. A. Le[1], C. Kim[1], Y. Kim[2], S. Yu[2], M. Phan[3] and *H. Lee*[4] *1. Department of Materials Engineering, Chungnam National University, Daejeon, South Korea; 2. Department of Physics, Chungbuk National University, Cheongju, South Korea; 3. Department of Aerospace Engineering, University of Bristol, Bristol, United Kingdom; 4. Department of Physics Education, Kongju National University, Kongju, South Korea*

9:36

GG-04. Effect of sputtered seed layer on electrodeposited Ni80Fe20/Cu of composite wires. *X. Li*[1], J. Yi[1], C. Koh[1], H. Seet[1], J. Yin[2], S. Thongmee[2] and J. Ding[2] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

9:48

GG-05. Measurement and model of the tensile stress dependence of the second harmonic of non-linear GMI in amorphous wires. *D. Seddaoui*[1], D. Ménard[1] and A. Yelon[1] *1. Engineering Physics, École Polytechnique, Montréal, QC, Canada*

10:00

GG-06. Study of the Interactive Effect in Amorphous Microwire Array by GMI Spectrum. *J. Fan*[1], X. Li[1], Z. Zhao[2] and X. Qian[1] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Physics, East China Normal University, Shanghai, China*

10:12

GG-07. GMI IN FM/SiO_2/Cu/SiO_2/FM FILMS AT GHz FREQUENCIES. M.A. Corrêa[1], A.D. C. Viegas[2], F. Bohn[1], R.B. da Silva[1], M.A. Carara[1], L.F. Schelp[1] and *R.L. Sommer*[3] *1. Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil; 2. Universidade Federal de Santa Catarina, Florianopolis, SC, Brazil; 3. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, RJ, Brazil*

10:24

GG-08. Nanocrystallization, giant magneto-impedance and quantum interference effect in $Fe_{73.5}Cu_1Nb_3Si_{13.5}B_9$ (FINEMET) metallic glasses. *T.K. Nath*[1] and M.K. Singh[1] *1. Physics & Meteorology, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India*

10:36

GG-09. Electromagnetic noise suppressors integrated with a magnetic thin film on a Si substrate. J. Sohn[1], S. Han[1], M. Yamaguchi[2] and *S. Lim*[3]*1. Nano Device Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan; 3. Materials Science and Engineering, Korea University, Seoul, South Korea*

10:48

GG-10. Comparative Study on Magnetoimpedance Effect in Laminating FeAlN Films with Non-ferromagnetic and Ferromagnetic layer. *Z. Zhong*[1], H. Zhang[1], Y. Jing[1], X. Tang[1] and S. Liu[2]*1. State Key Laboratory of Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 2. School of Optoelectronic Information, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

11:00

GG-11. Anomalous magnetoimpedance in Co-Fe-Al-O thin films. *A. Le*[1], D. Nguyen[1], M. Phan[2], C. Kim[1], C. Kim[1] and M. Vázquez[3]*1. Research Center for Advanced Magnetic Materials, Chungnam National University, Daejeon 305-764, South Korea; 2. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1TR, United Kingdom; 3. Instituto de Ciencia de Materiales, CSIC, 28049 Cantoblanco, Madrid, Spain*

11:12

GG-12. Generalized formalism for the calculation and optimization of the magnetic noise in GMI based devices. *L. Melo*[1], D. Menard[1], A. Yelon[1], L. Ding[2], S. Saez[2] and C. Dolabdjian[2]*1. Genie Physique, Ecole Polytechnique de Montreal, Montreal, QC, Canada; 2. GREYC – CNRS UMR, ENSICAEN and University of Caen, Caen, France*

11:24

GG-13. Permeability Variation Measurements of Bi-Layered Magnetostrictive/Piezoelectric Composite Materials for Tunable Microwave Applications. *S. De Blasi*[1], S. Dubourg[2], P. Queffelec[1], O. Bodin[2] and M. Ledieu[2]*1. LEST UMR-CNRS 6165, Brest Cedex, France; 2. CEA Le Ripault, Monts, France*

11:36

GG-14. Observation of inverse Doppler effect in in-plane magnetized magnetic film. *G. Melkov*[1], Y. Koblyanskiy[1], V. Malyshev[1], B. Hillebrands[2] and A. Slavin[3]*1. Radiophysics Faculty, Taras Shevchenko Kiev University, Kiev, Ukraine; 2. Fachbereich Physik, Technische Universitaet Kaiserslautern, Kaiserlautern, Germany; 3. Physics, Oakland University, Rochester, MI, USA*

THURSDAY MORNING 9:00 DOVER

Session GH
AMORPHOUS AND NANOCRYSTALLINE SOFT MATERIALS II

Ivan Skorvanek, Session Chair

9:00

GH-01. Effects of BCC-FCC transition in nanocrystalline grains on magnetic properties of Fe-Ni-Nb-B alloys. *I. Skorvanek*[1], P. Svec[2], J. Turcanova[1], J. Marcin[1], J. Kovac[1] and D. Janickovic[2]*1. Magnetism, Institute of Experimental Physics Slov. Acad. Sci., Kosice, Slovakia; 2. Institute of Physics, Bratislava, Slovakia*

9:12

GH-02. Monte Carlo Simulations of Directional Pair Ordering in BCC-Based Binary and Ternary Crystalline Alloys. *P.R. Ohodnicki*[1], D.E. Laughlin[1] and M.E. McHenry[1]*1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

9:24

GH-03. Spark-eroded oxide-coated Fe-Si-B particles for high frequency applications. *J. Hong*[1], V.C. Solomon[2], P. Madras[2], D.J. Smith[2], M. Brand[3] and A.E. Berkowitz[1,4]*1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. Center for Solid State Science and Department of Physics and Astronomy, Arizona State University, Tempe, AZ, USA; 3. Raytheon Company, El Segundo, CA, USA; 4. Department of Physics, University of California - San Diego, La Jolla, CA, USA*

9:36

GH-04. Magnetostatic coupling in soft/hard bi-phase magnetic systems based on amorphous alloys. J. Torrejón[1], L. Kraus[2], K. Pirota[1], G. Badini[1] and *M. Vázquez*[1]*1. Magnetism, ICMM (CSIC), Madrid, Spain; 2. Magnetism, ASCR, Prague, Czech Republic*

9:48

GH-05. Crystallization and Phase Evolution of Co-Rich HiTPerm Alloys with Co:Fe Ratio Corresponding to the Two-Phase Region of the Binary FeCo-Phase Diagram. *P.R. Ohodnicki*[1], H. McWilliams[1], K. Ramos[1], S. Park[1], D.E. Laughlin[1] and M.E. McHenry[1]*1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

10:00

GH-06. Effect of B to Si concentration ratio on glass-forming ability and soft-magnetic properties in (Co0.705Fe0.045B0.25-xSix)96Nb4 bulk glassy alloys. *B. Shen*[1], Y. Zhou[1], C. Chang[1] and A. Inoue[1] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

10:12

GH-07. Structure and magnetic properties of nanocrystalline soft magnetic alloys with improved mechanical properties. *T.M. Heil*[1], J.J. Flores[2] and M.A. Willard[1] *1. Code 6355, Naval Research Laboratory, Washington, DC, USA; 2. Department of Physics, University of Puerto Rico, Rio Piedras Campus, San Juan, Puerto Rico*

10:24

GH-08. Improvement of soft magnetic properties by simultaneous addition of P and Cu for nanocrystalline FeNbB alloys. *A. Makino*[1], T. Bitoh[2], M. Bingo[2], T. Yamamoto[1] and A. Inoue[1] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Machine Intelligence and Systems Science, Akita Prefectural University, Yurihonjo, Akita, Japan*

10:36

GH-09. Cryogenic hysteretic loss analysis for (Fe,Co,Ni)-Zr-B-Cu nanocrystalline soft magnetic alloys. *M.A. Willard*[1] and T.M. Heil[1] *1. Code 6355, U. S. Naval Research Laboratory, Washington, DC, USA*

10:48

GH-10. CORE LOSSES OF NANOCRYSTALLINE SOFT MAGNETIC MATERIALS UNDER SQUARE VOLTAGE WAVEFORMS. V. Valchev[1], A.P. Van den Bossche[2] and *P. Sergeant*[2] *1. Electronics, TU-Varna, Bulgaria, Varna, Bulgaria; 2. EESA, Ghent University, Gent, Belgium*

11:00

GH-11. Structural Studies of Secondary Crystallization Products of the $Fe_{23}B_6$-type in a Nanocrystalline FeCoB-based Alloy. *J. Long*[1], P.R. Ohodnicki[1], D.E. Laughlin[1], M.E. McHenry[1], T. Ohkubo[2] and K. Hono[2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. National Institute for Materials Science, Tsukuba, Japan*

11:12

GH-12. Size triggered change in the magnetization mechanism of nearly zero magnetostrictive amorphous glass-coated microwires. *H. Chiriac*[1], S. Corodeanu[1], M. Tibu[1] and T.A. Ovari[1] *1. National Institute of R&D for Technical Physics, Iasi, Romania*

11:24

GH-13. Exchange bias in the amorphous Fe–Cr–Co system. *G. Mastrogiacomo*[1] and J.F. Löffler[1] *1. Laboratory of Metal Physics and Technology, Department of Materials, ETH Zurich, 8093 Zurich, Switzerland*

THURSDAY MORNING 8:00 — GRAND BALLROOM

Session GP
SPIN DYNAMICS AND RELAXATION III (POSTER SESSION)

Konstantin Guslienko, Session Chair

GP-01. Experimental observation of Fermi-Pasta-Ulam recurrence in a magnetic film-based active feedback ring. *M. Wu*[1] and C.E. Patton[1] *1. Department of Physics, Colorado State University, Fort Collins, CO, USA*

GP-02. Observation of partial decoherence of quantized spin waves in nanoscaled magnetic ring structures. H. Schultheiss[1], P. Candeloro[1], B. Leven[1], A. Slavin[2] and *B. Hillebrands*[1] *1. Department of Physics, TU Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, Oakland University, Rochester, MI, USA*

GP-03. Macrospin relaxation and switching close to the Curie temperature: a multi-scale approach. *O. Chubykalo-Fesenko*[1], U. Nowak[2], N. Kazantseva[2], D. Hinzke[2], R. Chantrell[2], O. Mryasov[3] and D. Garanin[4] *1. Material Science Institute of Madrid, Madrid, Spain; 2. University of York, York, United Kingdom; 3. Seagate Research, Pittsburgh, PA, USA; 4. Department of Physics and Astronomy, Lehman College, City University of New York, New York, NY, USA*

GP-04. Spin dynamics of ferromagnetic dots in the vortex state: low-frequency susceptibility, relaxation and non-linear effects. *K. Guslienko*[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospintronics Laboratory, Seoul National University, Seoul, South Korea*

GP-05. Ps pulsed excitation of spin packets and spin currents. M. Djordjevic[1], J. Walowski[1], G. Müller[1], G. Eilers[1] and *M.G. Muenzenberg[1] 1. IV. Phys. Institute, Göttingen University, Göttingen, Germany*

GP-06. Simulation of spin dynamics excited by sub-picosecond heat pulses. *N. Kazantseva*[1], R.W. Chantrell[1] and U. Nowak[1] *1. Physics, University of York, York, United Kingdom*

GP-07. Lowest intrinsic and total ferromagnetic damping in ferromagnetic metals: epitaxial MgO/Fe1-xVx. *C. Scheck*[1], L. Cheng[1], I. Barsukov[2], Z. Frait[2] and W.E. Bailey[1] *1. APAM, Columbia University, New York, NY, USA; 2. Institut of physics, Academy of sciences of the Czech Republic, Prague, Czech Republic*

GP-08. Bose-Einstein condensation of magnons under parametric pumping: direct observation at room temperature. *S.O. Demokritov*[1], V.E. Demidov[1], O. Dzyapko[1], G.A. Melkov[2] and A.N. Slavin[3] *1. University of Muenster, Muenster, Germany; 2. National Taras Schevchenko University of Kiev, Kiev, Ukraine; 3. Oakland University, Rochester, MI, USA*

