General Information

SCOPE OF THE CONFERENCE

The 50th Magnetism and Magnetic Materials Conference is sponsored jointly by the American Institute of Physics and Magnetics Society of the IEEE, in cooperation with TMS, The Office of Naval Research, The American Physical Society, The American Society for Testing and Materials, and the American Ceramic Society. Members of the international scientific and engineering communities interested in recent developments in fundamental and applied magnetism are invited to attend the Conference and contribute to its technical sessions. Sessions will include invited and contributed papers, oral and poster presentations and invited symposia. This Conference provides an outstanding opportunity for participants to meet their colleagues and discuss new and improved and controversial developments.

SAN JOSE, CALIFORNIA

San Jose has now become the tenth largest city in the United States, and the hub of Silicon Valley. For the past three consecutive years it has also been named the safest big city in America. The average daytime temperature in early November is 55-65 degrees Fahrenheit, while the evening temperature will drop to 45-55 degrees Fahrenheit. There is a very slight chance of rain. ''California casual'' attire is appropriate for most events, although a sweater or jacket will be advisable for November evenings.

For complete information about traveling to the San Jose area visit the web site at: www.sanjoseca.gov. A variety of services are offered there that take the guesswork out of what to do and see while visiting the city. At this site you can also link to clear and concise transportation information for reaching San Jose by air, train, and/or automobile. There are more than 21,000 parking spaces in downtown San Jose, and parking near but not inside the Fairmont Hotel is recommended. Go to www.sjdowntownparking.com to learn more about where to park, public transit options, and directions to downtown San Jose where the Fairmont is located.

VISA REQUIREMENTS

Citizens of other countries must carry a valid passport and current 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 the newest, and their particular, visa requirements. If you need a personal letter of invitation to attend the 50th MMM Conference, please contact Courtesy Associates at 2005MMM@courtesyassoc.com. You must provide your full name and complete mailing address. **An original, signed letter will be sent to you via standard mail service** since only an original copy (not a fax or email version) may be accepted with your visa application.

PLEASE NOTE that the 50th MMM Conference cannot and will not contact or intervene with any U.S. Embassy or Consulate office on a participant's behalf. We strongly urge you to begin the process to obtain a visa immediately.

TRANSPORTATION

The Norman Y. Mineta San Jose International Airport is located only three miles from downtown San Jose, which is easily accessible via four major freeways and by public transportation. A taxi from the San Jose Airport to the Fairmont will cost $15-$18 one-way depending upon the traffic you encounter.

If your flight arrives at the Oakland Airport, you will need reservations on a shuttle service to travel to San Jose, unless you rent a car and drive. VIP Airport Shuttle (1-800-235- 8847) is a private shuttle service that will cost approximately $80/person one way, or $140 for up to 4 people one way. East Bay Shuttle (1-866-295-3797) offers van service on a reservation basis and will cost approximately $55/person one way.

If your flight arrives at San Francisco International Airport, no advance reservations are required for van shuttle service to San Jose. South & East Bay Shuttle (1-408-225-4444) offers shared shuttles at approximately $36/ person one-way. East Bay Shuttle (1-866-295-3797) will cost approximately $65 each way. SuperShuttle (1-800-BLUE-VAN) from SFO to the Fairmont will cost approximately $38 for the first person plus $8 for each additional person in a group.

All prices quoted were current as of August 1st . Please confirm the rates when you call to make your reservation.

HOTEL

Located in the center of the Capital of Silicon Valley, the Fairmont San Jose combines technological innovation with timeless elegance. It is located adjacent to the city's Light Rail transit line, and only 3.1 miles from the Norman Y. Mineta San Jose International Airport. The special hotel room rates for MMM 2005 will be $149/single and $159/double plus tax per night. **The Hotel Room Reservation Form and a direct link to the Fairmont's reservation system can be found on the MMM 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. If you choose to book your room by going directly to the Fairmont reservations web site at *www.fairmont.com*, go first to the Fairmont San Jose and then be sure to use the **Promotional Code GRACM1** in order to obtain the special MMM group rates.

You may also download the form and send it to the Fairmont by fax or mail; or you may make a reservation by telephone. Full contact information is found on the hotel's reservation form, which can be downloaded from the Conference web site. If you call the hotel's Reservation Office be sure to ask for and receive the special MMM Conference rates. 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 mail, unless you clearly mark your fax number and/or email address on your 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 Conference meeting space are minimized by meeting pre-established targets for room occupancy at the Conference hotel. Please support the Steering Committee and Advisory Committee in their attempt to keep your Conference registration fees as low as possible by booking your room at the Fairmont Hotel for the 2005 MMM Conference before the cutoff date of October 7th.

Your hotel room reservation must be received by the Fairmont no later than Friday, October 7th , in order for you to receive the special MMM Conference rates.

CONFERENCE REGISTRATION

You can register **in advance at a reduced rate by** completely filling out the Advance Registration Form located on the web site: *http://www.magnetism.org*. **The deadline for advance registration is October 7**, 2005. 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 ''2005 MMM Conference.'' **All MMM Conference attendees, including speakers, must pay registration fees.**

The Advance Registration Form and complete instructions for registering can be found on the MMM Conference homepage at: *www.magnetism.org*. You are encouraged to register via the secure web site to save time and to ensure that you are registered well in advance of the deadline of October 7, 2005.

Onsite registration during the Conference will be at the higher rates listed below. After October 7th, 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**.

All registrants paying the full registration fees will receive a copy of the Abstracts Book, which will be distributed at the Conference Registration Desks. Full Registration this year includes the Proceedings on a CD-ROM. For an additional $25 the Full Registrant can receive the Print version instead of the CD. The cost to receive both the CD and Print is $50 over the standard Full Registration fee. Additional Abstracts Books are available for $35 each.

Registration Fees:

	Prior to October 7th	*After October 7th*
Full Registrant	$470	$550
Student/Unemployed Retiree	$235	$275
Additional Abstracts Book	$35	$35

Students and unemployed retirees who register at the lower fees will NOT receive a copy of the Proceedings.

All attendees will be required to wear MMM Conference name badges to enter the Technical Sessions and Exhibits. Conference name badges will be checked at the entrance to all Technical Sessions and Exhibits. Please keep your name badge with you at all times as replacement badges cannot be provided for lost badges.

The use of cameras, videotaping and/or recording devices in the technical sessions (including Poster Sessions) is strictly prohibited, and this rule will be enforced onsite.

REMEMBER: All Advance Registration forms must be accompanied by full payment and must be received by October 7, 2005.

The Conference Registration Desks, located in the Imperial Ballroom Prefunction Area, will be open during the following hours:

Sunday, October 30th	4:00 PM – 8:00 PM
Monday, October 31st	7:00 AM - 5:00 PM
Tuesday, November 1st	8:00 AM – 3:00 PM and 6:00 PM – 8:00 PM
Wednesday, November 2nd	8:30 AM – 2:00 PM
Thursday, November 3rd	8:30 AM – 1:00 PM

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received at Event Solutions Unlimited no later than Friday, October 7, 2005. 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**.

50th ANNIVERSARY CELEBRATION

The Conference on Magnetism and Magnetic Materials will celebrate its 50th Anniversary this year with a special Plenary Session in the Imperial Ballroom at 3:15 p.m. on Monday. Each of the five talks will focus on a key discovery in one of the five decades of MMM. The celebration will continue in the Regency Ballroom with an anniversary cake and a toast to the continued success of the Conference.

CONFERENCE SYMPOSIA

Symposium on Pico- and Subpico-second Control of Magnetism

Symposium on the Theory of Spin Transfer Effects

Symposium on Biomagnetics Applications

Symposium on Magnetic and Ferroelectric Properties in Rare-earth Manganese Oxides

Symposium on Semiconductor Spintronics: Physics and Applications

SUNDAY EVENING TUTORIAL

On the Sunday evening Oct. 30, before the start of the technical program, there will be a tutorial on ″Novel Techniques for Characterizing Magnetic Materials″ in Regency II. We plan to start at 7:00 p.m., and allow 30 minutes per speaker. The topics and speakers are:

Neutron scattering	Charles Majkrzak
Synchrotron x-ray scattering	Chi-chang Kao
Electron scattering	John Chapman
SPLEEM	Ernst Bauer
Spin polarized scanning tunneling microscopy	Matthias Bode

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 sup-**

plied, 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 or CD**.

BIERSTUBE AND COFFEE

Coffee service will be available on Monday through Thursday mornings in the Imperial/Regency Ballrooms Pre-Function Area from 8:00 AM – 10:00 AM. On Sunday evening the Bierstube will be in the Pre-Function Area adjacent to the Conference Registration Desks from 5:00 PM – 8:00 PM. On Tuesday and Wednesday evenings, the Bierstube will be held from 5:00-6:00 PM in the Pre-Function Area and inside the Imperial Ballroom.

PUBLICATIONS ROOM

The Publications Room, where authors can check the status of their manuscripts, will be located in the Empire Room on the Ballroom Level of the hotel. The status of all papers can be found here and authors should check periodically on their individual papers. This room will be open as follows:

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

SPEAKER PRACTICE ROOM

Speakers are reminded that the Conference is planning an all- electronic presentation format. Speakers may use the Plaza Room (located on the Ballroom Level) 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. This rehearsal room will also be available on Sunday from 12:00 Noon until 6:00 PM. Speakers are urged to use this facility to practice their presentation, either alone or with colleagues.

POSTER SESSIONS

The hours of the Poster Sessions are 8:00 AM – 12:00 Noon and 1:00 PM – 5:00 PM. Authors should set up their materials at least half-an-hour before session start times. They must be by their posters from 8:00 AM – 9:00 AM and 11:00 AM - 12:00 Noon for the morning sessions, and from 1:00 PM – 2:00 PM and 4:00 PM – 5:00 PM for the afternoon sessions. Guidelines for preparation of Posters are found at: *http://www.magnetism.org/poster.pdf* **Authors are reminded to remove all of their materials, excluding the pushpins that have been provided by the Conference, PROMPTLY at the end of their session. The 50th MMM Conference Coordinators will**

discard materials that are not removed, in order to prepare for the next session. REMEMBER, there is only one hour between the morning and afternoon poster sessions and the Conference Staff will remove and destroy your presentation if you do not safely remove it yourself and on time.

FUTURE CONFERENCES

INTERMAG Conference: May 8-12, 2006, San Diego, CA

10^{th} Joint MMM-Intermag Conference: January 7-11, 2007, Baltimore, MD

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

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

ADDITIONAL INFORMATION

If you would like to receive more information about the 50th MMM Conference, to be placed on the Conference Mailing List, or to update your mailing address, please contact Janis Bennett at: *magnet@aip.org*; Telephone: 516-576-2403; Fax: 516-576-2223. The latest information on the 2004 MMM Conference can be found on the Web at the Conference homepage at: *http://www.magnetism.org*.

THE PARTNER PAVILION: MMM Conference Exhibits and Industrial Support

MMM Conference Partners and Exhibitors support the MMM Conference because of the exceptional opportunities it provides for the education, development, and growth of the Magnetism industry. The Partners' contributions directly offset Conference costs such as Program Committee expenses, beverage services, and audiovisual equipment enabling the organizers to keep registration fees as low as possible without compromising the quality of the technical and social programs. MMM Conference Partners also enjoy access to the latest results in the field of Magnetism, and the quality and diversity of our Conference attendees provides our Partners with exceptional marketing and public relations opportunities. For attendee demographic information, the Partner Preview Presentation schedule, and Partner Program Prospectus, please visit *www.magnetism.org*. The Partner Pavilion will be centrally located within the Imperial Ballroom of the San Jose Fairmont, and all MMM participants are encouraged to spend time exploring the exhibits and visiting with all magnetism industry professionals staffing the Partner booths.

PARTNER PREVIEW PRESENTATIONS: A Benefit of the MMM Partner Program

Please visit the 2005 MMM web site at *www.magnetism.org* for a preview of the Partner Presentations to be held within the Partner Preview Presentation Theatre, located in the Imperial Ballroom of the San Jose Fairmont.

These 25-minute presentations are used by the 2005 MMM Partners to showcase their products and/or services. They provide an ideal forum for

exhibitors to generate interest in new products, and for attendees to get an overview of the latest news or technology in the field. Please visit *www-.magnetism.org* for an up-to-date presentation schedule and presentation descriptions, and be sure to attend those of greatest interest to you and your work in Magnetism.

BEST STUDENT PRESENTATION AWARD

This year, there is again a competition for the best student presentation at the 50th MMM Conference to recognize and encourage excellence in graduate studies in the field of magnetism. This award is available to any full time graduate student who is expected to graduate within one year of the 50th 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 50th 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: Clarino Dela Cruz, Fredrik Hansteen, Masamitsu Hayashi, Hyunsoo Yang, and Frank Zhu.

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 the 50th MMM Conference.

Best 49th MMM Conference Student Presentation Winner
M.I. Nahid
for the presentation:
"Magnetic anisotropy and double-shifted loop of Fe3Pt thin films"
CONGRATULATIONS!

BEST POSTER PRESENTATIONS

Again this year, there is a competition for the best poster in each poster session at the 50th MMM Conference in San Jose. This award is given to recognize excellence in research and presentation. There will be one award for each morning session and each afternoon session.

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

Nature of 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 poster, and the winners will be posted at the session.

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 and 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.

CONFERENCE ORGANIZATION

Steering Committee 50th MMM Conference

Chairman	R. Victora
Chairman Elect	J. Borchers
Past Chairman	Y. Idzerda
Treasurer	J. Childress
Program Co-Chairmen	J. Fernandez-de-Castro, D. Reich
Members	Tom Ambrose, Katayun Barmak, Jack Bass, Venkat Chandrasekhar, Ying Chen, Gunn Choe, Michael Coey, Paul Crowell, Pallavi Dhagat, Paulo Freitas, Srikanth Hariharan, Arthur Hebard, Bill Higgins, Axel Hoffman, Yves Idzerda, Albrecht Jander, Sam Jiang, Mark Johnson, Roland Kawakami, Akira Kikitsu, Klaas Klaassen, Seung-Hun Lee, Christopher Leighton, Diandra Leslie-Pelecky, Kai Liu, Bin Lu, Allan MacDonald, Sara Majetich, Mike McHenry, Jagadeesh Moodera, Oleg Myrasov, Alexey Nazarov, Mark Pederson, Matt Pufall, Stephen Russek, Peter Schiffer, Ivan Schuller, Jeff Shield, Robert Shull, Kai Tang, Ken Takano, Oleg Tchernyshyov, Jan-Ulrich Thiele, Dieter Weller, Matt Willard, Gang Xiao, and Jian-Gang Zhu.
Publications Chairman	M. McHenry
Publications Editors	S. Hariharan, A. Hoffmann, M. J. O'Shea, M. R. Pederson, J-U. Thiele, M. A. Willard
Exhibits Chairman	S. Stadler
Exhibits Coordinator	W. Acevedo
Publicity	M. Tondra
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IEEE Representative	D. Lavers
AIP Representative	M. Burke
Editor, J. Appl. Phys.	J. Viccaro
Conference Management	D. Melton, W. Acevedo, Courtesy Associates
AIP Coordinators	J. Bennett, C. Gehlbach

Advisory Committee 50th MMM Conference

Chairman	Y. Idzerda
Secretary	J. Childress
Executive Secretary/Treasurer	D. Melton
Term Expires **December 2005**	J. Bain, C.L. Chien, W.-Y. Ching, Y. Idzerda, R. Indeck, D. Landau, D. Lavers, K. O'Grady, R. Victora, D. Weller.
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 2008**: . . J. Childress, E. D. Dahlberg, J. Fernandez-de-Castro, J. Fidler, C. Gutierrez, F. Hellman, R. McMichael, D. Reich, J. Rhyne, B. Terris

Sponsoring Society Representatives

American Institute of Physics . . . M. Burke
IEEE Magnetics Society . . . . . D. Lavers

Cooperating Society Representatives

TMS . . . . . S. Jin
ASTM Comm A-6 . . . . . C. D. Graham, Jr.
Office of Naval Research . . . . . TBD
American Ceramic Society . . . . . W-Y. Ching

SUNDAY EVENING 7:00 REGENCY II

Session XA
TUTORIAL ON NOVEL TECHNIQUES FOR CHARACTERIZING MAGNETIC MATERIALS
Daniel Reich, Chair

7:00

XA-01. Neutron Scattering Studies of Magnetic Materials. ***(Invited)***
C.F. Majkrzak[1] 1. NCNR, NIST, Gaithersburg, MD, USA

7:36

XA-02. CHARACTERIZATION OF MAGNETIC NANOSTRUCTURES USING RESONANT MAGNETIC X-RAY SCATTERING. ***(Invited)*** *C. Kao[1] 1. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA*

8:12

XA-03. Probing magnetic and physical properties by TEM. ***(Invited)***
J. Chapman[1] 1. Department of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom

8:48

XA-04. Spin-Polarized Low Energy Electron Microscopy (SPLEEM). ***(Invited)*** *E.G. Bauer[1] 1. Physics and Astronomy, Arizona State University, Tempe, AZ, USA*

9:24

XA-05. Spin-Polarized Scanning Tunneling Microscopy: Magnetic Imaging with Atomic Resolution. ***(Invited)*** *M. Bode[1] 1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

MONDAY MORNING 9:00 IMPERIAL

Session AA
SYMPOSIUM ON PICO- AND SUBPICO-SECOND CONTROL OF MAGNETISM
Dieter Weller, Chair

9:00

AA-01. On the Ultimate Speed of Magnetic Switching. ***(Invited)***
J. Stohr[1], H.C. Siegmann[1], I. Tudosa[1] and C. Stamm[1] *1. SSRL, Stanford University, Stanford, CA, USA*

9:36

AA-02. Real space study of femtosecond magnetization dynamics. ***(Invited)*** L. ANDRADE[1], M. VOMIR[1], M. ALBRECHT[1], E. BEAUREPAIRE[1] and *J. BIGOT[1]1. Institute of Physics and Chemistry of Materials at Strasbourg (IPCMS), Louis Pasteur University, CNRS, UMR 7504, Strasbourg, France*

10:12

AA-03. Ultrafast Generation of Ferromagnetism. ***(Invited)*** *G. Ju*[1], J. Hohlfeld[1], B. Bergman[2,1], R. van de Veerdonk[1], O.N. Mryasov[1], J. Kim[1], X. Wu[1], D. Weller[1] and B. Koopmans[2]*1. Seagate Research, Pittsburgh, PA, USA; 2. Department of Applied Physics, Eindhoven University of Technology, Eindhoven*

10:48

AA-04. Ultrafast laser control of antiferromagnetic spins. ***(Invited)*** *A.V. Kimel*[1], A. Kirilyuk[1], R. Pisarev[2] and T. Rasing[1]*1. Radboud University Nijmegen, Nijmegen, Netherlands; 2. Ioffe Physical Technical Institute, St. Petersburg, Russian Federation*

MONDAY MORNING 9:00

REGENCY I

Session AB
COMPLEX MAGNETIC OXIDES: COBALTITES AND PHASE SEPARATION

Chris Leighton, Chair

9:00

AB-01. Variable Co(III) Spin States in Perovskite-related Oxo-cobaltates. ***(Invited)*** *J.B. Goodenough[1]1. Mechanical Engineering, University of Texas at Austin, Austin, TX, USA*

9:36

AB-02. Crystal Structure and Magnetic Properties of the n = 2 Ruddleson-Popper phase $Sr_3Co_2O_{7-\delta}$. *J.M. Hill*[1], B. Dabrowski[2,1] and J.F. Mitchell[1]*1. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Physics, Northern Illinois University, DeKalb, IL, USA*

9:48

AB-03. Magnetization Reversal and Nanoscopic Magnetic Phase Separation in Doped Perovskite Cobaltites. J.E. Davies[1], *J. Wu*[2], C. Leighton[2] and K. Liu[1]*1. Physics Department, University of California, Davis, CA, USA; 2. Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA*

10:00

AB-04. Structures, magnetism, giant magnetoresistance, and spin and valence states in perovskite Sr1-xRExCoO3 (RE= Y, Gd, Dy) compounds. *M. Farhoudi*[1], X. Wang[1], R. Liu[2], S. Dou[1] and M. James[3]*1. Institute for Superconducting & Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Chemistry Department, National Taiwan University, Taipei, Taiwan; 3. Bragg institute, ANSTO, Menai, NSW, Australia*