GP-09. Non-local dynamics due to Spin Pumping. *G. Woltersdorf*[1], O. Mosendz[2], F. Hoffmann[1], B. Heinrich[2] and C.H. Back[1] *1. Physics, University of Regensburg, Regensburg, Germany; 2. Physics, Simon Fraser University, Burnaby, BC, Canada*

GP-10. Pulsed inductive measurement of ultra-fast magnetization dynamics in interlayer exchange coupled NiFe/Ru/NiFe films. *T. Martin*[1], M. Belmeguenai[1], M. Maier[1], K. Perzlmaier[1] and G. Bayreuther[1] *1. Universitaet Regensburg, Regensburg, Germany*

GP-11. Nonlinear resonant and chaotic magnetization dynamics in microwave assisted magnetization switching. *C. Serpico*[1], G. Bertotti[2], M. d'Aquino[1], I.D. Mayergoyz[3] and R. Bonin[2] *1. Dept. of Electrical Engineering, University of Napoli, Napoli, Italy; 2. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 3. ECE Department and UMIACS, University of Maryland, College Park, MD, USA*

GP-12. Femtosecond time-resolved magneto-optical Kerr study of coherent spin waves in La0.67Ca0.33MnO3. *Y. Ren*[1], D. Wang[2], R. Merlin[2], A. Venimadhav[3] and Q. Li[3] *1. Physics, CUNY, Hunter College, New York, NY, USA; 2. Physics, The University of Michigan, Ann Arbor, MI, USA; 3. Physics, Pennsylvania State University, University park, PA, USA*

GP-13. Precession damping in itinerant ferromagnets. *K. Gilmore*[1,2], M.D. Stiles[2] and Y.U. Idzerda[1] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Electron Physics, National Institute of Standards and Technology, Gaithersburg, MD, USA*

GP-14. Study of Individual Ferromagnetic Dots with Femtosecond Optical Pulses. A. Laraoui[1], J. Vénuat[1], V. Halté[1], M. Albrecht[1], M. Vomir[1], E. Beaurepaire[1] and *J. Bigot[1] 1. Institute of Physics and Chemistry of Materials at Strasbourg (IPCMS), UMR7504, CNRS, University Louis Pasteur, Strasbourg, France*

GP-15. Optical modification of magnetic anisotropy and stimulation of precession in a Co2MnAl thin film. *L.R. Shelford*[1], Y. Liu[1], V.V. Kruglyak[1], R.J. Hicken[1], Y. Sakuraba[2], M. Oogane[2], Y. Ando[2] and T. Miyazaki[2] *1. Physics, University of Exeter, Exeter, United Kingdom; 2. Department of Applied Physics, Tohoku University, Sendai, Japan*

THURSDAY MORNING 8:00 — GRAND BALLROOM

Session GQ
OXIDE MAGNETIC SEMICONDUCTORS II (POSTER SESSION)

George Kieseoglou, Session Co-chair
Aubrey Hanbicki, Session Co-chair

GQ-01. First-principles investigation of Co- and Fe-doped SnO_2 W. Xianlong[1], Z. Zhi[1] and *L. Haiqing[2] 1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Shatin, Hong Kong, China*

GQ-02. Absence of ferromagnetism in V-implanted ZnO crystals. *S. Zhou*[1], K. Potzger[1], G. Zhang[1], N. Schell[1], W. Skorupa[1], M. Helm[1] and J. Fassbender[1] *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Germany*

GQ-03. ESR and Raman scattering spectra of Mn-doped ZnO ceramics. *T. Phan*[1], M. Phan[2], R. Vincent[1], X. Nguyen[3] and S. Yu[4] *1. Microstructures Group, Department of Physics, University of Bristol, Bristol BS8 1 TR, United Kingdom; 2. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1 TR, United Kingdom; 3. Institute of Materials Science, Academy of Science and Technology, Hanoi, Viet Nam; 4. Department of Physics, Chungbuk National University, Cheongju 361-763, South Korea*

GQ-04. Electronic structure and magnetic properties of copper diffused ZnO(0001): *ab initio* approach. *Y. Kim*[1], S. Lee[2], J. Im[3] and Y. Chung[1] *1. Materials Science and Engineering, Hanyang University, Seoul, South Korea; 2. Central R&D Institute, Samsung Electro-Mechanics Co. Ltd., Suwon, South Korea; 3. Korea Institute of Ceramic Engineering and Technology, Seoul, South Korea*

GQ-05. Fe valence states and ferromagnetism occurring in reduced anatase $Ti_{0.97}Fe_{0.03}O_{2-\delta}$ *H. Lee*[1] and C. Kim[1] *1. Physics, Kookmin University, Seoul, South Korea*

GQ-06. Structural and magnetic properties of Mn-doped CuO thin films. *H. Zhu*[1], F. Zhao[2], L. Pan[2], Y. Zhang[2], C. Fan[2], Y. Zhang[2] and J.Q. Xiao[1] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Physics, University of Science and Technology Beijing, Beijing, China*

GQ-07. Tuning the Electrical and Magnetic Properties of Cr Doped In_2O_3 by Vacuum Annealing. *P. Kharel*[1], S. Chandran[1], S. Moodakare B[1], G. Lawes[1], R. Suryanarayanan[2,1], R. Naik[1] and V.M. Naik[3] *1. Department of Physics and Astronomy, Wayne State University, Detroit, MI, USA; 2. LPCES, Université Paris-Sud, Orsay, France; 3. Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, MI, USA*

GQ-08. Mapping ferromagnetism in $Ti_{1-x}Co_xO_2$ – Role of preparation temperature (200 – 900 °C) and doping concentration ($0.00015 < x < 0.1$). *K.M. Reddy*[1] and A. Punnoose[1] *1. Physics Department, Boise State University, Boise, ID, USA*

GQ-09. Ferromagnetism in sputtered manganese-doped indium tin oxide films with high conductivity and transparency. *T. Nakamura*[1], K. Tanabe[1] and K. Tachibana[1] *1. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan*

GQ-10. Hydrogenated annealing on structural, electronic and magnetic properties of V-doped ZnO. *S. Liu*[1], H. Hsu[1], C. Lin[2] and J. Huang[1,3] *1. Physics, National Cheng-Kung University, Tainan, Taiwan; 2. Mechanical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan; 3. Applied Physics, National Kaohsiung University, Kaohsiung, Taiwan*

GQ-11. An Fe^{3+} Electron Paramagnetic Resonance Study of $Sn_{1-x}Fe_xO_2$ *S.K. Misra*[1], S.I. Andronenko[1], K.M. Reddy[2], J. Hays[2], A. Thurber[2] and A. Punnoose[2] *1. Physics, Concordia University, Montreal, QC, Canada; 2. Physics, Boise State University, Boise, ID, USA*

GQ-12. Room temperature fabricated ZnCoO films with high carrier concentration. H. Huang[1], *C. Lai*[1], P. Huang[1], C. Yang[1], H. Huang[2] and H. Bor[2] *1. Materials Science and Engineering, National Tsing Hu University, HsinChu, Taiwan; 2. Materials & Electro-Optics Research Division Metallurgy Division, Chuang-Shan Institute of Science & Technology, TaoYuan, Taiwan*

GQ-13. Phase diagram of ferromagnetism in Co: (La,Sr)TiO3. *S. Zhang*[1], D.C. Kundaliya[1], S.B. Ogale[1], L. Fu[2], S. Young[3], S. Dhar[1], N.D. Browning[2], L.G. Salamanca-Riba[3] and T. Venkatesan[1] *1. Physics Department, University of Maryland, College Park, MD, USA; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Department of Materials Science and Engineering, University of Maryland, College Park, MD, USA*

GQ-14. Influence of defects on the magnetism of Mn-doped ZnO. *D.M. Iusan*[1], B. Sanyal[1] and O. Eriksson[1] *1. Department of Physics, Theoretical Magnetism Group, Uppsala University, Uppsala, Sweden*

GQ-15. Thickness dependence of the magneto-optical properties of ZnO:Ti. *J.R. Neal*[1], A. Mohktari[1], A.J. Behan[1], H.J. Blythe[1], A.M. Fox[1] and G.A. Gehring[1] *1. Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom*

GQ-16. Structure and magnetic properties of V-doped SnO_2 thin films. *J. Zhang*[1,3], R. Skomski[1,3], Y. Lu[2,3] and D.J. Sellmyer[1,3] *1. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Department of Electrical Engineering, University of Nebraska-Lincoln, Lincoln, NE, USA; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, USA*

GQ-17. WITHDRAWN

GQ-18. Interpretation of ferromagnetic Fe doped ZnO by the Mössbauer spectroscopy. *S. Park*[1], G. Ahn[2] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, South Korea; 2. Neutron Physics, HANARO, Korea Atomic Energy Research Institute, Daejeon, South Korea*

GQ-19. Relationship between carrier mobility and oxygen vacancy in ferromagnetic Mn-doped ZnO. *S. Park*[1], H. Lee[1], P. Kim[1], Y. Lee[1], T. Kim[2], J. Rhee[3] and J. Kang[4] *1. Physics & q-Psi, Hanyang University, Seoul, South Korea; 2. Physics, Ewha womans University, Seoul, South Korea; 3. BK21 & Dept. of Physics, Sungkyunkwan University, Suwon, South Korea; 4. Physics, Kookmin University, Seoul, South Korea*

GQ-20. Ferromagnetism in Cu-doped ZnO nanocrystals. X. Wang[1], *J. Xu*[1], W. Cheung[1], N. Ke[1] and S. Wong[1] *1. Department of Electronic Engineering, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong*

GQ-21. Influence of Mn substitution on microstructure and magnetic properties of $Cu_{1-x}Mn_xO$ nanoparticles. *N.R. Gade*[1,2], Y.D. Yao[2] and J.W. Chen[1] *1. Physics, National Taiwan University, Taipei, Taipei, Taiwan; 2. Physics, Academia Sinica, Taipei, Nankang, Taiwan*

GQ-22. Doped ZnO Nanoclusters: Synthesis, Characterization, and Ferromagnetism at Room Temperature. *Y. Qiang*[1], J. Antony[1], A. Sharma[1], D. Meyer[1] and M. Faheem[1] *1. Physics Department, University of Idaho, Moscow, ID, USA*

GQ-23. Giant magnetoresistance in Co-doped ZnO nanocluster films. *M. Faheem*[1], Y. Qiang[1], J. Antony[1], S. Yan[2] and L. Mei[2] *1. Physics Department, University of Idaho, Moscow, ID, USA; 2. School of Physics and Microelectronics, Shandong University, Jinan, Shandong, China*

GQ-24. Large positive magnetoresistance effect and valences of Mn in In1.90-xMn0.1SnxO3. *X. Wang*[1], G. Peleckis[1], S. Dou[1] and R. Liu[2] *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Department of Chemistry, National Taiwan University, Taipei, Taiwan*

THURSDAY MORNING 8:00

GRAND BALLROOM

Session GR
MULTIFERROIC OXIDES (POSTER SESSION)

Lyuba Belova, Session Chair

GR-01. Magnetic Properties of Epitaxial Films of $BiCrO_3$. *S. Lofland*[1], R. Chimenti[1], E. Knoesel[1], S. Fujino[2], M. Murakami[2] and I. Takeuchi[2] *1. Physics and Astronomy, Rowan University, Glassboro, NJ, USA; 2. Materials Science and Engineering, University of Maryland, College Park, MD, USA*

GR-02. Magnetic Characterization of Nanogranular BaTiO3-CoFe2O4 Thin Films Deposited by Pulsed Laser Ablation. J. Barbosa[1], *B. Almeida*[1], J.A. Mendes[1], A. Rolo[1], J.P. Araújo[2] and J.B. Sousa[2] *1. Physics, Minho University, Braga, Portugal; 2. Physics and IFIMUP, Porto University, Porto, Portugal*