10:12

AB-05. Model for strain-induced multiphase coexistence in colossal magnetoresistive perovskite manganites. ***(Invited)*** *K. Ahn*[1], T. Lookman[2] and A. Bishop[2]*1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 2. Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM, USA*

10:48

AB-06. Magnetic and Structural Properties of A-site ordered/disordered $La_{1-x}Ba_xMnO_3$. *O. Chmaissem*[1,2], B. Dabrowski[1,2], S. Kolesnik[1,2], J. Mais[1], J.D. Jorgensen[2], C.E. Botez[3,4] and P.W. Stephens[3,4]*1. Physics Department, Northern Illinois University, DeKalb, IL, USA; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 3. Physics and Astronomy, Stony Brook University, Stony Brook, NY, USA; 4. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA*

11:00

AB-07. Electronic phase separation in epitaxial La2/3Ca1/3MnO3 films on (001) and (110) SrTiO3 substrates. *J. Fontcuberta*[1], I.C. Infante[1], V. Lauhkin[1], F.B. Sanchez[1], M. Wojcik[2], E. Jedryka[2] and S. Nadolski[2]*1. Magnetic Materials and Superconductors, Institut de Ciencia de Materials de Barcelona ICMAB-CSIC, Bellaterra, Barcelona, Spain; 2. Institute of Physics,, Polish Academy of Sciences, Al. Lotnikow 32/46, 02 668, Warszawa, Poland*

11:12

AB-08. High-resolution magneto-optical imaging of magnetization process in colossal magnetoresisitive lanthanum manganite-evidence of colossal magnetoresistance induced by phase separation. *X. Wang*[1], A. Polyanskii[2], S. Dou[1] and D. Larbalestier[2]*1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Applied Superconductivity Centre, University of Wisconsin, Madison, WI, USA*

11:24

AB-09. Temperature dependence of the hysteretic properties in LaMnO3+δ. F.J. Palomares[1], F. Pigazo[1], J.J. Romero[2], R. Cuadrado[2], J.M. Alonso[2], A. Arroyo[2], R. Cortes-Gil[2], M.A. Garcia[2], J.M. Gonzalez-Calbet[3], A. Hernando[2], M. Vallet-Regi[4] and *J.M. Gonzalez[1,2]1. Instituto de Ciencia de Materiales de Madrid, C.S.I.C., Madrid, Spain; 2. Universidad Complutense de Madrid, Instituto de Magnetismo Aplicado, Las Rozas (Madrid), Spain; 3. Dpto. Quimica Inorganica I, Universidad Complutense de Madrid, Madrid, Spain; 4. Departamento de Quimica Inorganica y Bioinorganica, Universidad Complutense de Madrid, Madrid, Madrid, Spain*

11:36

AB-10. An Investigation of Magnetically Induced Structural Phase Transitions Near a Magnetic Phase Boundary. *D.E. Brown*[1], C. Hoffmann[1], J. Hua[1], J. Mais[1], O. Chmaissem[1], B. Dabrowski[1] and Y. Ren[2] *1. Physics, Northern Illinois University, DeKalb, IL, USA; 2. Advanced Photon Source, Argonne National Labs, Argonne, IL, USA*

11:48

AB-11. Probing the Charge Ordered Magnetic phase in $Ca_{1-x}Ce_xMnO_3$: an EPR study. *A. SHARMA*[1] and S.V. BHAT[1] *1. PHYSICS, INDIAN INSTITUTE OF SCIENCE, BANGALORE, India*

MONDAY MORNING 9:00

REGENCY II

Session AC
MgO-BASED MAGNETIC TUNNELING JUNCTIONS

Shinji Yuasa, Chair

9:00

AC-01. Engineering of spin-filtering in single and double epitaxial magnetic tunnel junctions. *C.V. Tiusan*[1], M. Sicot[1], J. Faure-Vincent[2], F. Greullet[1], M. Hehn[1], C. Bellouard[1], F. Montaigne[1], S. Andrieu[1] and A. Schuhl[1] *1. Universite Henri Poincare-CNRS UMR7556, Institut de Physique des Materiaux, Vandoeuvre les Nancy, Lorraine, France; 2. CEA, Laboratoire SPINTEC, Grenoble, France*

9:12

AC-02. Giant magnetoresistance in magnetic tunnel junctions with a MgO barrier. *J. Hayakawa*[1,2], S. Ikeda[2], L. Young Min[2], M. Fumihiro[2], T. Hiromasa[1,2] and O. Hideo[2] *1. Advanced Research Laboratory, Hitachi Ltd., Kokubunji, Tokyo, Japan; 2. Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku University, Sendai, Miyagi, Japan*

9:24

AC-03. Tunneling spectroscopy studies of ultra thin MgO barrier layers. *P.G. Mather*[1], J.C. Read[1] and R.A. Buhrman[1] *1. Applied Physics Department, Cornell University, Ithaca, NY, USA*

9:36

AC-04. Structural and electrical characterization of MgO thin films grown on various ferromagnetic substrates. *Y. Cho*[1], I. Hwang[1], K. Kim [2], T. Kim[2] and C. Hwang[3] *1. Nano Fabrication Center, Samsung Advanced Institute Technology, Yongin-Si, Gyeonggi-Do, South Korea; 2. Devices Lab, Samsung Advanced Institute of Technology, Yong-In, Kyeongki-Do, South Korea; 3. School of Materials Science and Engineering, Seoul National University, Seoul, South Korea*

9:48

AC-05. Noise and Magnetoresistance in MgO-based Magnetic Tunnel Junctions. E. Nowak[1], *A. Gokce*[1], S. Yang[2] and S. Parkin[2] *1. Physics & Astronomy, University of Delaware, Newark, DE, USA; 2. IBM Almaden Research Center, San Jose, CA, USA*

10:00

AC-06. Giant tunnel magnetoresistance in MgO-barrier magnetic tunnel junctions with $Co_{40}Fe_{40}B_{20}$, $Co_{50}Fe_{50}$ and $Co_{90}Fe_{10}$ free layers. *S. Ikeda*[1], J. Hayakawa[1,2], Y. Lee[1], T. Tanikawa[1,3], F. Matsukura[1] and H. Ohno[1] *1. Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Advanced Research Laboratory, Hitachi Ltd., Higashi-koigakubo, Tokyo, Japan; 3. ERATO-JST, Sendai, Miyagi, Japan*

10:12

AC-07. Epitaxial growth of CoFe/MgO/CoFe (002) magnetic tunnel junctions on Cr underlayer. *X. Yao*[1], H. Meng[1] and J. Wang[1] *1. MINT center, Department of Electrical & Computer Engineering, Univesity of Minnesota, Minneapolis, MN, USA*

10:24

AC-08. Interlayer Exchange Coupling across an MgO Barrier. M.Y. Zhuravlev[1], J. Velev[1] and *E.Y. Tsymbal*[1] *1. University of Nebraska-Lincoln, Lincoln, NE, USA*

10:36

AC-09. Tunnel magnetoresistance in epitaxial magnetic tunnel junctions using full-Heusler alloy Co_2MnGe thin film and MgO tunnel barrier. *T. Marukame*[1], T. Ishikawa[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

10:48

AC-10. Bias voltage dependence of magnetic tunnel junctions comprising double barriers and amorphous NiFeSiB layers. *B. Chun*[1], S. Ko[1], Y. Kim[1], J. Hwang[2], J. Rhee[2] and T. Kim[3] *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, South Korea; 2. Department of Physics, Sookmyung Women's University, Seoul, South Korea; 3. Samsung Advanced Institute of Technology, Suwon, South Korea*

11:00

AC-11. RF noise measurement of magnetic tunnel junctions with MgO barrier. *M. Mizuguchi*[1,4], A.A. Tulapurkar[2,4], A. Fukushima[2,4], H. Kubota[2,4], S. Yuasa[2,4], H. Maehara[3], K. Tsunekawa[3], D.D. Djayaprawira[3], N. Watanabe[3] and Y. Suzuki[1,4] *1. Osaka University, Osaka, Japan; 2. AIST, Tsukuba, Japan; 3. Anelva Corporation, Fuchu, Japan; 4. CREST-JST, Kawaguchi, Japan*

11:12

AC-12. Highly sensitive tunneling conductance measurement for CoFeB/MgO/CoFeB magnetic tunnel junctions. *K. Ono*[1,2], T. Daibou[3], S. Ahn[3], Y. Sakuraba[3], T. Miyakoshi[3], T. Morita[1], Y. Kikuchi[1], M. Oogane[3], Y. Ando[3], H. Ohno[2] and T. Miyazaki[3] *1. ULVAC, Inc., Tsukuba, Japan; 2. RIEC, Tohoku Univ., Sendai, Japan; 3. Tohoku Univ., Sendai, Japan*

11:24

AC-13. Annealing effects on the Structural and Transport Properties of RF-Sputtered CoFeB/MgO/CoFeB Magnetic Tunnel Junctions. *C. Park*[1,2], J. Zhu[1,2], M.T. Moneck[1], Y. Peng[1] and D.E. Laughlin[1,2] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Materials Science & Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

11:36

AC-14. Barrier Parameters, Breakdown Voltage and Bias Dependence of MgO-based Tunnel Junctions with CoFeB and NiFe free layers. *J. Akerman*[1], R.W. Dave[1], J.M. Slaughter[1], J.J. Sun[1], M. DeHerrera[1] and S. Tehrani[1] *1. Technology Solutions Organization, Freescale Semiconductor, Chandler, AZ, USA*

11:48

AC-15. Improved bias voltage dependence of the AlO/Al double tunnel barrier. *W. Jeong*[1], J. Park[1], J. Oh[1], G. Koh[1], G. Jeong[1], J. Lee[2], S. Oh[2], K. Nam[2], H. Kim[3], H. Jeong[1] and K. Kim[1] *1. Technology Development Team 2, Samsung Elec. Co., LTD., Yongin-City, Gyeonggi-Do, South Korea; 2. Process Development Team, Samsung Elec. Co., LTD., Yongin-City, Gyeonggi-Do, South Korea; 3. Advanced Process Development Team, Samsung Elec. Co., LTD., Yongin-City, Gyeonggi-Do, South Korea*

MONDAY MORNING 9:00 — CLUB REGENT

Session AD
PATTERNED ARRAYS
William Bailey, Chair

9:00

AD-01. Switching of Overlapping Permalloy Nanodisks. *M. Huber*[1], J. Zweck[1] and D. Weiss[1] *1. Universitaet Regensburg, Regensburg, Germany*

9:12

AD-02. Cycle-by-Cycle Observation of a Single Domain to Vortex Transition in Magnetic Nanodots. *A. Jausovec*[1], G. Xiong[1] and R.P. Cowburn[1] *1. Physics, Imperial College London, London, United Kingdom*

9:24

AD-03. Magnetization Reversal in Arrays of Fe Nanodots. *R.K. Dumas*[1], K. Liu[1], I.V. Roshchin[2], C. Li[2] and I.K. Schuller[2] *1. Physics, UC Davis, Davis, CA, USA; 2. Physics, UC San Diego, La Jolla, CA, USA*

9:36

AD-04. Magnetic vortex state in sub-100 nm magnetic nanodots. ***(Invited)*** *I.V. Roshchin*[1], C. Li[1], X. Batlle[1,2], R. Dumas[3], K. Liu[3], S. Roy[1], S.K. Sinha[1,4], S. Park[4], R. Pynn[4], M.R. Fitzsimmons[4], J. Mejia Lopez[5], D. Altbir[6], A.H. Romero[7], F. Ott[8] and M. Viret[8] *1. Physics Department -0319, University of California, San Diego, La Jolla, CA, USA; 2. Dept. Fisica Fonamental, U. Barcelona, Barcelona, Catalonia, Spain; 3. Physics Department, UC Davis, Davis, CA, USA; 4. LANL, Los Alamos, NM, USA; 5. Facultad de Fisica, Pontificia U. Catolica de Chile, Santiago de Chile, Chile; 6. Departamento de Fisica, U. de Santiago de Chile, Santiago, Chile; 7. CINVESTAV, Unidad Queretaro Libramiento Norponiente, Queretaro, Qro, Mexico; 8. C.E.A., Saclay, France*

10:12

AD-05. Controllable magnetic reversal of asymmetric ferromagnetic nanorings. *F. Zhu*[1], G. Chern[1], O. Tchernyshyov[1] and C. Chien[1] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

10:24

AD-06. Spin modes of nanometric elliptical permalloy dots in an external field studied by Brillouin light scattering. G. Gubbiotti[1,2], G. Carlotti[3,4], T. Okuno[5], M. Grimsditch[6], L. Giovannini[7], F. Montoncello[7] and *F. Nizzoli*[7,4] *1. CNR-INFM CRS-SOFT, c/o University of Rome La Sapienza, Rome, Italy; 2. CNR-INFM, c/o University of Perugia, Perugia, Italy; 3. Department of Physics, University of Perugia, Perugia, Italy; 4. CNR-INFM, National Center for nanoStructures and bioSystem at Surfaces (S3), Modena, Italy; 5. Institute for Chemical Research, Kyoto University, Uji, Japan; 6. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 7. Department of Physics, University of Ferrara, Ferrara, Italy*

10:36

AD-07. Configurational Anisotropy in Hexagonal Arrays of Sub-Micron Co Elements. *S.M. Weekes*[1], F.Y. Ogrin[1] and P.S. Keatley[1] *1. Physics, University of Exeter, Exeter, United Kingdom*

10:48

AD-08. Self-assembly Nanoscaled Dots arrays of Permalloy, Nickel and Cobalt. D. Niu[1], Y. Zhai[1,3], S. Lepadatu[2], Y. Lu[1], J. Wu[2] and *Y. Xu*[1] *1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom; 3. Department of Physics, Southeast University, Nanjing, China*

11:00

AD-09. X-ray Scattering from Patterned Magnetic Nanostructures. *T. Hase*[1], D.S. Eastwood[1], D. Atkinson[1], S. Brown[2] and B.K. Tanner[1] *1. Nanoscale Science and Technology Group, Department of Physics, Durham, Durham, United Kingdom; 2. XMaS CRG, European Synchrotron Radiation Facility, Grenoble, France*

11:12

AD-10. Acquisition of vector hysteresis loops from nano-magnets using a sub-micron probe. *P.S. Keatley*[1], V.V. Kruglyak[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. Hitachi Global Storage Technologies, San Jose Research Center, 650 Harry Road, San Jose, CA, USA*

11:24

AD-11. Optimization of cavity enhancement for magnetooptic studies of nanomagnets. *S. Wang*[1], N. Qureshi[1], M.A. Lowther[2], A.R. Hawkins[2], S. Kwon[3], A. Liddle[3], J. Bokor[3] 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*

11:36

AD-12. Boundary Conditions for Magnetization in Magnetic Nano-Elements. *K. Guslienko*[1] and A. Slavin[2] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Department of Physics, Oakland University, Rochester, MI, USA*

11:48

AD-13. Vortices, edge defects, and composite domain walls in nanomagnets. *O. Tchernyshyov*[1] and G. Chern[1] *1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

MONDAY MORNING 9:00 **CRYSTAL**

Session AE
MAGNETIC SENSORS (NOT FOR RECORDING) I
James Deak, Chair

9:00

AE-01. Progress toward a thousand-fold reduction in *1/f* noise in magnetic sensors using an AC MEMS flux concentrator. *(Invited)* *A.S. Edelstein*[1], G. Fischer[1], M. Pedersen[2], E.R. Nowak[3] and S. Cheng[4] *1. US Army Research Laboratory, Adelphi, MD, USA; 2. The MEMS Exchange, Reston, VA, USA; 3. Physics Department, University of Delaware, Newark, DE, USA; 4. Naval Research Laboratory, Washington, DC, USA*

9:36

AE-02. 1/f Noise in Linearized Low Resistance MgO and Medium Resistance AlOx Magnetic Tunnel Junctions. *J.M. Almeida*[1,2], R. Ferreira[1,2], P.P. Freitas[1,2], J. Langer[3], B. Ocker[3] and W. Maass[3] *1. INESC-MN, Lisbon, Portugal; 2. IST, Lisbon, Portugal; 3. Singulus, Main, Germany*

9:48

AE-03. Spontaneous generation of voltage in single crystal Gd5Si2Ge2 during magnetostructural phase transformations. *M. Zou*[1,2], V.K. Pecharsky[1,2], H. Tang[1], K.A. Gschneidner[1,2], D.L. Schlagel[1] and T.A. Lograsso[1] *1. Materials and Engineering Physics Program, Ames Laboratory of the US DOE, Ames, IA, USA; 2. Materials Science and Engineering, Iowa State University, Ames, IA, USA; 3. Center for Nondestructive Evaluation, Ames Laboratory of the US DOE, Ames, IA, USA*

10:00

AE-04. Demagnetization Factors for the Fluxgate Ring-Core. *M. De Graef*[1] and M. Beleggia[2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Brookhaven National Laboratory, Upton, NY, USA*

10:12

AE-05. Microfabricated Magnetic Thermometers for High-Resolution Microcalorimeter X-ray Detector Arrays. *B.L. Zink*[1] *1. Quantum Sensors Project, NIST, Boulder, CO, USA*

10:24

AE-06. Detection of Wide Band Signal by a High-Frequency-Carrier Type Magnetic Probe. *K. Tan*[1], K. Yamakawa[1], T. Komakine[1], M. Yamaguchi[2], Y. Kayano[3] and H. Inoue[3] *1. Akita Akita Research Institute of Advanced Technology, Akita, Japan; 2. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan; 3. Department of Electrical and Electronic Engineering, Akita University, Akita, Japan*

10:36

AE-07. Microstructure and magnetoelectric properties in the Pb(ZrxTi1-x)O3-Ni composite ferroic films. *X. Bi*[1,2], S. Chu[1], J. Zhu[3] and D. Laughlin[1] *1. MSE, Carnegie Mellon University, Pittsburgh, PA, USA; 2. MSE, Beijing University of Aeronautics and Astronautics, Beijing, China; 3. ECE, Carnegie Mellon University, Pittsburgh, PA, USA*

10:48

AE-08. A new differential magnetic flux position transducer: analysis, simulation and test results. *A.F. Flores*[1] and R. Mueller[1] *1. Electrical Engineering, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil*

11:00

AE-09. A New Design of Orthogonal Fluxgate Sensor. *X. Li*[1], J. Fan[1], X. Qian[1] and J. Ding[2] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Material Science, National University of Singapore, Singapore, Singapore*

MONDAY MORNING 9:00

GOLD

Session AF
RARE EARTH PERMANENT MAGNETS I
Youwen Xu, Chair

9:00

AF-01. Nucleation or pinning? -The role of transition region in the demagnetization process of nanostructured permanent magnets. *G. Zhao*[1], J. Liu[2], H. Lim[3] and Y. Feng[3] *1. Institute of Solid State Physics, Sichuan Normal University, Chengdu, Sichuan, China; 2. Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiangsu, China; 3. Department of Physics, National University of Singapore, Singapore, Singapore*

9:12

AF-02. Magnetic Reversal Processes in Three-dimensional Exchange-spring Permanent Magnets. *J.E. Shield*[1,3], J. Zhou[3], S. Aich[1], V.K. Ravindran[1], S. Liou[2,3], R. Skomski[2,3] and D.J. Sellmyer[2,3] *1. Mechanical Engineering, University of Nebraska, Lincoln, NE, USA; 2. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE, USA; 3. Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

9:24

AF-03. Microanalytical characterization of multi-rare earth nanocrystalline magnets using TEM and APT. *Y.Q. Wu*[1], W. Tang[1], M.K. Miller[2], I.E. Anderson[1], R.W. McCallum[1], K.W. Dennis[1] and M.J. Kramer[1] *1. Materials & Engineering Physics, Ames Laboratory and the Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA; 2. Metals and Ceramics Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA*

9:36

AF-04. The mechanism of magnetic properties improvement and microstructure refinement of Zr in $Nd_2Fe_{14}B$. *Y. Xu*[1,2], M.J. Kramer[2], Y.Q. Wu[2], K.W. Dennis[2] and R.W. McCallum[2] *1. Physics and Astronomy, Minnesota State University, Mankato, Mankato, MN, USA; 2. Materials and Engineering Physics, Ames Laboratory, Ames, IA, USA*