GR-03. Observation of high dielectric constant of RMn_2O_5 with R = Tb, Dy, and Er. *K. Kuo*[1], G. Chern[1], T.C. Han[2] and J.G. Lin[2] *1. SPIN Research Center and Physics Department, National Chung Cheng University, Chia-Yi, Taiwan; 2. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan*

GR-04. Magnetic properties and electronic structure of doped multiferroic $Y_xA_{1-x}MnO_3$(A=Ca, Sr). *C. Hsieh*[1], T. Cheng[1], J. Lee[3], J. Chen[3], J. Juang[1,4], J. Lin[2], K. Wu[1], T. Uen[1] and Y. Gou[4] *1. Department of Electrophysics, National Chiao-Tung University, Hsinchu, Taiwan; 2. Institute of Physics, National Chiao Tung University, Hsinchu, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Department of Physics, National Taiwan Normal University, Taipei, Taiwan*

GR-05. Dynamically Coupled Magneto-Elasto-Electric Effect in Multiferroic Laminated Composites of 1–3 Magnetostrictive Composite and 1-3 Piezoelectric Composite. *S. Or*[1] and N. Cai[1] *1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

GR-06. Modulation of Forward Bias Threshold Voltage in all Oxide Schottky and p-n Junction Microdevices. *D. Kundaliya*[1], S.B. Ogale[1], L.F. Fu[2], G. Langham[1], N.D. Browning[2] and T. Venkatesan[1] *1. Department of Physics, University of Maryland,, College park, MD, USA; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, USA*

GR-07. Structural, magnetic and ferroelectric properties of multiferroic $BiFeO_3$ film fabricated by chemical solution deposition. *H. Naganuma*[1] and S. Okamura[1] *1. Department of Applied Physics, Fuculty of Science, Tokyo University of Science, Tokyo, Japan*

GR-08. Magnetoelectric coupling in Pb(Zr0.5Ti0.5)O3/La0.9Sr0.1MnO3 bilayer. *L. Jeng-Hwa*[1], W. Tai-Bor[1], C. Yuan-Tsung[1] and W. Jenn-Ming[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

GR-09. Study on multiferroic properties in $Co/BaTiO_3$ nanocomposite thin films. *J. Park*[1], M. Kim[3], Y. Jeong[2] and H. Jang[1] *1. Department of Materials Science and Engineering, POSTECH, Pohang, South Korea; 2. Department of Physics, POSTECH, Pohang, South Korea; 3. Pohang Accelerator Laboratory, Pohang, South Korea*

GR-10. Magnetoelectric Effect of Ferroelectric $LuFe_2O_4$ at Room Temperature. *J. Park*[1], J. Park[1], S. Ryu[1], Y. Jung[1] and H. Jang[1] *1. Department of Materials Science and Engineering, POSTECH, Pohang, South Korea*

GR-11. Mössbauer studies of multiferroic spinel $CoCr_{1.98}{}^{57}Fe_{0.02}O_4$ *K. Choi*[1], S. Kim[1] and C. Kim[1] *1. Physics, Kookmin Univ., Seoul, South Korea*

GR-12. Mössbauer studies of mixed valence $LuFe_2O_4$ *B. Bang*[1], S. Kim[1], S. Cheong[2] and C. Kim[1] *1. Physics, Kookmin University, Seoul, South Korea; 2. Physics & Astronomy, Rutgers University, Piscataway, NJ, USA*

GR-13. Epitaxial growth and properties of multiferroic $BiFeO_3$ and $BiCrO_3$ thin films. S. Gepraegs[1], *S.T. Goennenwein*[1], M. Opel[1] and R. Gross[1] *1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany*

GR-14. Neutron diffraction and dielectric anomalies in $YMn_{2-x}Fe_xO_5$ *D. Kim*[1], S. Kim[1] and C. Kim[1] *1. Physics, Kookmin University, Seoul, South Korea*

GR-15. PREPARATION AND CHARACTERISATION OF THE MULTIFERROIC xBiFeO3-(1-x)BaTiO3 SOLID SOLUTIONS. L. Mitoseriu[1,2], A. Ianculescu[3], M.M. Carnasciali[4] and *A. Stancu*[1] *1. Dept. of Solid state and Theor. Phys., Univ. Al. I. Cuza Iasi, Iasi, Romania; 2. Dept. of Chemical & Process Eng., University of Genoa, Genoa, Italy; 3. Dept. of Industrial Chemistry, Polytehnics University, Bucharest, Romania; 4. Dept. of Chemistry & Industrial Chemistry, University of Genoa, Genoa, Italy*

GR-16. Magnetically frustrated behavior in multiferroics RMn_2O_5 (*R*=Bi, Eu, and Dy): A Raman scattering study. *A. García-Flores*[1], E. Granado[1], H. Martinho[2], R.R. Urbano[1], C. Rettori[1], E.I. Golovenchits[3], V.A. Sanina[3], S.B. Oseroff[4], S. Park[5] and S.W. Cheong[5] *1. Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas, Campinas-SP, São Paulo, Brazil; 2. Instituto de Pesquisa e Desenvolviennto, UNIVAP, São José dos Campos, SP, Brazil; 3. Ioffe Physical-Technical Institute of RAS, RAS, St. Petersburg, Russian Federation; 4. San Diego State University, San Diego, CA, USA; 5. Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, USA*

THURSDAY MORNING 8:00

GRAND BALLROOM

Session GS
MOTORS II (POSTER SESSION)

Paul Chao, Session Chair

GS-01. Modeling of Cross-Coupling Magnetic Saturation in Signal Injection based Sensorless Control of Permanent Magnet Brushless AC Motor. Y. Li[1], Z. Zhu[1], C. Bingham[1] and *D. Howe*[1] *1. University of Sheffield, Sheffield, United Kingdom*

GS-02. Different Angle Sensorless Drive for a DC Brushless Motor. *C. Wang*[1], S. Wang[2], S. Lin[1] and H. Lin[1] *1. Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. SonicEdge Industries Corporation, Hsinchu Hsien, Taiwan*

GS-03. Optimal Design of a Magnetic Zooming Mechanism Used in Cameras of Mobiles Phones via Genetic Algorithm. *P. Chao*[1] and S. Wu[2] *1. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung Yuan Christian University, Chung-Li, Taiwan*

GS-04. Optimal Design of Magnetic Actuated Optical Image Stabilization Mechanism for Camera Phone via Genetic Algorithm. *C. Chiu*[1], P. Chao[1] and D. Wu[2] *1. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung Yuan Christian University, Chung Li, Taiwan*

GS-05. A New Co-simulation Approach to Performance Analysis of a Hybrid Excited Doubly Salient Motor Considering Indirect Field-Circuit Coupling. *X. Zhu*[1], M. Cheng[1], W. Zhao[1], J. Zhang[1] and W. Hua[1] *1. Deapt. of Electrical Engineering, Southeast University, Nanjing, China*

GS-06. Effect of Armature Reaction of a PM Claw Pole SMC Motor. *Y. Dou*[1,2], Y. Guo[2], J. Zhu[2] and H. Lu[3] *1. Faculty of Electric Engineering and Automation, Nanjing Normal University, Nanjing, Jiangsu, China; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia; 3. Faculty of Information Technology, University of Technology, Sydney, Sydney, NSW, Australia*

GS-07. Design and Servo Control of a Single-Deck Planar Maglev Stage. *Y. Lai*[1], Y. Lee[1] and J. Yen[1] *1. National Taiwan University, Taipei, Taiwan*

GS-08. 3D FEM Analysis of a Novel Structure of Axial Flux Homopolar Generator Using Grain-Oriented Silicon Steel for Stator Core. *S. Javadi*[1], M. Mirsalim[1], M. Mirzaei[1] and H. Gholizad[1] *1. Electrical Engineering Department, Amirkabir University of Technology, Tehran, Iran*

GS-09. WITHDRAWN

GS-10. Open Type Magnetically Shielded Room Using Only Cancelling Coil without a Ferromagnetic Wall for Magnetic Resonance Imaging. S. Hirosato[1], K. Yamazaki[1], K. Muramatsu[2], M. Hirayama[2], *K. Kamata*[3], T. Onoki[4], K. Kobayashi[4], A. Haga[5], K. Katada[6], Y. Kinomura[6] and Y. Kuwayama[6] *1. Takenaka Corp., Inzai, Chiba, Japan; 2. Saga Univ., Saga, Saga, Japan; 3. Kagoshima National College of Technology, Kirishima, Kagoshima, Japan; 4. Iwate Univ., Morioka, Iwate, Japan; 5. Tohoku-Gakuin Univ., Tagajo, Miyagi, Japan; 6. Fujita Health Univ. & Univ. of Hospital, Toyoake, Aichi, Japan*

GS-11. Development of A 2-degree-of-freedom Rotational/Linear Switched Reluctance Motor. *Y. Sato*[1] *1. Dept. of Mech. Eng., Yokohama National University, Yokohama, Japan*

GS-12. An Effective Method for Design and Performance Prediction of Switched Reluctance Motor for a Variable Speed Pumping System. *L. Jian*[1] and C. Yunhyun[1] *1. Electrical Engineering, Dong-A University, Pusan, South Korea*

GS-13. Analysis of Linear Switched Reluctance Motor for MAGLEV system. S. Jang[1], *J. Park*[1] and J. Choi[1] *1. Dept. of Electrical Engineering, Chungnam National University, Daejeon, South Korea*

GS-14. Accurate Calculation of Core Loss in a Switched Reluctance Motor. *N.K. Sheth*[1,2] and K.R. Rajagopal[1] *1. Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi-110016, Delhi, India; 2. Electrical Engineering Department, Institute of Technology, Nirma University of Science and Technology, Ahmedabad-382481, Gujarat, India*

GS-15. Optimization of Homogeneous Superconducting Magnet with Nonlinear Constraints. *Y. Kwon*[1], H. Jung[1] and M. Jang[1] *1. School of Electrical Engineering, Pusan National Unversity, Busan, South Korea*

GS-16. Development of a PM linear motor for Driving an HTS Maglev Transportation Prototype. *Y. Guo*[1], J. Chen[2,1], J. Zhu[1], J. Jin[3] and H. Lu[4] *1. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia; 2. College of Electromechanical Engineering, Donghua University, Shanghai, Shanghai, China; 3. School of Automation Engineering, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 4. Faculty of Information Technology, University of Technology, Sydney, Sydney, NSW, Australia*

THURSDAY MORNING 8:00 GRAND BALLROOM

Session GT
CONTROLS, ACTUATORS, AND LINEAR MOTORS (POSTER SESSION)

Yon Do Chun, Session Co-chair
Tae Heong Kim, Session Co-chair

GT-01. Force Ripples Suppression of Permanent Magnet Linear Synchronous Motor. *Y. Zhu*[1] and Y. Cho[1] *1. Electrical Engineering, Servo Machine Lab. Dong-A University, Busan, South Korea*

GT-02. Dynamic Range Verification of Linear PM Machine Using Design Parameters Estimation and Infinite Motion of Disk-type PMLSM. *D. You*[1] and S. Jang[1] *1. electrical engineering, chungnam national univ., daejeon, South Korea*

GT-03. A new approach using wavelets to analyze an EDS Maglev dynamics. *W. Ko*[1] and C. Ham[1] *1. University of Central Florida, Orlando, FL, USA*

GT-04. Variation of Phase Difference between the Peak Value of Applied Current and the Maximum Position of Mover in Linear Actuator. *B. Woo*[1], D. Hong[1], D. Kang[1], J. Jang[1] and D. Jung[1] *1. #6-305, Korea Electrotechnology Research Institute, Changwon, Kyungnam, South Korea*

GT-05. Analysis and Improvement of the Miniature Matrix Array Transducer System for Loudspeakers. *R. Rashedin*[1] and T. Meydan[1] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

GT-06. Cogging Force Verification by Deforming the Shape of the Outlet Edge at the Armature of a Stationary Discontinuous Armature PM-LSM. *Y. Kim*[1], M. Watada[1] and H. Dohmeki[1] *1. Department of Electrical and Electronic Engineering, Musashi Institute of Technology, Tokyo, Japan*

GT-07. Design of a cantilevered actuator driven by magnetostriction. *C. Yokota*[1], K. Ishiyama[1], A. Yamazaki[1] and K. Arai[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

GT-08. Fast Auto-focusing of a Linear Actuator in Digital Video Cameras Using Output Feedback Sliding Mode Control. *H. Yu*[1,2] and T. Liu[2] *1. Electronics and Opto-electronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, National Chiao Tung University, Hsinchu, Taiwan*

GT-09. Speed Range Based Optimization of Non-linear Electromagnetic Braking Systems. *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*

GT-10. Induction machine rotor iron loss calculation using harmonic identification. *A. Knight*[1] *1. Electrical and Computer Eng, University of Alberta, Edmonton, AB, Canada*

GT-11. Optimization Design of Induction Motor Based on Sizing Equation and Genetic Algorithm. *Y. Chun*[1], P. Han[1] and D. Koo[1] *1. Korea Electrotechnology Research Institute, Changwon, South Korea*

GT-12. A study on the optimal design of synchronous reluctance motor for the maximum torque and power factor. *K. Kim*[1], J. Ahn[1], S. Won[1] and J. Lee[1] *1. Dept. of electrical engineering, hanyang university, seoul, South Korea*

GT-13. Analysis of axial magnetic force distribution due to the axial clearance for electrical rotating machine. *K. Kim*[1] and J. Lee[1] *1. Dept. of electrical engineering, hanyang university, seoul, South Korea*

GT-14. Performance improvement of an external-rotor split-phase induction motor for low-cost drive applications using external rotor can. P.J. Holik[1], *D.G. Dorrell*[1] and M. Popescu[1] *1. Dept of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom*

GT-15. Design of Premium High Efficiency Induction Motor with Copper Rotor Cage. *P. Han*[1], Y. Chun[1] and D. Koo[1] *1. Mechatronics Research Group, Korea Electrotechnology Research Institute, Changwon, Gyeongsangnam-do, South Korea*

GT-16. Space mapping optimization of the magnetic circuit of electrical machines including local material degradation. *G. Crevecoeur*[1], L. Dupré[1] and R. Van de Walle[2] *1. Department of Electrical Energy, Systems and Automation, Ghent University, Ghent, Belgium; 2. Department of Electronics and Information Systems, Ghent University, Ghent, Belgium*

THURSDAY MORNING 8:00 GRAND BALLROOM

Session GU
MAGNETIC MICROSCOPY AND IMAGING II (POSTER SESSION)

Amit Kohn, Session Chair

GU-01. Inverse Scheme to Determine the Shapes in Magnetic Inductance Tomography System. *G. Park*[1], K. Seo[1] and D. Kim[1] *1. Electrical Engineering, Pusan National University, Busan, South Korea*

GU-02. Domain Observation Technique for Nd-Fe-B Magnet in High Magnetic Field by Image Processing Using Liquid Crystal Modulator. *M. Takezawa*[1], T. Shimada[1], S. Kondo[1], S. Mimura[1], Y. Morimoto[1], T. Hidaka[1] and J. Yamasaki[1] *1. Dept. of Appl. Sci. for Integ. Syst. Engin., Kyushu Institute of Technology, Kitakyushu, Japan*

GU-03. Focused Ion Beam created magnetic logic nano-structures studied by using scanning ion microscopy with polarization analysis (SIMPA). *J. Li*[1] and C. Rau[1] *1. Department of Physics and Astronomy, Rice Quantum Institute and Smalley Institute for Nanoscience and Technology, Rice University, Houston, TX, USA*

GU-04. Modal Spectrum of Permalloy Disks with and without Vortex Core. *F. Hoffmann*[1], G. Woltersdorf[1], K. Perzlmaier[1], I. Neudecker[1] and C.H. Back[1] *1. Physics, University of Regensburg, Regensburg, Germany*

GU-05. Orthogonal spin-valve sensors for field detection. B. Negulescu[1], *J. Borme*[1], J.M. Almeida[1,2] and P.P. Freitas[1,2] *1. INESC-MN, Lisbon, Portugal; 2. Instituto Superior Técnico, Lisbon, Portugal*

GU-06. The three-dimensional micromagnetic domain structure of MnAs thin films. R. Engel-Herbert[1], D.M. Schaadt[2] and *T. Hesjedal*[1] *1. E&CE Dept., University of Waterloo, Waterloo, ON, Canada; 2. Paul Drude Institute, Berlin, Germany*

THURSDAY MORNING 8:00 GRAND BALLROOM

Session GV
HEAD-DISK INTERFACE AND TRIBOLOGY II (POSTER SESSION)

Peter Baumgart, Session Chair

GV-01. Effect of Heater Location and Size on Performance of Fly-height Adjustment. *K. Miyake*[1], T. Shiramatsu[1], M. Kurita[1], H. Tanaka[1], M. Suk[2] and S. Saegusa[3] *1. Hitachi Global Storage Technologies Japan, Ltd., Odawara-shi, Kanagawa-ken, Japan; 2. Hitachi Global StarageTechnologies Inc., San Jose, CA, USA; 3. Collaborative Research Center, Hiroshima University, Higashi-Hiroshimashi-shi, Hiroshima-ken, Japan*

GV-02. High selectivity etching for texture fabrication on air bearing surface. *M. Zhang*[1], B. Liu[1] and Y. Man[1] *1. SMI, Data Storage Institute, Singapore, Singapore*

GV-03. Approximate Simulation on Flying Performance of Thermally Protruded Slider. *H. Li*[1], S. Yoshida[1], B. Liu[2], W. Zhou[2], S. Yu[2] and W. Hua[2] *1. Storage Mechanics Laboratory, Hitachi Asia Ltd, Singapore, Singapore; 2. Data Storage Institute, singapore, Singapore*

GV-04. Finite Element Analysis of Alternating Write Current Induced Pole Tip Protrusion in Magnetic Recording Heads. *S. Song*[1], L. Wang[1], V. Rudman[1], D. Fang[1], K. Stoev[1], J. Wang[1] and B. Sun[1] *1. R&D, Western Digital Corporation, Fremont, CA, USA*

GV-05. Effect of Electrostatic force on Slider-Lubricant Interaction. *B. Tan*[1,2], B. Liu[1], Y. Ma[1], M. Zhang[1] and S. Ling[2] *1. SMI, Data Storage Institute, Singapore, Singapore; 2. MAE, Nanyang Technological University, Singapore, Singapore*

GV-06. A Novel Slip Boundary Model for Lattice Boltzmann Method in Nanoscale Air Bearing Simulation. *D. Kim*[1], W. Kim[2], H. Kim[1] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Samsung Corning Precision Glass, Asan-si, South Korea*

GV-07. Effects of Molecular Structure on the Conformation and Dynamics of Perfluoropolyether Nanofilms. *H. Chen*[1], Q. Guo[1] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

GV-08. Molecular Tribology of PFPE Lubricant on Magnetic Recording Disks. *H. Tani*[1] *1. Media Engineering, HitachiGST JAPAN, Odawara-shi, Kanagawa-ken, Kanagawa-ken, Japan*

GV-09. The Tribological properties of the New Lubricant at the Head-Disk Interface. *K. Sonoda*[1], D. Shirakawa[2], T. Yamamoto[1] and J. Ito[1] *1. Hard Disk Drive Development, Toshiba Co., Ome, Tokyo, Japan; 2. Chemicals Company, Asahi Glass Co., Ichihara, Chiba, Japan*

GV-10. A Study on Design and Synthesis of New Structure Lubricant for Near Contact Recording. *D. Shirakawa*[1], K. Sonoda[2] and K. Ohnisi[1] *1. Chemical Campany, Asahi Glass Co., Goikaigan10 Ichihara-shi, Chiba, Japan; 2. Toshiba Corp., 2-9 Suehiro-Cho, Ome, Tokyo, Japan*

THURSDAY MORNING 8:00 GRAND BALLROOM

Session GW
FERRITES, GARNETS, AND MICROWAVE MATERIALS II (POSTER SESSION)

Jiro Yamasaki, Session Chair

GW-01. Microwave permeability of amorphous ferromagnetic layers obliquely deposited. *S. Dubourg*[1], E. Estrade[2], Y. Compère[1], O. Bodin[1], A. Moreau[1] and J. Longuet[2] *1. LMMH, CEA, Monts, France; 2. LMC, CEA, Monts, France*

GW-02. Evolution of magnetic structure in magnetite thin films by vanadium doping. K. Kim[2], *J. Park*[1], S. Choi[2], H. Lee[2] and Y. Park[2] *1. Depart. of MSE, Univ. of Incheon, Incheon, South Korea; 2. Dept. of Physics, Konkuk University, Seoul, South Korea*

GW-03. Development of Low Loss Mn-Zn Ferrites working at Frequency Higher than 500kHz. Y. Liu[1,2] and *S. He*[2] *1. Physics, China Jiliang University, Hangzhou, Zhejiang, China; 2. Workstation for Post-Doctor Scientific Research, DMEGC, Hangzhou, Zhejiang, China*

GW-04. First-principle Calculation of the Magnetic Anisotropy in the Artificial Manganese Ferrite Films. *X. Zuo*[1], A. Yang[2], W. Duan[3], J. Wu[3], C. Vittoria[2] and V.G. Harris[2] *1. College of Information Technical Science, Nankai University, Tianjin, China; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Physics Department, Tsinghua University, Beijing, China*

GW-05. The Magnetic Properties of Stained and Relaxed $Fe_{3-x}Mg_xO_4$ Ferrite Films on MgO(001) and $SrTiO_3$(001) by Molecular Beam Epitaxy. *D.S. Lee*[1,2], J.S. Wang[1], D.K. Modak[1], C.L. Chang[3] and G. Chern[1] *1. Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Electrical Engineering, Da-Yeh University, Chunghua, Taiwan; 3. Physics, Tamkang University, Tamsui, Taiwan*

GW-06. NON-RESONANT MICROWAVE ABSORPTION AND ANISOTROPY FIELD IN Ni0.35Zn0.65Fe2O4 FERRITE. *R. Valenzuela*[1], G. Alvarez[1], H. Montiel[2], M. Gutierrez[3] and R. Zamorano[3] *1. Materials Science, National University of Mexico, Mexico City, D.F., Mexico; 2. Applied Sciences and Technology, National University of Mexico, Mexico City, DF, Mexico; 3. Materials Science ESFM, National Polytechnic Institute, Mexico City, DF, Mexico*

GW-07. MISORIENTATIONS IN [0 0 1] MAGNETITE THIN FILMS STUDIED BY ELECTRON BACKSCATTER DIFFRACTION AND MAGNETIC FORCE MICROSCOPY. *A.D. Koblischka-Veneva*[1], M.R. Koblischka[2], J. Wei[2], Y. Zhou[3], S. Murphy[3], F. Muecklich[1], H. Uwe[2] and I.V. Shvets[3] *1. Institute for Functional Materials, University of the Saarland, Saarbruecken, Saarland, Germany; 2. Institue of Experimental Physics, University of the Saarland, Saarbruecken, Germany; 3. SFI Nanoscience Laboratory, Trinity College, Dublin, Ireland*

GW-08. Effect of growth temperature on the magnetic, microwave, and cation inversion properties on $NiFe_2O_4$ thin films deposited by pulsed laser ablation deposition. *C. Chinnasamy*[1], S.D. Yoon[1], A. Yang[1], A.K. Baraskar[1], C. Vittoria[1] and V.G. Harris[1] *1. Electrical&Computer Engineering, Northeastern university, Boston, MA, USA*

GW-09. Low-loss barium ferrite quasi-single-crystals for microwave application. *Y. Chen*[1], T. Sakai[1], T. Chen[1], C. Vittoria[1] and V.G. Harris[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA*

GW-10. The ionic states of nano crystalline $NiFe_2O_4$ synthesized by levitational gas condensation (LGC) method using micron powder feeding system. *Y. Uhm*[1], B. Han[1], M. Lee[1] and C. Rhee[1] *1. Nuclear Nano Materials Development Lab., Atomic energy research institute (KAERI), Daejeon, South Korea*