9:48

AF-05. The effect of Ti and C on the phase evolution and magnetic properties of $Pr_9Fe_{bal.}Ti_xB_{11-y}C_y$ (x= 0- 4; y= 0- 11) nanocomposites. *C.H. Chiu*[1], H.W. Chang[2], C.W. Chang[1] and W.C. Chang[1] *1. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

10:00

AF-06. Improved $R_2(Fe, Co)_{14}B$ ribbons with TiC addition for high temperature performance (R=Nd+Y+Dy). *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*

10:12

AF-07. Structural and Magnetic Properties of $Nd_3(Fe_{1-x}Al_x)_{27.5}Ti_{1.5}$ (x = 0.1-0.4). R. Bhushan[2], *G. Markandeyulu*[1] and K. Prasad Rao[2] *1. Physics, Indian Institute of Technology Madras, CHENNAI, Tamil Nadu, India; 2. Metallurgical and Materials Engineering, Indian Institute of Technology Madras, CHENNAI, Tamil Nadu, India*

10:24

AF-08. Highly coercive rapidly solidified Sm-Co alloys. *S. Aich*[1,2], V.K. Ravindran[1] and J.E. Shield[1,2] *1. Mechanical Engineering, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Center for Materials Research and Analysis, University of Nebraska-Lincoln, Lincoln, NE, USA*

10:36

AF-09. Hybrid Nanograin Rare Earth Magnets with Improved Thermal Stability. *Y. Shen*[1], D. Lee[2], M. Huang[3], S. Bauser[2], A. Higgins[2], Y. He[1], C. Chen[2] and S. Liu[2] *1. FutureTek USA Corporation, Dayton, OH, USA; 2. Magnetics Lab, University of Dayton, Dayton, OH, USA; 3. UES Inc., Dayton, OH, USA*

10:48

AF-10. Enhanced *Mr* and *(BH)max* in anisotropic $R_2Fe_{14}B$ / α- Fe composite magnets via intergranular magnetostatic coupling. A. Gabay[1], M. Marinescu[1] and *G.C. Hadjipanayis*[1] *1. Univ. of Delaware, Newark, DE, USA*

11:00

AF-11. Bulk Anisotropic Nanocomposite Rare Earth Magnets. D. Lee[1], M. Huang[2], S. Bauser[1], A. Higgins[1], Y.G. Peng[3], D.E. Laughlin[3], *C.H. Chen*[1] and S. Liu[1] *1. Magnetics Lab., University of Dayton, Dayton, OH, USA; 2. UES Inc., Dayton, OH, USA; 3. Department of MSE, Carnegie Mellon University, Pittsburgh, PA, USA*

11:12

AF-12. Magnetic properties of Nd-Fe-Ti-C-B nanocomposite magnets produced by spark plasma sintering method. *T. Saito*[1] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan*

11:24

AF-13. Magnetic properties of Sm-Fe-N bulk magnets produced by compression shearing method. *T. Saito*[1], H. Sato[1], M. Fukui[1] and H. Takeishi[1] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan*

11:36

AF-14. High-field annealing and coercivity in Al- and Cu-added Nd-Fe-B magnets. *H. Kato*[1], T. Akiya[1], M. Sagawa[2], K. Koyama[3] and T. Miyazaki[1] *1. Dept. of Applied Physics, Tohoku University, Sendai, Miyagi, Japan; 2. Intermetallics Co., Ltd, Kyoto, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan*

MONDAY MORNING 9:00 ATHERTON

Session AG
RECORDING HEAD MATERIALS AND DOMAINS I
Yang-Ki Hong, Chair

9:00

AG-01. Transmission Electron Microscopy Study of CoFe Films with High Bs. *B.R. Craig*[1], S. McVitie[1], J.N. Chapman[1], A.B. Johnston[2] and D. O'Donnell[2] *1. Physics & Astronomy, University of Glasgow, Glasgow, United Kingdom; 2. Seagate Technology (Ireland), Derry, United Kingdom*

9:12

AG-02. The effect of stress induced anisotropy in patterned FeCo thin film structures. *W. Yu*[1], J.A. Bain[1], C. Ulrich[2] and J. Unguris[2] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. National Institute of Standards and Technology, Gaithersburg, MD, USA*

9:24

AG-03. Magnetization distribution in Fe single crystal particles fabricated by electron beam lithograpy. K. Kawamori[1], *Y. Hnin*[1], Y. Kageyama[1] and T. Suzuki[1] *1. Toyota Technological Institute, Nagoya, Japan*

9:36

AG-04. Domain wall motion in narrow spin valve lines. *R. Mattheis*[1], M. Diegel[1] and U. Huebner[2] *1. Magnetoelectronics, IPHT, Jena, Germany; 2. Quantum electronics, IPHT, Jena, Germany*

9:48

AG-05. Study of SAF-SF structures for magnetic sensor application. *A. Guedes*[1,2], M.J. Mendes[1,2], P.P. Freitas[1,2] and J.L. Martins[1,2] *1. Magnetism, INESC-MN, Lisboa, Portugal; 2. Physics, IST - Instituto Superior Tecnico, Lisboa, Portugal*

10:00

AG-06. IMPROVEMENT OF MAGNETIC MOMENT OF $Fe_{70}Co_{30}$ SUBLAYERES IN $[Fe_{70}Co_{30}/PdPt]_n$ SUPER-LATTICE FILMS AT ROOM TEMPERATURE. *K. Noma*[1], M. Matsuoka[1], H. Kanai[1], Y. Uehara[1], K. Nomura[2] and N. Awaji[2] *1. Advanced Head Technology, Fujitsu Ltd., Nagano, Japan; 2. Materials and Environmental Engineering Laboratories, Fujitsu Laboratories Ltd., Atsugi, Japan*

10:12

AG-07. Atom Probe Characterisation of Nanomagnetic Materials. ***(Invited)*** *D.J. Larson*[1] *1. Applications, Imago Scientific Instruments, Madison, WI, USA*

10:48

AG-08. Enhanced orbital magnetism in high-moment FeN thin films: An in-situ reactive growth study. *N.D. Telling*[1], M.T. Georgieva[2], G. van der Laan[1] and P.J. Grundy[2] *1. Magnetic Spectroscopy Group, CCLRC Daresbury Laboratory, Warrington, United Kingdom; 2. Institute for Materials Research, University of Salford, Salford, United Kingdom*

11:00

AG-09. Observation of induced magnetic moment on nitrogen in Fe-N thin films using x-ray magnetic circular dichroism. *C. Sanchez-Hanke*[1], R. Gonzalez-Arrabal[2], J. Prieto[2], E. Andrzejewska[2], N. Gordillo[2], D.O. Boerma[2], J. Skuza[3] and R. Luskaszew[3] *1. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 2. Centro de Microananlisis, University Autonoma of Madrid, Cantoblanco, Spain; 3. Physics and Astronomy, University of Toledo, Toledo, OH, USA*

11:12

AG-10. Induced magnetic anisotropy in soft $Fe_{65}Co_{35}$/Co thin films. *T. Miyao*[1], Y. Fu[1], X. Liu[1] and A. Morisako[1] *1. Shinshu University, Nagano, Japan*

MONDAY MORNING 9:00 SACRAMENTO

Session AH
MICROSCOPIC MAGNETIZATION PROCESSES: SIMULATIONS AND METHODS
Oleg Mryasov, Chair

9:00

AH-01. Micro Magnetic Structures of Nanocrystalline Ferromagnetic Materials. *S. Srinivasa Rao*[1], U. Herr[1] and A. Grob [1,2] *1. Materials division, University of ulm, ulm, Germany; 2. Bosch, Stuttgart, Germany*

9:12

AH-02. Micromagnetic simulation studies of the magnetic exchange spring system $DyFe_2/YFe_2$. *J.P. Zimmermann*[1], K. Martin[2], G. Bordignon[1], R.P. Boardman[1], T. Fischbacher[1], A.A. Zhukov[2], G.J. Bowden[2], H. Fangohr[1] and P.J. Groot[2] *1. Computational Engineering and Design Group, School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom*

9:24

AH-03. Magnetization Processes in Granular Magnets with Competing Exchange. *R. Skomski*[1], P. Shand[2], D. Leslie-Pelecky[1] and D. Sellmyer[1] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA; 2. Department of Physics, University of Northern Iowa, Cedar Falls, IA, USA*

9:36

AH-04. Vortex State in High Aspect Ratio Cobalt Nanowires. *L. Vila*[1], F. Giancarlo[1], G. Jean-Marie[2], E. Ursula[3] and P. Luc[4] *1. LPN / CNRS, Marcoussis, France; 2. Unite Mixte de Physique CNRS/THALES, Orsay, France; 3. CEA-CNRS Spintec, Grenoble, France; 4. Universite catholique de Louvain, Louvain-La-Neuve, Belgium*

9:48

AH-05. Magnetization Processes in Toroidal Geometry. *A.S. Arrott*[1,3] and R. Hertel[2] *1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Solid State Research, Research Center Juelich, Juelich, Germany; 3. Chemistry and Physics, Virginia State University, Petersburg, VA, USA*

10:00

AH-06. Micromagnetic simulation of spin transfer torque switching by nanosecond current pulses. *D. Apalkov*[1], M. Pakala[1] and Y. Huai[1] *1. Grandis Inc, Milpitas, CA, USA*

10:12

AH-07. Nonequilibrium domain configurations in magnetic thin film elements influenced by suppression of magnetization ringing. *B. Choi*[1], Q. Xiao[1], Y. Hong[2], H. Han[2], S. Gee[2] and G. Donohoe[3] *1. Dept. of Physics & Astronomy, University of Victoria, Victoria, BC, Canada; 2. Dept. of Materials Science & Engineering, University of Idaho, Moscow, ID, USA; 3. Dept. of Electrical & Computer Engineering, University of Idaho, Moscow, ID, USA*

10:24

AH-08. Comparison between single spin and atomic level discretization for small magnetic grain. *E.D. Boerner*[1] *1. Seagate Technology, Pittsburgh, PA, USA*

10:36

AH-09. Modelling of domain walls at ideal and rough interfaces: a hybrid atomistic/micromagnetic approach. F. Garcia Sanchez[1], *O. Chubykalo-Fesenko*[1], O.N. Mryasov[2] and R.W. Chantrell[3] *1. POMT, ICMM,CSIC, Madrid, Madrid, Spain; 2. Seagate Research, Pittsburgh, PA, USA; 3. Physics Department, University of York, York, United Kingdom*