GW-11. Magneto-optical study of Co2+↔Fe2+ electronic transition in CoxFe1-xFe2O4. K.L. Stokes[1], *B.L. Scott*[1] and D.A. Smith[1] *1. Dept. of Physics, University of New Orleans, New Orleans, LA, USA*

GW-12. Growth and characterization of chromium substituted barium ferrite single crystals for high frequency microwave applications. *J. Jalli*[1], Y.K. Hong[2], S.H. Gee[1], C.C. Juan[1] and I.T. Nam[3,1] *1. Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 2. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Advanced Materials Engineering, Kangwon National University, Chooncheon, South Korea*

GW-13. Epitaxial growth of PbFe12O19 thin film by alternate deposition of 6Fe2O3 and PbO layers. *Y. He*[1], A. Geiler[1], F. Yang[1], V.G. Harris[1] and C. Vittoria[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA*

GW-14. Distribution of transition-metal ions and the related magnetic structure in Mn-doped cobalt ferrite thin films. *K. Kim*[2], Y. Park[2], S. Choi[2], H. Lee[2] and J. Park[1] *1. Depart. of MSE, Univ. of Incheon, Incheon, South Korea; 2. Dept. of Physics, Konkuk University, Seoul, South Korea*

GW-15. The Low Temperature Co-fired Ceramics materials for RF and microwave applications components. *R.M. Sarabu*[1] *1. Department of Physics, Osmania University, Hyderabad, Andhra Pradesh, India*

THURSDAY MORNING 8:00 **GRAND BALLROOM**

Session GX
NEW MAGNETIC MATERIALS I (POSTER SESSION)
Alexander Dobin, Session Chair

GX-01. Ab-initio Calculation of Local Exchange Interactions in Magnetic Anatase. *X. Zuo*[1], S. Yoon[2], C. Vittoria[2] and V.G. Harris[2] *1. College of Information Technical Science, Nankai University, Tianjin, Tianjin, China; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA*

GX-02. Magnetic structure and magnetic property of an Fe-Pd-Rh alloy. *Y. Lin*[1], H.T. Lee[2] and S.U. Jen[3] *1. Depart. of Mold and Die Engin., National Kaohsiung University of Applied Sciences, Kaohsiung, Taiwan; 2. Depart. of Mechanical Engin., National Cheng Kung University, Tainan, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

GX-03. High pressure high temperature (HPHT) synthesis and magnetic properties of ordered perovskite Sr2Cu(Re0.69-xWxCa0.31)O6(0 ≤ x ≤ 0.6). *S. Balamurugan*[1], M. Isobe[1] and E. Takayama-Muromachi[1] *1. Advanced Nano Materials Laboratory, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan*

GX-04. Structure and Magnetic Properties of EuMnxGa3-x. *Y. Guo*[1,2], Y. Grin[1] and W. Schnelle[1] *1. Max Planck Institute for the Chemical Physics of Solids, Dresden, Germany; 2. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China*

GX-05. High-temperature field-induced activation of ferromagnetism in $Ce_{1-x}Ni_xO_2$ *A. Thurber*[1] and A. Punnoose[1] *1. Physics, Boise State University, Boise, ID, USA*

GX-06. Band structure calculations, structures, magnetic and transport properties of doped two dimensional Sr_2CoO_4 *Q. Yao*[1], X. Wang[1], S. Dou[1] and Z. Lin[2] *1. ISEM, University of Wollongong, Wollongong, NSW, Australia; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia*

GX-07. Magnetic anisotropy in single crystalline LiFePO4. *D. Chen*[1], X. Wang[1], Y. Hu[2], C. Lin[2], S. Dou[1] and Q. Yao[1] *1. Institute for Superconducting and Electronic Materials, Wollongong, NSW, Australia; 2. Max Planck Institute for Solid State Research, Heisenbergstr. 1, Stuttgart, Germany*

GX-08. Exceptional magnetic properties of Fe substituted nickel chromite. *S. Park*[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, South Korea*

GX-09. Effect of application of high magnetic field on the microstructure of Fe, Ni substituted LDH clay for a magnetic application. *H. Murase*[1], H. Yasuda[2] and A. Nakahira[1] *1. Osaka Pref Univ, Osaka, Japan; 2. Osaka Univ, Osaka, Japan*

GX-10. Converse Magnetoelectric Effect in Three-Phase Composites of Piezoceramic, Metal-Cap, and Magnet. *W. Wong*[1], Y. Jia[1,2], S. Or[1], H. Chan[1] and H. Luo[2] *1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 201800, China*

GX-11. Magnetic domain structures in discontinuous layers observed by magnetic force microscopy. *Y.G. Pogorelov*[1], D. Kozodaev[2], J.A. Santos[1], G.N. Kakazei[3] and J.B. Sousa[1] *1. Department of Physics, University of Porto, Porto, Portugal; 2. NTI-Europe, Appeldoorn, Netherlands; 3. Institute of Magnetism, Kiev, Ukraine*

GX-12. Structure and magnetic properties of Co2NiGa alloys. X. Dai[1,2], G. Liu[2], Y. Li[1], J. Qu[1], J. Li[1], J. Chen[2] and *G. Wu*[2] *1. School of material sciences and engineering, Hebei university of technology, Tianjin, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

GX-13. One-pot sonochemical synthesis of Fe1-xCuxCr2S4 chalcospinels. *M.L. Rao*[1,2] *1. chemistry, Indian Institute of Technology Kanpur, Kanpur, India; 2. Materials Reeach Labs, Pennsylvania State university, State College, PA, USA; 3. Physics, University of Maryland, College Park, MD, USA*

GX-14. OBSERVATION OF EXCHANGE BIAS EFFECT IN NANOGRANULATED RuSr2GdCu2O8/La0.67Sr0.33MnO3 COMPOSITES. *J. Roa-Rojas*[1], M.A. Flórez Torrez[1] and D.A. Landínez Téllez[1] *1. Grupo de Física de Nuevos Materiales, Departamento de Física, Universidad Nacional de Colombia, Bogotá, DC, Colombia*

GX-15. Characterization of Mn-doped 3C-SiC prepared by ion implantation. *F. Takano*[1], W. Wang[1], S. Hishiki[2], T. Ohshima[2], H. Ofuchi[3] and H. Akinaga[1] *1. Nanotechnology Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Quantum Beam Science Directorate, Japan Atomic Energy Agency (JAEA), Takasaki, Gunma, Japan; 3. Japan Synchrotron Radiation Research Institute (JASRI), Sayo-gun, Gyogo, Japan*

GX-16. Magnetothermopower in $Nd_{1-x}Eu_xNiO_3$ compounds. *V.B. Barbeta*[1], R.F. Jardim[2], M.T. Escote[3] and N.R. Dilley[4] *1. Departamento de Física, Centro Universitário da FEI, São Bernardo do Campo, São Paulo, Brazil; 2. Departamento de Física dos Materiais e Mecânica, Universidade de São Paulo, São Paulo, São Paulo, Brazil; 3. Centro de Ciências Naturais e Humanas, Universidade Federal do ABC, Santo André, São Paulo, Brazil; 4. Quantum Design, Inc., San Diego, CA, USA*

THURSDAY AFTERNOON 2:00 **HARBORSIDE C**

Session HA
SPIN TORQUE: METALLIC SYSTEMS
Maxim Tsoi, Session Chair

2:00

HA-01. Time-Resolved Imaging of Spin Transfer Switching: Beyond the Macrospin Concept. ***(Invited)*** *Y. Acremann*[1], J. Strachan[1], V. Chembrolu[1], A. Tulapurkar[1], X. Yu[1], T. Tyliszczak[3], S.D. Andrews[2], J.A. Katine[4], M.A. Carey[4], B.M. Clemens[2], H.C. Siegmann[1] and J. Stohr[1] *1. Stanford Linear Accelerator Center, Menlo Park, CA, USA; 2. Stanford University, Stanford, CA, USA; 3. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. Hitachi, Almaden, CA, USA*

2:36

HA-02. Fast Pulse Measurements and Temperature Variation of Enhanced Magnetic Damping of Spin-Transfer Excitation. *E. Ryan*[1], A.G. F. Garcia[1], P.M. Braganca[1], N.C. Emley[1], J.C. Read[1], E. Tan[1], J.A. Katine[3], D.C. Ralph[2] and R.A. Buhrman[1] *1. Applied Physics, Cornell University, Ithaca, NY, USA; 2. Physics, Cornell University, Ithaca, NY, USA; 3. Hitachi Global Storage Technologies, San Jose, CA, USA*

2:48

HA-03. Self-amplification of eigen modes in single layer pillars. A. Parge[1], M. Scherff[1], M. Seibt[1], D. Berkov[2], J.S. Moodera[3] and *M.G. Muenzenberg*[1] *1. IV. Phys. Institute, Göttingen University, Göttingen, Germany; 2. Innovent, Jena, Germany; 3. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA, USA*

3:00

HA-04. Spin current induced excitations for the 'perpendicular polarizer-planar free layer' configuration. D. Houssameddine[1], B. Delaët[2], *U. Ebels*[1], B. Rodmacq[1], F. Ponthenier[2], C. Thirion[1], M. Brunet[3,2], M. Cyrille[2], O. Redon[2] and B. Dieny[1] *1. SPINTEC Laboratory URA 2512 CEA/CNRS, Grenoble, France; 2. CEA Grenoble, LETI/DIHS/LIMN, Grenoble, France; 3. LAAS CNRS, Toulouse, France*

3:12

HA-05. Influence of field orientation on current-induced magnetization reversal in nanopillars with perpendicular anisotropy. *Y. Henry*[4], S. Mangin[1,2], D. Ravelosona[1,3], J. Katine[1] and E. Fullerton[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Laboratoire de Physique de Matériaux, UMR CNRS 7556, U.H.P-Nancy I, Vandoeuvre, France; 3. Institut d'Electronique Fondamentale, UMR CNRS 8622, U. Paris Sud, Orsay, France; 4. Institut de Physique et Chimie des Matériaux de Strasbourg-GEMM, Strasbourg, France*

3:24

HA-06. Size Dependence of Spin Torque Transfer in Magnetic Nano Structure with Perpendicular Anisotropy. *H. Meng*[1] and J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN, USA*

3:36

HA-07. Observation of Current Induced Switching in a Dual CPP-GMR Spin Valve. D. Shin[1] and *S.X. Wang*[1] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA*

3:48

HA-08. Spin Transfer Torque Switching with Precessional Motion from a Hard Axis Magnetic Field. *K. Ito*[1], T. Devolder[2], C. Chappert[2], M.J. Carey[3] and J.A. Katine[3] *1. Hitachi Cambridge Laboratory, Hitachi Europe, Ltd., Cambridge, United Kingdom; 2. Institure d'Electronique Fondamentale, Universite Paris Sud, Orsay, France; 3. San Jose Research Center, Hitachi GST, San Jose, CA, USA*

4:00

HA-09. Switching speed distribution of spin-torque-induced magnetic reversal. *J. He*[1], J.Z. Sun[2] and S. Zhang[1] *1. Department of Physics and Astronomy, University of Missouri Columbia, Columbia, MO, USA; 2. IBM T. J. Watson Research Center, P. O. Box 218, Yorktown Heights, NY, USA*

4:12

HA-10. Reduction of extrinsic damping and switching field instability in Py/Cu/Py nanopillar spin valves. *O. Ozatay*[1], K.W. Tan[1], P.M. Braganca[1], E.M. Ryan[1], J.C. Read[1], A.K. Mkhoyan[1], M.G. Thomas[1], K.V. Thadani[1], J.C. Sankey[1], J. Silcox[1], D.C. Ralph[1] and R.A. Buhrman[1] *1. Applied Physics, Cornell University, Ithaca, NY, USA*

4:24

HA-11. Thermal effects on the critical current of spin torque switching in nanopillars. *M.L. Schneider*[1], M.R. Pufall[1], W.H. Rippard[1], S.E. Russek[1] and J.A. Katine[2] *1. National Institute of Standards and Technology, Boulder, CO, USA; 2. Hitachi San Jose Research Center, San Jose, CA, USA*