10:48

AH-10. Simulation of exchange interactions in FePt nanoparticle assemblies. *J. Fidler*[1], P. Speckmayer[1], D. Suess[1], T. Schrefl[2] and T. Thomson[3] *1. Physics, Vienna University of Technology, Wien, Austria; 2. Engineering Materials, The University of Sheffield, Sheffield, United Kingdom; 3. Hitachi San Jose Research Center, San Jose, CA, USA*

11:00

AH-11. A Fast Fourier Transform on Multipoles Algorithm based Micromagnetic Modeling for Perpendicular Magnetic Recording Media. Z. Liu [1], *H. Long*[1,2], E. Ong[3] and E. Li[3] *1. Data Storage Institute, Singapore, Singapore; 2. ECE, National university of Singapore, singapore, Singapore; 3. Institute of High Performance Computing, Singapore, Singapore*

11:12

AH-12. Mid-point numerical technique for stochastic Landau-Lifshitz-Gilbert dynamics. *M. d'Aquino*[1], G. Coppola[2], C. Serpico[1], I.D. Mayergoyz[3] and G. Bertotti[4] *1. Department of Electrical Engineering, University of Napoli "Federico II", Napoli, Italy; 2. DETEC, University of Napoli "Federico II", Napoli, Italy; 3. Department of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 4. Istituto Elettrotecnico Nazionale "G. Ferraris", Torino, Italy*

11:24

AH-13. Micromagnetic Energy Barriers. *R. Skomski*[1], J. Zhou[1] and D. Sellmyer[1] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

11:36

AH-14. Precessional and Thermal Relaxation Dynamics of Magnetic Nanoparticles - A Time-Quantified Monte Carlo Approach. *X. Cheng*[1], M. Jalil[1], H. Lee[2] and Y. Okabe[2] *1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Department of Physics, Tokyo Metropolitan University, Tokyo, Japan*

11:48

AH-15. Influence of Eddy currents on the effective damping parameter. *G. Hrkac*[1] and T. Schrefl[2] *1. Solid state physics E138, Vienna University of Technology, Vienna, Vienna, Austria; 2. Department of Engineering Materials, Engineering Materials, Sheffield, United Kingdom*

MONDAY MORNING 9:00 **PIEDMONT**

Session AI
EXCHANGE BIAS I
Olav Hellwig, Chair

9:00

AI-01. Magnetic Transitions in Lattice-matched, Ordered $FePt_3$ Based Antiferromagnetic/ferromagnetic Films. *P. Mani*[1], V.V. Krishnamurthy[2], J.L. Robertson[2], F. Klose[3] and G.J. Mankey[1] *1. MINT Center, The University of Alabama, Tuscaloosa, AL, USA; 2. Condensed Matter Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 3. Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, TN, USA*

9:12

AI-02. Spin structure of NiFe/FeMn/NiFe trilayers. *A.M. Alsmadi*[1,2], S. te Velthuis[1], G. Felcher[1], H. Yoon[3] and C. Kim[3] *1. Intense Pulse Neutron Source/Material Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Physics Department, Hashemite University, 13115 Zarqa, Jordan; 3. Department of Material Science and Engineering, Chungnam National University, Daejon 305-764, South Korea*

9:24

AI-03. Training effect in exchange coupled GdFe/TbFe: role of Interface domain wall evidence by Polarized neutron reflectometry. *T. HAUET*[1], J.A. BORCHERS[2], P. MANGIN[3], Y. HENRY[4] and S. MANGIN[1,5] *1. LPM, NANCY, France; 2. NIST Center for Neutron Research, Gaithersburg, MD, USA; 3. Laboratoire Leon Brillouin (LLB), Saclay, France; 4. IPCMS-GEMM, Strasbourg, France; 5. Hitachi Gst, San Jose, CA, USA*

9:36

AI-04. Magnetic Domain Walls and Interface Spin Structures in Exchange-biased GdFe/TbFe Bilayers. ***(Invited)*** *S. Mangin*[1,2], T. Hauet[2], Y. Henry[3] and F. Montaigne[1] *1. Laboratoire de Physique des materiaux, Universite de Nancy I, Vandoeuvre-les-Nancy, France; 2. Hitachi GST, San Jose, CA, USA; 3. IPCMS-GEMM, Strasbourg, France*

10:12

AI-05. Hybrid interfacial domain wall structure in ferromagnetic/antiferromagnetic bilayers. W. Zhang[1], Y. Zhai[1,2], M. Lu[2], B. You[2], A. Hu[2], H. Zhai[2], C.G. Morgan[3] and *R.C. O'Handley*[4] *1. Department of Physics, Southeast University, Nanjing, China; 2. National Laboratory of Solid Microstructure, Nanjing University, Nanjing, China; 3. Physics Department, Wayne State Univeristy, Detroit, MI, USA; 4. Materials Science and Engineering, MIT, Cambridge, MA, USA*

10:24

AI-06. Effect of the stacking order on domain size and exchange bias of double superlattices. *J.A. Gonzalez*[1], T.R. Charlton[2], M. Ali[1], C.J. Kinane[1], S. Langridge[2], C.H. Marrows[1] and B.J. Hickey[1] *1. Department of Physics and Astronomy, University of Leeds, Leeds, LS2 9JT, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Chilton, Didcot, OX11 0QX, United Kingdom*

10:36

AI-07. Angular dependence of parallel and perpendicular exchange bias in [FePt/FeMn]N multilayers. *N.N. Phuoc*[1] and T. Suzuki[1] *1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Aichi, Japan*

10:48

AI-08. Competing magnetic interactions in perpendicular exchange-biased $(Co/Pt)_x$/FeMn multilayers. *X. Ji*[1] and K.M. Krishnan[1] *1. Materials Science & Engineering, Univ. of Washington, Seattle, WA, USA*

11:00

AI-09. Magnetization reversal, asymmetry, and role of uncompensated spins in perpendicular exchange coupled systems. *J. Camarero*[1], J. Miguel[2], F. Garcia[3], F. Romanens[4], J. Vogel[4], S. Pizzini[4], N.B. Brookes[5], J. Sort[3], B. Dieny[3] and J.B. Goedkoop[2] *1. Fisica de la Materia Condensada, Universidad Autonoma de Madrid, Madrid, Spain; 2. Van der Waals-Zeeman Institute, University of Amsterdam, Amsterdam, Netherlands; 3. SPINTEC, URA2512 CNRS/CEA,, CEA-Grenoble, Grenoble, France; 4. Laboratoire Louis Neel, CNRS, Grenoble, France; 5. European Synchrotron Radiation Facility (ESRF), Grenoble, France*

11:12

AI-10. Thermal activation effects on the exchange bias of ferromagnetic-antiferromagnetic nanostructures. *V. Baltz*[1], J. Sort[1], S. Landis[2], B. Rodmacq[1] and B. Dieny[1] *1. Spintec (URA 2512 CNRS/CEA), Grenoble, France; 2. LETI/D2NT, Grenoble, France*

11:24

AI-11. Influence of ferromagnetic thickness on structural and magnetic properties of exchange-biased manganite superlattices. *G.E. Campillo*[1], M.E. Gomez[1], A. Berger[2], A. Hoffmann[3] and P. Prieto[1] *1. Physics, Universidad del Valle, Cali, Valle, Colombia; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 3., Materials Science Division, Argonne National Laboratory, Chicago, IL, USA*

11:36

AI-12. Exchange-bias without antiferromagnetic layer in (Pt/Co) multilayer/Permalloy systems. *A. Bollero*[1], V. Baltz[1], L. Buda-Prejbeanu[1], B. Rodmacq[1], J. Sort[2] and B. Dieny[1] *1. SPINTEC (URA 2512 CNRS/CEA), CEA-Grenoble, 17 Av. Martyrs, 38054 Grenoble Cedex 9, France; 2. Departament de Fisica, Facultat de Ciencies, Universitat Autonoma de Barcelona, 08193 Bellaterra, Spain*

11:48

AI-13. Oscillatory Exchange Bias in Fe/Cr Bilayers. *J.S. Parker*[1], L. Wang[2], K.A. Steiner[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*

MONDAY AFTERNOON 1:30 — IMPERIAL

Session BA
NANOPARTICLE ARRAYS
Yumi Ijiri, Chair

1:30

BA-01. Interaction Effects Within Langmuir Layers and Crystals of ε-Co Nanoparticles. *M.S. Sachan*[1] and S.A. Majetich[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, USA*

1:42

BA-02. Superexchange coupling on oleylsarcosine-coated magnetite nanoparticles. *A.F. Bakuzis*[1], A.R. Pereira[2], J.G. Santos[3] and P.C. Morais[3] *1. Instituto de Fisica, Universidade Federal de Goias, Goiania, GO, Brazil; 2. Instituto de Ciencias e Letras do Medio Araguaia,Departamento de Matematica, Universidade Federal do Mato Grosso, Pontal do Araguaia, MT, Brazil; 3. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil*

1:54

BA-03. Temperature and interaction effects in arrays of soft magnetic nano-particles. P. Speckmayer[1], *T. Schrefl*[1,2], O. Chubykalo-Fesenko[3], F. Garcia Sanchez[3], M. Kirschner[2], D. Suess[2] and J. Fidler[2] *1. University of Sheffield, Sheffield, United Kingdom; 2. Vienna University of Technology, Vienna, Austria; 3. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain*

2:06

BA-04. Arrays of magnetic nano particles using self-organized semiconductor surfaces. *N. Mikuszeit*[1], M.A. Nino[1], J. Camarero[1], J.J. de Miguel[1], R. Miranda[1], C. Hofer[2], C. Teichert[2], T. Bobek[3] and S. Kyrsta[4] *1. Physica de la Materia Condensada, Universidad Autonoma, Madrid, Spain; 2. Institut fuer Physik, Montanuniversitaet, Leoben, Austria; 3. Institut fuer Halbleitertechnik, RWTH-IHT, Aachen, Germany; 4. Lehrstuhl fuer Werkstoffchemie, RWTH-MCh, Aachen, Germany*