4:36

HA-12. Large Magnetoresistance Induced by Spin Transfer Torques with a Magnetic Field. *T. Chen*[1], S. Huang[1], C.L. Chien[1] and M.D. Stiles[2] *1. Physics and Astronomy, the Johns Hopkins University, Baltimore, MD, USA; 2. Electron Physics Group, National Institute of Standards and Technology, Gaithersburg, MD, USA*

THURSDAY AFTERNOON 2:00

HARBORSIDE A

Session HB
MULTIFERROICS: THIN FILMS AND COMPOSITES

Michel Kenzelmann, Session Chair

2:00

HB-01. Spintronics with multiferroics. *(Invited)* *A. Barthélémy*[1], H. Béa[1], M. Gajek[1], M. Bibes[2], S. Fusil[1], K. Bouzehouane[1], B. Warrot-Fonrose[4], S. Chérifi[5], G. Herranz[1], E. Jacquet[1], C. Deranlot[1], J. Fontcuberta[3] and A. Fert[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. IEF, Orsay, France; 3. ICMAB, Barcelone, Spain; 4. CEMES, Toulouse, France; 5. Laboratoire Louis Néel, Grenoble, France*

2:36

HB-02. Electric Field-Induced Magnetization Reduction in Multiferroic Pb(Zr, Ti)O_3-LaMnO_3 Composites. *M. Gomi*[1], N. Nishimura[1] and T. Yokota[1] *1. Materials Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan*

2:48

HB-03. Magnetism and magnetoelectric properties of multiferroic $HoMnO_3$ thin films. *J. Kim*[1], K. Dörr[1], K. Nenkov[1] and L. Schultz[1] *1. Institute for Metallic Materials, IFW-Dresden, Dresden, Germany*

3:00

HB-04. Magnetic Frustration Behavior of Ferroelectric Ferromagnet, YbMnO3 Epitaxial Films. *N. Fujimura*[1], T. Yoshimura[1] and T. Takahashi[1] *1. Graduate School of Eng., Osaka Prefecture University, Sakai, Osaka, Japan*

3:12

HB-05. Epitaxial Fe3O4 on SrTiO3 characterized by transmission electron microscopy. *J. Zheng*[1,2], G.E. Sterbinsky[2] and B.W. Wessels[2] *1. NUANCE, Northwestern University, Evanston, IL, USA; 2. MSE, Northwestern University, Evanston, IL, USA*

3:24

HB-06. Nanoscale Observation of Order Parameter Coupling in Multiferroic BiFeO3 Films. *K. Lee*[1,3], M. Barry[1], Y. Chu[1], A. Scholl[2], T. Zhao[1], M. Cruz[1,4], P. Yang[1], S. Yang[1], L. Martin[1], P. Yu[1], A. Doran[2], S. Baik[3] and R. Ramesh[1] *1. Department of Physics and Department of Materials Science and Engineering, UC Berkeley, Berkeley, CA, USA; 2. Advanced Light Source, Lawrence Berkeley Nantional Laboratory, Berkeley, CA, USA; 3. Department of Materials Science and Engineering, Pohang University of Science and Technology, Pohang, South Korea; 4. Centro de Ciencias de la Material Condensada - UNAM, Ensenada, Mexico*

3:36

HB-07. Electric-field control of exchange bias in multiferroic epitaxial heterostructures. *J. Fontcuberta*[1], V. Laukhin[2,1], V. Skumryev[2,3], X. Martí[1], D. Hrabrovsky[1], F. Sánchez[1], M.V. García-Cuenca[4], C. Ferrater[4], M. Varela[4], U. Lüders[5] and J.F. Bobo[5] *1. Institut de Ciència de Materials de Barcelona, Bellaterra, Spain; 2. Institut Català de Recerca i Estudis Avançats (ICREA), Barcelona, Spain; 3. Dept. Física, Universitat Autònoma de Barcelona, Bellaterra, Spain; 4. Física Aplicada i Òptica, Universitat de Barcelona, Barcelona, Spain; 5. LNMH, ONERA-CNRS, Toulouse, France*

3:48

HB-08. Exchange bias between ferromagnetic metals and multiferroic $BiFeO_3$, $LuMnO_3$, and $TbMnO_3$ *M. Murakami*[1], S. Fujino[1], J. Hattrick-Simpers[1], S.H. Lim[1], L.G. Salamanca-Riba[1], S.E. Lofland[2], S.W. Cheong[3], D. Kundaliya[4], S.B. Ogale[4], T. Venkatesan[4], J. Higgins[4], M. Wuttig[1] and I. Takeuchi[1,4] *1. Materials Science and Engieering, University of Maryland, College Park, MD, USA; 2. Department of Physics and Astronomy, Rowan University, Glassboro, NJ, USA; 3. Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, USA; 4. Center for Superconductivity Research, University of Maryland, College Park, MD, USA*

4:00

HB-09. TUNNEL MAGNETORESISTANCE AND EXCHANGE BIAS WITH MULTIFERROIC BiFeO3 EPITAXIAL THIN FILMS. *H. Béa*[1], S. Fusil[1], M. Bibes[2], S. Cherifi[3], A. Locatelli[4], B. Warot-Fonrose[5], G. Herranz[1], C. Deranlot[1], E. Jacquet[1], K. Bouzehouane[1] and A. Barthélémy[1] *1. Unité Mixte de Physique CNRS/THALES (UMR 137), Palaiseau, France; 2. Institut d'Electronique Fondamentale, Université Paris-Sud, Orsay, France; 3. Laboratoire Louis Néel, CNRS, Grenoble, France; 4. Sincrotrone Trieste, Trieste, Italy; 5. CEMES-CNRS, Toulouse, France*

4:12

HB-10. FERROMAGNETIC RESONANCE IN MULTI-FERROIC NICKEL FERRITE NANO-PILLAR - BISMUTH IRON OXIDE MATRIX FILMS. *K. Kim[1]1. Physics, Colorado State University, Fort Collins, CO, USA; 2. Slovak University of Technology, Bratislava, Slovakia; 3. Science and Engineering, University of California at Berkeley, Berkeley, CA, USA*

4:24

HB-11. Tailoring properties of oxide superlattices for their multiferroism. *W. Prellier*[1], M.P. Singh[1], M.K. Singh[1], L. Méchin[2], C. Simon[1] and B. Raveau[1]*1. ENSICAEN, CNRS, Caen, France; 2. GREYC, ENSICAEN/université de Caen, Caen, France*

4:36

HB-12. Multiferoic Behavior in Epitaxial $PbVO_3$ Films. *L.W. Martin*[1,2], A. Kumar[3], S. Denev[3], Q. Zhan[1,2], M. Chi[4], J.B. Kortright[2], J. Kreisel[5], N. Browning[4,6], V. Gopalan[3], Y. Suzuki[1,2] and R. Ramesh[1,2]*1. Materials Science and Engineering, University of California, Berkeley, Berkeley, CA, USA; 2. Materials Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Materials Science and Engineering, Pennsylvania State University, State College, PA, USA; 4. Chemical Engineering and Materials Science, University of California, Davis, Davis, CA, USA; 5. Laboratoire des Matériaux et du Génie Physique, Institut National Polytechnique de Grenoble, Grenoble, France; 6. National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, Berkeley, CA, USA*

THURSDAY AFTERNOON 2:00 — HARBORSIDE B

Session HC
NANOPARTICLE SYNTHESIS III
Axel Hoffmann, Session Chair

2:00

HC-01. Particle Size and Shape of Co Nanoparticles Fabricated by a Cluster Gun. M.J. Bonder[1], *P. Liu*[1], Y. Huang[1], G.C. Hadjipanayis[1] and D.G. Vlachos[2]*1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Chemical Engineering, University of Delaware, Newark, DE, USA*

2:12

HC-02. Novel chemical synthesis of Co nanoelements with different shapes. *Y. Sui*[1], Y. Zhao[1], J. Zhang[1], S.S. Jaswal[1], X. Li[1] and D.J. Sellmyer[1]*1. Department of Physics and Astronomy and NCMN, University of Nebraska-Lincoln, Lincoln, NE, USA*

2:24

HC-03. Investigating the Role of Protein Cage Architecture on the Magnetic Properties of Encapsulated Materials. *M.T. Klem*[1,2], K. Gilmore[3,2], K. Flanagan[3,2], M. Young[4,2], Y.U. Idzerda[3,2] and T. Douglas[1,2]*1. Chemistry & Biochemistry, Montana State University, Bozeman, MT, USA; 2. Center for Bioinspired Nanomaterials, Montana State University, Bozeman, MT, USA; 3. Physics, Montana State University, Bozeman, MT, USA; 4. Plant Sciences, Montana State University, Bozeman, MT, USA*

2:36

HC-04. Novel Synthesis of Carbon Encapsulated $L1_0$ FePt Nanoparticles. N. Cailuo[1], C. Yu[1], K.K. Yu[1], W. Oduro[1], B. Thiebaut[2], P. Bishop[2], C. Lo[3] and *S. Tsang*[1]*1. School of Chemistry, University of Reading, Whiteknights, Reading, United Kingdom; 2. Johnson Matthey Technology Centre, Sonning Common, Reading, United Kingdom; 3. Center for NDE, Iowa State University, Ames, IA, USA*

2:48

HC-05. The effect of electrochemical Li^+ insertion on the magnetic properties of Fe_3O_4 nanoparticles. *V. Sivakumar*[1], C. Ross[1], S. Kumar[2] and S-H. Yang[2]*1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA; 2. Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

3:00

HC-06. Cubic and spherical FeCo nanoparticles with narrow size distribution. *J. Bai*[1], Y. Xu[1] and J. Wang[1]*1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

3:12

HC-07. Structural and magnetic properties of chemical synthesized FePt Nanoparticles. *M. Delalande*[1], P. Marcoux[2], P. Reiss[2] and Y. Samson[1]*1. Nanostructure and Magnetism, CEA Grenoble, Grenoble, France; 2. SPrAM, CEA Grenoble, Grenoble, France*

3:24

HC-08. Synthesis and Characterization of Magnetic Chains of Nanospheres. R.V. Ramanujan[1] and *A.K. Srivastava*[1] *1. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore*

3:36

HC-09. Synthesis and Characterization of Magnetic II-VI Nanoparticles. N.A. Tracy[1], Y. Xu[1], *K. Meehan*[1], G. Wang[2] and G.T. Yee[2] *1. Electrical and Computer Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA; 2. Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA*

3:48

HC-10. Synthesis and Characterization of Fe/Au Nanoparticles. *S.N. Ahmad*[1], M. Donny[2], S.G. Rao[1], S. Geoff[2] and S.A. Shaheen[1] *1. Physics, Center for Materials Research and Technology, Florida State University, Tallahassee, FL, USA; 2. Chemistry, Florida State University, Tallahassee, FL, USA*

4:00

HC-11. Nuclei Concentration and Size in the A1 to $L1_0$ Phase Transformation of FePt Nanoparticles. *Y. Ding*[1] and S.A. Majetich[1] *1. Department of Physics, Carnegie Mellon University, Pittsburgh, PA, USA*

4:12

HC-12. Exchange Bias in Co-CoO Core Shell Nanoparticles. *M. Aronson*[1], S. Inderhees[1], G. Strycker[1], J. Borchers[2] and Y. Qiu[2] *1. Physics, University of Michigan, Ann Arbor, MI, USA; 2. NCNR, National Institute for Standards and Technology, Gaithersburg, MD, USA*

4:24

HC-13. Electronic and magnetic structure of L10-FePt nanoparticle embedded in FePt random alloy. *Y. Wang*[1], G. Stocks[2], A. Rusanu[2], D.M. Nicholson[2], M. Eisenbach[2], Q. Zhang[3] and P. Liu[3] *1. Pittsburgh Supercomputing Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Oak Ridge National Laboratory, Oak Ridge, TN, USA; 3. Department of Physics, University of Texas in Arlington, Arlington, TX, USA*

4:36

HC-14. The Effects of Surface Coating on the Structural and Magnetic Properties of CoAg Nanoparticles. *R.F. Evans*[1], F. Dorfbauer[2], O. Myrasov[3], O. Chubykalo-Fesenko[4], T. Shrefl[5] and R.W. Chantrell[1] *1. Department of Physics, University Of York, York, England, United Kingdom; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 3. Seagate Research, Pittsburgh, PA, USA; 4. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 5. Department of Engineering Materials, University of Sheffield, Sheffield, England, United Kingdom*

THURSDAY AFTERNOON 2:00 HARBORSIDE D

Session HD
HEAD MATERIALS, SOFT MAGNETIC FILMS, AND DOMAINS

Thomas Clinton, Session Chair

2:00

HD-01. Ab-initio studies of magnetic properties of CoFePd alloys and multilayers. *M. Chshiev*[1] and W. Butler[1] *1. MINT Center, University of Alabama, Tuscaloosa, AL, USA*

2:12

HD-02. High Moment FeCo Films with High Anisotropy for Perpendicular Magnetic Recording. *B. Ocker*[1], K. Schuller[1], J. Langer[1] and W. Maass[1] *1. Semiconductor Equipment / TMR-MRAM, Singulus Technologies AG, Kahl, Germany*

2:24

HD-03. MAGNETIZATION PROCESSES IN MAGNETIC MICROWIRES. *R. Varga*[1] and Y. Kostyk[1] *1. Institute of Physics, Faculty of Sciences, UPJS, Kosice, Slovakia*

2:36

HD-04. Spin reorientation transitions in perpendicularly exchange-coupled, ferromagnetic, ultra-thin films studied using element specific imaging. *Y. CHUN*[1], H. Ohldag[2] and K.M. Krishnan[1] *1. Materials Science and Engineering, Uinversity of Washington, Seattle, WA, USA; 2. Advanced Light Source, Berkeley National Laboratory, Berkeley, CA, USA*

2:48

HD-05. MICROWAVE ASSISTED SWITCHING IN $Ni_{81}Fe_{19}$ ELEMENTS. *B. Leven*[1], P. Martín Pimentel[1], H.T. Nembach[1], S.J. Hermsdörfer[1], S.O. Demokritov[2] and B. Hillebrands[1] *1. Fachbereich Physik and Forschungsschwerpunkt MINAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Institut für Angewandte Physik, Westfälische Wilhelms-Universität Münster, Münster, Germany*

3:00

HD-06. Magnetic Switching Properties of Mesoscopic Permalloy Discs Prepared by Nanosphere Lithography. *J. Shang*[1], F. Zhu[1] and C. Chien[1] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

HD-07. WITHDRAWN

3:12

HD-08. Domain wall mobility and Gilbert damping in magnetic nanostructures. *A. Mougin*[1], M. Cormier[1], J. Adam[1], P. Metaxas[1,2], J. Ferré[1] and R. Stamps[2] *1. UMR CNRS 8502, Laboratoire de Physique des Solides, Orsay, France; 2. School of Physics, University of Western Australia, Crawley 6009, WA, Australia*

3:24

HD-09. Magnetic domains and magnetization reversal of a single Ni nanowire. *W. Guan*[1], J. Zhang[1], T. Shen[1], P. Fischer[2], S. Morton[2] and L. Qin[1] *1. Institute for Materials Research, University of Salford, Salford, United Kingdom; 2. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA, USA*

3:36

HD-10. The short range order (SRO) of amorphous Co40Fe40B20 and its relation to induced magnetic anisotropy. *D. Kirk*[1], C. Lang[1], D. Cockayne[1], J. Schmalhorst[2], G. Reiss[2] and A. Kohn[1] *1. Dept. of Materials, University of Oxford, Parks Road, Oxford. OX1 3BH, United Kingdom; 2. Department of Physics, Thin Films and Nanostructures, Bielefeld University, P.O. Box 100131, 33501 Bielefeld, Germany*

3:48

HD-11. Microstructure evolution of NiFe/Cu composite wires deposited by electroplating with an applied field. *J. Yi*[1], X. Li[1], J. Yin[2], S. Thongmee[2], J. Ding[2] and H. Seet[1] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

4:00

HD-12. Low-noise crystalline soft underlayer for CoCrPt:SiO_2 perpendicular recording media. *J. Shi*[1], S. Piramanayagam[1], J. Zhao[1], . Mah[1] and C. Ong[1] *1. Spintronics, Media, and Interface, Data Storage Institute, singapore, Singapore*

4:12

HD-13. Magnetic Nanocrystalline Films Softened by Obliquely Accelerating Fe Nanoparticles. *D. Meyer*[1], M. Faheem[1], M. Campanell[1], J. Antony[1], A. Sharma[1] and Y. Qiang[1] *1. Physics, University of Idaho, Moscow, ID, USA*

4:24

HD-14. Amorphous and nanocrystalline iron nitride thin films prepared by reactive ion-beam sputtering. *R. Dubey*[1], A. Gupta[1] and J. Pivin[2] *1. Indore Center, UGC-DAE Consortium for Scientific Research, Indore, M.P., India; 2. Bätiment 108, CSNSM-IN2P3, 91405 Orsay Campus, France*

4:36

HD-15. FUNDAMENTAL MAGNETIC PROPERTIES OF SOFT IRON-TITANIUM-NITROGEN THIN FILMS. *J. Das*[1], S.S. Kalarickal[1], K.S. Kim[1] and C.E. Patton[1] *1. Physics, Colorado State University, Fort Collins, CO, USA*

THURSDAY AFTERNOON 2:00 — HARBORSIDE E

Session HE
LOW DIMENSIONAL SYSTEMS/SPIN GLASSES AND FRUSTRATION

Collin Broholm, Session Chair

2:00

HE-01. Disordered Spin Ground State in a S=1 Triangular Lattice. ***(Invited)*** *C. Stock*[1], S. Jonas[1], C. Broholm[1], S. Nakatsuji[2], Y. Nambu[2] and H. Tonomura[2] *1. Johns Hopkins University, Baltimore, MD, USA; 2. Kyoto University, Kyoto, Japan*

2:36

HE-02. Topological and energetic aspects of the random-field Ising model. *G. Bertotti*[1], V. Basso[1], P. Bortolotti[1,2] and A. Magni[1] *1. INRIM, Torino, Italy; 2. Physics Dept., Politecnico di Torino, Torino, Italy*

2:48

HE-03. Magnetic Properties of a Metal-organic Cu Dimer System, $[Cu(IPA)(bpy)](H_2O)_3$ *T. Yuen*[1], C. Lin[1], L. Pan[2] and J. Li[2]*1. Physics, Temple University, Philadelphia, PA, USA; 2. Chemistry & Chemical Biology, Rutgers University, Piscataway, NJ, USA*

3:00

HE-04. Spin-glass ordering in the layered III-VI Diluted Magnetic Semiconductor Ga1-xMnxS. *T.M. Pekarek*[1], E.M. Watson[1], J. Garner[1], P.M. Shand[2], I. Miotkowski[3] and A.K. Ramdas[3]*1. Chemistry and Physics, Univ. of N. Florida, Jacksonville, FL, USA; 2. Physics, Univ. of N. Iowa, Cedar Falls, IA, USA; 3. Physics, Purdue Univ., W. Lafayette, IN, USA*

3:12

HE-05. Atom-Resolved Spin Excitation Spectroscopy: A New Tool for Deciphering the Spin Properties of Nanomagnetic Structures. ***(Invited)*** *C. Hirjibehedin*[1], C.P. Lutz[1] and A.J. Heinrich[1]*1. IBM Research Division, Almaden Research Center, San Jose, CA, USA*

3:48

HE-06. Coaxial Palladium Nanowires: Magnetism and Transport. *D. Stewart*[1]*1. Cornell Nanoscale Facility, Cornell University, Ithaca, NY, USA*

4:00

HE-07. Magnetotransport Properties of an Individual Single-crystalline Bi Nanowire. *W. Shim*[1], J. Ham[1], K. Lee[1], J. Chang[2], S. Han[2], W. Jeung[2], M. Johnson[3] and W. Lee[1]*1. Department of Materials Science and Engineering, Yonsei University, Seoul, South Korea; 2. Korea Institute of Science and Technology (KIST), Seoul, South Korea; 3. Naval Research Laboratory, Washington, DC, USA*

4:12

HE-08. Low-spin phase in bi-atomic chains grown on vicinal Pt(997) surfaces. *J. Honolka*[1], K. Kuhnke[1], D. Repetto[1], V. Sessi[1], P. Gambardella[2], S. Gardonio[3], A. Enders[1] and K. Kern[1]*1. Max-Planck Institute FKF, Stuttgart, Germany; 2. Catalan Institute for Research and Advanced Studies (ICREA), Barcelona, Spain; 3. Istituto di Struttura della Materia, Consiglio Nazionale delle Ricerche, Trieste, Italy*

4:24

HE-09. Structures, magnetism, and giant magnetoresistance in two dimensional Sr2CoO4 and three dimensional SrCoO3 doped with rare earth elements. *X. Wang*[1], Q. Yao[1], M. James[2], E. Takayama-Muromachi[3] and R. Liu[4]*1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Brag Institute, ANSTO, Sydney, NSW, Australia; 3. 2Superconducting Materials Center, Institute for Materials Science, Tsukuba, Japan; 4. Chemistry Department,, National Taiwan University, Taibei, Taiwan*

THURSDAY AFTERNOON 2:00 — ESSEX

Session HF
HYPERTHERMIA AND MAGNETIC FLUIDS
Mohindar Seehra, Session Chair

2:00

HF-01. Nonlinear microrheology of wormlike micelle solutions using ferromagnetic nanowire probes. *N. Cappallo*[1], C. Lapointe[1], R.L. Leheny[1] and D.H. Reich[1]*1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

2:12

HF-02. Magnetorheology of submicron diameter iron microwires dispersed in silicone oil. *R.C. Bell*[1], J.O. Karli[1], A.N. Vavreck[1], D.T. Zimmerman[1], G.T. Ngatu[2] and N.M. Wereley[2]*1. Penn State Altoona, Altoona, PA, USA; 2. Department of Aerospace Engineering, University of Maryland, College Park, MD, USA*

2:24

HF-03. SEDIMENTATION RATE MEASUREMENT OF Fe-BASED MAGNETORHEOLOGICAL FLUIDS WITH PARTIAL SUBSTITUTION OF MICROPARTICLES WITH NANOPARTICLES. G. Ngatu[1] and *N.M. Wereley*[1]*1. Aerospace Engineering, University of Maryland, College Park, MD, USA*

2:36

HF-04. DEVELOPMENT OF TUMOR TARGETING MAGNETIC NANOPARTICLES FOR CANCER THERAPY. ***(Invited)*** *R. Ivkov*[1], S.J. DeNardo[2], L.A. Miers[2], A. Natarajan[2], A.R. Foreman[1], C. Gruettner[3], G.N. Adamson[2] and G.L. DeNardo[2]*1. Triton BioSystems, Chelmsford, MA, USA; 2. Molecular Cancer Institute, University of California, Davis, Sacramento, CA, USA; 3. Micromod Partikelteknologie GmbH, Rostock, Germany*

3:12

HF-05. Size-dependent heating rates of iron oxide nanoparticles for magnetic fluid hyperthermia. *M.G. Gonzales*[1], M. Zeisberger[2] and K.M. Krishnan[1] *1. University of Washington, Seattle, WA, USA; 2. Institute for Physical High Technology, Jena, Germany*

3:24

HF-06. Size and Concentration Effects on High Frequency Hysteresis of Iron Oxide Nanoparticles. *A. Eggeman*[1], S. Majetich[1], Q. Pankhurst[2] and D. Farrell[2] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 2. London Centre for Nanotechnology, University College, London, United Kingdom*