2:18

BA-05. Magnetic Properties of Au/Fe3O4 Hybrid Nanostructures. *H. Zeng*[1], W. Shi[2], Y. Sahoo[3,5], M. Swihart[2], P.N. Prasad[3,5], Y. Ding[4] and Z. Wang[4] *1. Department of Physics, University at Buffalo, SUNY, Buffalo, NY, USA; 2. Department of Chemical and Biological Engineering, University at Buffalo, SUNY, Buffalo, NY, USA; 3. Department of Chemistry, University at Buffalo, SUNY, Buffalo, NY, USA; 4. School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA, USA; 5. Institute for Lasers, Photonics and Biophotonics, University at Buffalo, SUNY, Buffalo, NY, USA*

2:30

BA-06. Numerical evaluation of magnetic relaxation in strongly coupled systems. *O. Chubykalo-Fesenko*[1] and R.W. Chantrell[2] *1. POMT, Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain; 2. Physics Department, University of York, York, United Kingdom*

MONDAY AFTERNOON 1:30 — REGENCY I

Session BB
GIANT MAGNETOIMPEDANCE, AMR, AND HALL EFFECT I
Leonard Spinu, Chair

1:30

BB-01. Magnetotransport properties of artificial domains realised by local gallium focused ion beam modification of Pt/Co/Pt trilayer structures. *A. Aziz*[1], S.J. Bending[1], H. Roberts[1], S. Crampin[1], P.J. Heard[2] and C.H. Marrows[3] *1. Department of Physics, University of Bath, Bath, United Kingdom; 2. Interface Analysis Centre, University of Bristol, Bristol, United Kingdom; 3. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

1:42

BB-02. Ballistic Anisotropic Magnetoresistance. *J. Velev*[1], R.F. Sabirianov[2], S.S. Jaswal[1] and E.Y. Tsymbal[1] *1. Physics, University of Nebraska, Lincoln, NE, USA; 2. Physics, University of Nebraska, Omaha, NE, USA*

1:54

BB-03. Magnetoresistance of nickel nanocontacts fabricated by different methods. H. Wei[1,2], R. Langford[1], T. Wang[1,2], E. Clifford[1], X. Han[2] and *M. Coey*[1] *1. Physics Department, Trinity College, Dublin, Dublin, Ireland; 2. State Key Laboratory of Magnetism, Chinese Academy of Sciences, Beijing, China*

2:06

BB-04. Room Temperature Giant Planar Hall Effect in Epitaxial Magnetite (100) Films. *X. Jin*[1], R. Ramos[1], C. McEvoy[1] and I.V. Shvets[1] *1. SFI nanoscience Lab., Dept. of Physics, Trinity College Dublin, Dunlin, Ireland*

2:18

BB-05. Nanostructure and Giant Hall effect in $TM_x(SiO_2)_{1-x}$ (TM = Co, Fe, Ni) granular system. L.M. Socolovsky[1], C.L. Pinto de Oliveira[1], J.C. Denardin[1], *M. Knobel*[1] and I.L. Torriani[1,2] *1. Condensed Matter, Unicamp, Campinas, Sao Paulo, Brazil; 2. National Synchrotron Light Laboratory, Campinas, Sao Paulo, Brazil*

2:30

BB-06. Optimized GMI effect in amorphous and nanocrystalline materials. *H.M. Phan*[1], H. Peng[1], S. Yu[2] and M. Vazquez[3] *1. Department of Aerospace Engineering, Bristol University, Bristol, BS8 1TR, United Kingdom; 2. Department of Physics, Chungbuk National University, Cheongju, 361-763, South Korea; 3. Instituto de Ciencia de Materiales, CSIC, 28049 Cantoblanco, Madrid, Spain*

2:42

BB-07. Magnetization switching in mesoscopic NiFe ring with nanoconstriction of wire. *Z. Lu*[1], Y. Zhou[1], D. Wilton[1], G. Pan[1], Y. Chen[2] and Z. Cui[2] *1. CRIST, Faculty of Technology, University of Plymouth, Plymouth, United Kingdom; 2. Rutherford Appleton Laboratory, Chilton, Didcot, Oxon, United Kingdom*

MONDAY AFTERNOON 1:30 REGENCY II

Session BC
SPIN DYNAMICS AND FMR IN MAGNETIC NANOSTRUCTURES

Vitali Metlushko, Chair

1:30

BC-01. Imaging of non uniform ferromagnetic resonance excitations in magnetic nano structures on Si using scanning near field thermal microscopy based detection with 100 nm resolution. *R. Meckenstock*[1], I. Barsukov[1] and D. Spoddig[1] *1. Solid state spectroscopy, Ruhr-University-Bochum, Bochum, Germany*

1:42

BC-02. Low temperature ferromagnetic resonance force microscopy investigations of micron size permalloy dots. *T. Mewes*[1], G. Kakazei[1], V. Bhallamudi[1], P. Banerjee[1], J. Kim[1], P.E. Wigen[1], S. Batra[2] and C. Hammel[1] *1. Physics, The Ohio State University, Columbus, OH, USA; 2. Seagate Technology, Pittsburgh, PA, USA*

1:54

BC-03. Normal mode splitting in interacting arrays of cylindrical permalloy dots. *G. Gubbiotti*[1], G. Carlotti[2], M. Madami[3], S. Tacchi[3] and T. okuno[4] *1. Dipartimento di Fisica, INFM-Soft and University of Perugia, Perugia, Italy; 2. Dipartimento di Fisica, INFM-S3 and University of Perugia, Perugia, Italy; 3. Dipartimento di Fisica, INFM di Perugia, Perugia, Italy; 4. Institute for Chemical Research, Kyoto, Japan*

2:06

BC-04. Vortex dynamics in patterned ferromagnetic ellipses. *K.S. Buchanan*[1], P. Roy[2,1], F. Fradin[1], K. Guslienko[1], M. Grimsditch[1], S. Bader[1] and V. Novosad[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Uppsala University, Uppsala, Sweden*

2:18

BC-05. Vortex magnetodynamics: ferromagnetic resonance in Permalloy dot arrays. *M.J. Pechan*[1], C. Yu[1], D. Owen[1], J. Katine[2], L. Folks[2] and M. Carey[2] *1. physics, miami unversity, oxford, OH, USA; 2. Hitachi Global Storage Technologies, San Jose, OH, USA*

2:30

BC-06. Shape-induced ultra-high magnetic anisotropy and ferromagnetic resonance frequency in micro-patterned thin NiFe film. *Y. Zhuang*[1], M. Vroubel[1], B. Rejaei[1] and J. Burghartz[1] *1. Delft Institute of Microelectronics and Submicrontechnology, Laboratory of Electronic Components, Technology & Materials, Delft, Delft, Netherlands*

2:42

BC-07. Characterization of magnetic properties at edges by edge mode dynamics. *B.B. Maranville*[1], R.D. McMichael[1], W.L. Johnson[2], C.A. Ross[3] and J.Y. Cheng[3] *1. Metallurgy/Magnetic Materials, National Institute of Standards and Technology, Gaithersburg, MD, USA; 2. Materials Reliability Division, National Institute of Standards and Technology, Boulder, CO, USA; 3. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

MONDAY AFTERNOON 1:30 CLUB REGENT

Session BD
MULTILAYER FILMS AND SUPERLATTICES I

Vladyslav Vasko, Chair

1:30

BD-01. Modification of the Spin Density Wave in Fe/Cr Multilayers by insertion of Sn. *D. Lott*[1], A. Gruenwald[1,4], D. Solina[1], M. Almokhtar[2], K. Mibu[3], W. Schmidt[4] and A. Schreyer[1] *1. WFN, research center GKSS, Geesthacht, Germany; 2. Physics Department, Assiut University, Assiut, Egypt; 3. Research Center for Low Temperature and Materials Sciences, Kyoto University, Kyoto, Japan; 4. Institut Laue Langevin, Grenoble, France*

1:42

BD-02. Wide temperature range study of multilayer Fe/Au/Tb films. V.M. Kalita[2], A.F. Lozenko[2], S.M. Ryabchenko[2], P.O. Trotsenko [2], *O.V. Shypil*[1,3] and A.M. Pogorily[3,1] *1. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 2., Institute of Physics NASU, Kyiv, Ukraine; 3. Institute of Magnetism NASU, Kyiv, Ukraine*

1:54

BD-03. Depth dependent magnetic study of exchange-coupled superlattices. *K. Dumesnil*[1], M.R. Fitzsimmons[2], J.A. Borchers[3], J.B. Kortright[4], P. Mangin[5], S. Park[2], R. Pynn[2], C. Dufour[1] and J.J. Rhyne[2] *1. Laboratoire de Physique des Materiaux, Vandoeuvre les Nancy, France; 2. Los Alamos National Laboratory, Los Alamos, NM, USA; 3. National Institute of Standards and Technology, Gaithersburg, MD, USA; 4. Advanced Light Source, Berkeley, CA, USA; 5. Laboratoire Leon Brillouin, Gif sur Yvette, France*

2:06

BD-04. Growth behavior and Magnetic properties of strained SrRuO3/SrMnO3 superlattices. *Y. Yoo*[1,2], O. Chmaissem[1,2], S. Kolesnik[1,2], D. Brown[1,2], B. Dabrowski[1,2], M. Haji-Sheikh[1,3], A. Genis[1,3] and C. Kimball[1,2] *1. Institute for NanoScience, Engineering and Technology (INSET), Dekalb, IL, USA; 2. Physics Department, Northern Illinois University, Dekalb, IL, USA; 3. Electrical Engineering Department, Northern Illinois University, Dekalb, IL, USA*

2:18

BD-05. Magnetic and Electronic Properties of Tricolor Superlattices with Artificially Broken Symmetry. *T. Lottermoser*[1], H. Yamada[2], J. Matsuno[1], T. Arima[1,3], M. Kawasaki[2,4] and Y. Tokura[1,5] *1. Spin Superstructure Project, ERATO, Japan Science and Technology Corporation (JST), AIST Tsukuba Central 4, Tsukuba, Ibaraki, Japan; 2. Correlated Electron Research Center (CERC), AIST Tsukuba Central 4, Tsukuba, Ibaraki, Japan; 3. IMRAM, Tohoku University, Sendai, Japan; 4. Institute for Materials Research, Tohoku University, Sendai, Japan; 5. Department of Applied Physics, University of Tokyo, Tokyo, Japan*