3:36

HF-07. Evaluation of FeCo Nanoparticles for Heat Sources for Thermoablative Cancer Therapy. A.H. Habib[2], *M.E. McHenry*[1,2], M. Bockstaller[1] and P.M. Chaudhary[3] *1. Materials Sc. and Engg., Carnegie Mellon University, Pittsburgh, PA, USA; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Hillman Cancer Center, University of Pittsburgh Cancer Institute, Pittsburgh, PA, USA*

3:48

HF-08. Size Dependent In-vitro Heating With Polyethylene Glycol Coated Magnetic Nanoparticles. *M.J. Bonder*[1], D. Gallo[1], B. Srinivasan[1] and G.C. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, De, DE, USA*

4:00

HF-09. Effect of DNA coating on magnetic relaxation in γFe_2O_3 nanoparticles. *P. Dutta*[1] and M.S. Seehra[1] *1. Physics, West Virginia University, Morgantown, WV, USA*

4:12

HF-10. A Magneto-Optic Approach towards Biomagnetic Sensing via Brownian Relaxation. *S. Chung*[1], M. Grimsditch[1], A. Hoffmann[1], S.D. Bader[1], J. Xie[2], S. Peng[2] and S. Sun[2] *1. Material Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Department of Chemistry, Brown University, Providence, RI, USA*

4:24

HF-11. WITHDRAWN

4:36

HF-12. Magnetic relaxation in ferrimagnetic glass-ceramics obtained by co-precipitation at different temperatures. *P. Tiberto*[1], M. Coisson[1], F. Vinai[1], P. Allia[2], O. Bretcanu[3] and E. Verne'[3] *1. Materiali, INRIM, Torino, Italy; 2. Physics, Politecnico di Torino, Torino, Italy; 3. Materials Science and Chemical Engineering, Politecnico di Torino, Torino, Italy*

4:48

HF-13. Influence of coagulation of ferrite nanoparticles on their heating ability for hyperthermia at 120 kHz, a noninvasive frequency. *K. Okawa*[1], T. Kanemaru[1], Y. Hase[2], S. Nomura[2], M. Ikeda[2], K. Nishio[2], M. Tada[1], T. Nakagawa[1], H. Handa[2] and M. Abe[1] *1. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Biological Information, Tokyo Institute of Technology, Yokohama, Japan*

THURSDAY AFTERNOON 2:00 — LAUREL

Session HG
SPIN VALVES: METALLIC AND ORGANIC
Peng Xiong, Session Chair

2:00

HG-01. Stochastic behavior of domain wall manipulation in magnetic nano-wires. *J. Briones*[1], F. Montaigne[1], M. Hehn[1], D. Lacour[1], M.J. Carey[2] and J.R. Childress[2] *1. Laboratoire de Physique des Matériaux UMR 7556, Nancy-University, CNRS, Vandoeuvre lès Nancy, France; 2. Sensor Materials & Technology, San Jose Research Center - Hitachi Global Storage Technologies, San Jose, CA, USA*

2:12

HG-02. Contactless measurement of magnetoresistance using fibre optics. *T. Stanton*[1], T. Deakin[1], M. Vopsaroiu[1], S.M. Thompson[1] and V.G. Artyushenko[2] *1. Physics, University of York, York, United Kingdom; 2. A.R.T. Photonics GmbH, Berlin, Germany*

2:24

HG-03. Improvement of Spin Valves Sensitivity and 1/f Noise Using Flux Guide Concentrators. *A. Guedes*[1,2], J.M. Almeida[1,2] and P.P. Freitas[1,2] *1. Magnetism, INESC-MN, Lisboa, Portugal; 2. Physics, Instituto Superior Técnico, Lisboa, Portugal*

2:36

HG-04. Influence of a transversal magnetic field on the movement and pinning of domain walls in narrow GMR wires.
R. Mattheis[1], S. Glathe[1], H. Baierl[1] and *M. Diegel*[1]*1. Magnetoelectronics, IPHT, Jena, Germany*

2:48

HG-05. Magnetoresistance of FeCo nanocontacts with CPP-SV structure.
H.N. Fuke[1], S. Hashimoto[1], M. Takagishi[1], H. Iwasaki[1], S. Kawasaki[2], K. Miyake[2] and M. Sahashi[2]*1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan; 2. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan*

3:00

HG-06. Specific Resistance, Scattering Asymmetry, and Some Thermal Instability of Co/Al, Co(9%Fe)/Al, and Fe/Al Interfaces.
N. Theodoropoulou[1], A. Sharma[1], T. Haillard[1], R. Loloee[1], W.P. Pratt Jr[1], J. Bass[1], J. Zhang[2] and M.A. Crimp[2]*1. Physics, Michigan State University, East Lansing, MI, USA; 2. Chemical Engineering and Materials Science, Michigan State University, East Lansing, MI, USA*

3:12

HG-07. Effect of Interfacial Spin Scattering and Interfacial Resistance on Magnetoresistance.
S. Kumar[1,2], S. Tan[2] and *M. Jalil*[1]*1. ECE, ISML (NUS), Singapore, Singapore; 2. SMI, Data Storage Institute, Singapore, Singapore*

3:24

HG-08. Role of interface domain wall on magnetoresistance in bilayers and spin valve structures.
T. Hauet[1], S. Mangin[1], M. Hehn[1], F. Montaigne[1], Y. Henry[2] and E.E. Fullerton[3]*1. Laboratoire de Physique de Matériaux, Nancy-University CNRS, Vandoeuvre, France; 2. Institut de Physique et Chimie des Matériaux de Strasbourg-GEMM, Strasbourg, France; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

3:36

HG-09. Hot electron transport in fully epitaxial $Fe_{34}Co_{66}$/Au/$Fe_{34}Co_{66}$-spin-valves using (Scattering) Ballistic Electron Magnetic Microscopy.
E. Heindl[1], J. Vancea[1] and C. Back[1]*1. Department of Physics, NWF II, Regensburg, Bavaria, Germany*

3:48

HG-10. Novel Pinning Scheme for Current Perpendicular to the Plane Spin Valves.
C. Papusoi[1], H. Fujiwara[1], S. Gupta[2], G. Mankey[1], Z. Tadisina[2], E. Steimle[2] and P. Leclair[1]*1. Center for Materials for Information Technology (MINT), University of Alabama, Tuscaloosa, AL, USA; 2. Metallurgical and Materials Engineering, University of Alabama, Tuscaloosa, AL, USA*

4:00

HG-11. Temperature and Field Dependence of the Low Frequency Magnetic Noise in Spin Valves.
A. Ozbay[1], E.R. Nowak[1], A.S. Edelstein[2], G.A. Fischer[2] and C.A. Nordman[3]*1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. U.S. Army Research Laboratory, Adelphi, MD, USA; 3. NVE Corp., Eden Prairie, MD, USA*

4:12

HG-12. Negative spin valve effects and strong voltage asymmetry in organic spintronic devices.
V. Dediu[1], I. Bergenti[1], F. Casoli[2], L.E. Hueso[1], A. Riminucci[1], M. Murgia[1] and C. Taliani[1]*1. Spintronic Devices, Istitute for Nanostructured Materials, Bologna, Italy; 2. IMEM-CNR, Parma, Italy*

4:24

HG-13. Electric characterization of large magnetoresistance in organic spin-valves.
J.J. Schoonus[1], W. Wagemans[1], F.L. Bloom[1], H.J. Swagten[1] and B. Koopmans[1]*1. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

4:36

HG-14. Spin dependent transport via C60 molecules up to room temperature.
M. Shiraishi[1], S. Miwa[1], M. Mizuguchi[1], T. Shinjo[1] and Y. Suzuki[1]*1. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan*

4:48

HG-15. Magnetoresistance in hybrid ultra-thin organic-ferromagnet devices.
W. Xu[1,3], P. LeClair[2,3], H. Guo[3], J. Tang[1,3], A. Gupta[1,3] and G. Szulczewski[1,3]*1. Chemistry, University of Alabama, Tuscaloosa, AL, USA; 2. Physics, University of Alabama, Tuscaloosa, AL, USA; 3. MINT Center, University of Alabama, Tuscaloosa, AL, USA*

THURSDAY AFTERNOON 2:00

DOVER

Session HH
NEW MAGNETIC MATERIALS II
Igor Roshchin, Session Chair

2:00

HH-01. Magnetic properties of Au nanoparticles in polymers. *J. de la Venta*[1], A. Pucci[2], E. Fernandez-Pinel[1], M. Garcia[1], C. de Julian[3], P. Crespo[1], G. Ruggeri[2], A. Hernando[1], A. Hoffmann[4] and D. Haskel[5] *1. Instituto de Magnetismo Aplicado, Universidad Complutense de Madrid, Las Rozas, Madrid, Spain; 2. Dept. of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy; 3. Dipartamento di Fisica "G. Gallilei", Università di Padova, Padova, Italy; 4. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 5. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA*

2:12

HH-02. Magnetic Behavior of Radially Distributed Arrays of Co and Ni Nanowires. *R. Sanz*[1], K.R. Pirota[1], M. Hernandez-Velez[1,2] and M. Vazquez[1] *1. Propiedades opticas magneticas y de transporte, Instituto de ciencia de materiales de Madrid, Madrid, Madrid, Spain; 2. Fisica Aplicada, Universidad Autonoma de Madrid, Madrid, Madrid, Spain*

2:24

HH-03. Magnetic properties of ZnO Nanoparticles. *A. Quesada*[1], J. Merino[1], E. Fernandez-Pinel[1], J. de la Venta[1], M. Garcia[1], M. Ruiz-Gonzalez[2], P. Crespo[1], J. Gonzalez-Calbet[2] and A. Hernando[1] *1. Instituto de Magnetismo Aplicado, Universidad Complutense de Madrid, Las Rozas, Madrid, Spain; 2. Departamento de Química Inorgánica I, Universidad Complutense de Madrid, Madrid, Madrid, Spain*

2:36

HH-04. Phase Formation in $L1_0$ Magnets. *R. Skomski*[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA*

2:48

HH-05. New DMS materials: ferromagnetism in V, and Ti doped In2O3. K. Parekh[1], A. Gupta[1], H. Cao[1], *K.V. Rao*[1], A.R. Raju[2] and U.V. Waghmare[3] *1. Materials Science and Engineering, Royal Institute of Technology, Stockholm, Sweden; 2. Honeywell Technology Solutions Lab, Bangalore-560076, India; 3. Jawaharlal Nehru Centre for Advanced Scientific Research Jakkur PO, Bangalore-560 064, India*

3:00

HH-06. Magnetic Interactions in Fe3N-GaN Nanocomposites. *N.S. Gajbhiye*[1,2] and S. Bhattacharyya[1] *1. Chemistry, Indian Institute of Technology, Kanpur, U.P., India; 2. Institute of Nanotechnology, Karlsruhe, Germany*

3:12

HH-07. Tailoring the magnetic properties of mechanically hardest Co-Fe-Ta-B glassy thin films. *P. Sharma*[1], H. Kimura[2] and A. Inoue[2] *1. Japan Science and Technology Agency, Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

3:24

HH-08. Magnetorheological Fluid in Squeeze Mode under Different Instantaneous Magnetic Field. *S. Mazlan*[1] and A. Olabi[1] *1. School of Mechanical and Manufacturing Engineering, Dublin City University, Dublin 9, Ireland*

3:36

HH-09. Ferromagnetic Semiconductor Material Based on Mechanochemical Mixture of Polyaniline-Polystyrene and Fe Nanoparticles. *R. Rakhimov*[1], J.S. Hwang[2], S.P. Solodovnikov[3], I.A. Alexandrov[4] and A.I. Aleksandrov[4] *1. Norfolk State University, Norfolk, VA, USA; 2. Texas A & M University at Qatar, Doha, Qatar; 3. Institute of Organoelement Compounds, Moscow, Russian Federation; 4. Institute of Synthetic Polymer Materials, Moscow, Russian Federation*

3:48

HH-10. Secondary recrystallization, crystallographic texture and magnetostriction in rolled Fe-Ga based alloys. *S.M. Na*[1] and A. Flatau[1] *1. Univ. MD, College Park, MD, USA*