2:30

BD-06. Effect of FM/AFM interfaces on the magnetic properties of $La_{2/3}Sr_{1/3}MnO_3/Pr_{2/3}Ca_{1/3}MnO_3$ superlattices. *D. Niebieskikwiat*[1], L. Hueso[2], M. Salamon[1] and N. Mathur[2] *1. Physics, University of Illinois at Urbana-Champaign, Urbana, IL, USA; 2. Materials Science, University of Cambridge, Cambridge, United Kingdom*

2:42

BD-07. Reduced Interface Magnetization in $La_{0.7}Ca_{0.3}MnO_3/YBa_2Cu_3O_{7-\delta}$ Superlattices. *S. te Velthuis*[1], A. Hoffmann[1], Z. Sefrioui[2], J. Santamaria[2], M. Fitzsimmons[3], S. Park[3] and M. Varela[4] *1. Argonne National Laboratory, Argonne, IL, USA; 2. Universidad Complutense de Madrid, Madrid, Spain; 3. Los Alamos National Laboratory, Los Alamos, NM, USA; 4. Oak Ridge National Laboratory, Oak Ridge, TN, USA*

MONDAY AFTERNOON 1:30 CRYSTAL

Session BE
MOLECULAR MAGNETS: MICROWAVE ABSORPTION AND EMISSION

Jonathan Friedman, Chair

1:30

BE-01. Photon-Induced Magnetization Changes in Single-Molecule Magnets. ***(Invited)*** *J.R. Friedman*[1], M. Bal[1], Y. Suzuki[2,1], S. Shah[3], E. Rumberger[3], D. Hendrickson[3], N. Avraham[4,2], Y. Myasoedov[4], H. Shtrikman[4] and E. Zeldov[4] *1. Physics, Amherst College, Amherst, MA, USA; 2. Physics Department, City College of New York, New York, NY, USA; 3. Department of Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA, USA; 4. Department of Condensed Matter Physics, The Weizmann Institute of Science, Rehovot, Israel*

2:06

BE-02. ^{55}Mn Nuclear longitudinal relaxation time T_1 in Mn12-AC subjected to external magnetic field. *M. Al-Saqer*[1], V.V. Dobrovitski[2], B.N. Harmon[1,2] and F. Borsa[2] *1. Physics and Astronomy, Iowa State University, Ames, IA, USA; 2. Ames Labaratory, Ames, IA, USA*

2:18

BE-03. Triggering of Avalanches in Mn12-acetate. *Y. Suzuki*[1], S. McHugh[1], D. Graybill[1], M.P. Sarachik[1], N. Avraham[2], Y. Myasoedov[2], H. Shtrikman[2], E. Zeldov[2], N.E. Chakov[3] and G. Christou[3] *1. Department of Physics, City College of New York, New York, NY, USA; 2. Department of Condensed Matter Physics, The Weizmann Institute of Science, Rehovot, Israel; 3. Department of Chemistry, University of Florida, Gainesville, FL, USA*

2:30

BE-04. Magnetization Dynamics in Single-Molecule Magnets Induced by Pulsed Millimeter Wave Radiation. *M. Bal*[1], J.R. Friedman[1], Y. Suzuki[2,1], S. Shah[3], E.M. Rumberger[3], D.N. Hendrickson[3], N. Avraham[4], Y. Myasoedov[4], H. Shtrikman[4] and E. Zeldov[4] *1. Department of Physics, Amherst College, Amherst, MA, USA; 2. Physics Department, City College of New York, New York, NY, USA; 3. Department of Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA, USA; 4. Department of Condensed Matter Physics, The Weizmann Institute of Science, Rehovot, Israel*

2:42

BE-05. Relaxation of microscopic observables in magnetic molecules. *S. Carretta*[1], P. Santini[1], E. Liviotti[1], A. Bianchi[1] and G. Amoretti[1] *1. Dipartimento di Fisica, Universita di Parma, Parma, Italy*

MONDAY AFTERNOON 1:30 GOLD

Session BF
INTERFACES AND SURFACES
Chang-Beom Eom, Chair

1:30

BF-01. On the quality of MBE grown of the Fe/MgO and Co/MgO(001)interfaces. S. Andrieu[1], *M. Sicot*[1], C. Tiusan[1], F. Bertran[2] and F. Fortuna[2] *1. laboratoire de physique des materiaux, universite H.Poincare, vandoeuvre, France; 2. synchrotron, LURE SOLEIL, gif sur yvette, France*

1:42

BF-02. A study on the effect of spin resolved density of states on the optical excited spin injection at magnetic metal-semiconductor interfaces. *W. Guan*[1], Y. Liu[1] and T.H. Shen[1] *1. Joule Physics Lab, IMR, University of Salford, Salford, Greater Manchester, United Kingdom*

1:54

BF-03. Non-collinear magnetic coupling at the interface between Fe(001) and antiferromagnetic Mn(001) films. T. Yamada[1], A. Sakuma[2] and *T. Mizoguchi*[1] *1. Faculty of Science, Gakushuin University, Tokyo, Japan; 2. Tohoku University, Sendai, Japan*

2:06

BF-04. Controlling the Order of the Spin-Reorientation Transition in Ni Films Grown on Cu(100). *C. Klein*[1], R. Ramchal[2,3], A.K. Schmid[1] and M. Farle[2] *1. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 2. Institut fuer Physik, Universitaet Duisburg-Essen, Duisburg, Germany; 3. Technische Natuurwetenschappen, Universiteit Twente, Twente, Netherlands*

2:18

BF-05. SP-STM/STS study of c(2x2) reconstructed Cr(001) thin film surfaces. *H. Oka*[1] and K. Sueoka[1] *1. Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Japan*

2:30

BF-06. Evaluation of continuity of Co layers in Co/Pd multilayers by galvanomagnetic effect. T. Kobayashi[1] and *S. Nakagawa*[1] *1. Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan*

2:42

BF-07. Reduced spin-lattice coupling and Gilbert damping in epitaxial $Fe_{1-x}V_x$ (50nm) thin films. L. Cheng[1], *C. Scheck*[1], Y. Guan[1] and W.E. Bailey[1] *1. Materials Science and Engineering program-Department of Applied Physics and Applied Mathematics, Columbia University, New York, NY, USA*

MONDAY AFTERNOON 1:30 ATHERTON

Session BG
MAGNETIC SEMICONDUCTORS I
Brian Kirby, Chair

1:30

BG-01. Dynamic spin-spin interactions in II(1-x)Mn(x)VI magnetic semiconductors in the strong coupling regime: a study by electron paramagnetic resonance. A.D. McCarty[2], K. Dziatkowski[1,3], A.K. Hassan[2], L. Brunel[2] and *J.K. Furdyna*[1] *1. Physics, University of Notre Dame, Notre Dame, IN, USA; 2. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, USA; 3. Institute of Experimental Physics, Warsaw University, Warsaw, Poland*

1:42

BG-02. Thermal hysteresis in the magnetization of the layered III-VI Diluted Magnetic Semiconductor In1 xMnxSe. *T.M. Pekarek*[1], L. Ranger[1], I. Miotkowski[2] and A. Ramdas[2] *1. Chemistry and Physics, Univ. of N. Florida, Jacksonville, FL, USA; 2. Physics, Purdue University, West Lafayette, IN, USA*

1:54

BG-03. Structural, Magnetic and Transport Properties of (Zn,V)Te Semiconductors. *W. Wang*[1], C. Ni [2], T. Zhu[3], H. Zhang[4] and J.Q. Xiao[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Materials Science and Engineering, University of Delaware, Newark, DE, USA; 3. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China; 4. School of Microelectronic and Solid-state Electronic, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

2:06

BG-04. Epitaxial growth and magnetic properties of a new group IV ferromagnetic semiconductor $Ge_{1-x}Fe_x$. *Y. Shuto*[1], M. Tanaka[1,2] and S. Sugahara[3] *1. Department of Electronic Engineering, University of Tokyo, Tokyo, Japan; 2. SORST, Japan Science and Technology Agency, Kawaguchi, Japan; 3. Department of Frontier Informatics, University of Tokyo, Kashiwa, Japan*

2:18

BG-05. Novel Properties of Transition Metal Doped Ge (100) Epitaxial Films. *F. Tsui*[1], L. He[1], B. Collins[1,2], A. Fuller[1], W. Rice[1], M. Wolboldt[1], S. Vogt[2] and Y.S. Chu[2] *1. Physics and Astronomy, University of North Carolina, Chapel Hill, NC, USA; 2. Advanced Photon Source, Argonne National Lab, Argonne, IL, USA*

2:30

BG-06. Magnetic and Transport Characteristics of Ge(MnFe). *H. Braak*[1], D.E. Buergler[1], D. Rata[1], R.R. Gareev[1], M. Luysberg[1], M. Boese[1], P.A. Gruenberg[1] and C.M. Schneider[1] *1. Institute of Solid State Research (IFF), Research Centre Juelich, Juelich, Germany*

2:42

BG-07. Carrier-mediated ferromagnetism in novel Ge(Fe,Mn) magnetic semiconductor epitaxial thin-film structures. *R. Gareev*[1,3], Y. Bugoslavsky[2], R. Schreiber[1], H. Braak[1], A. Paul[1], M. Sperl[3], D. Buergler[1], L. Cohen[2] and C. Schneider[1] *1. Forschungszentrum Juelich, Juelich, Germany; 2. Blackett Laboratory, Imperial College, London, United Kingdom; 3. University of Regensburg, Regensburg, Germany*

MONDAY AFTERNOON 1:30 SACRAMENTO

Session BH
HYSTERESIS MODELING
Olle Heinonen, Chair

1:30

BH-01. A Preisach Analysis of Thermal Fluctuations in a Titanomagnetite Mineral. *R.M. Roshko*[1] and C.A. Viddal[1] *1. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

1:42

BH-02. Analysis Of the Fluctuation Field in Thermal Magnetic Aftereffect. P. Chen[1,2], S. Rao[1], L.H. Bennett[1,2] and *E. Della Torre*[1,2] *1. ECE, George Washington University, Washington, DC, USA; 2. National Institute of Standard and Technology, Gaithersburg, MD, USA*

1:54

BH-03. Monte Carlo Analysis of Magnetic Relaxation Phenomena. *P. Andrei*[1] and A. Stancu[2] *1. Electrical and Computer Engineering, Florida State University, Tallahassee, FL, USA; 2. Faculty of Physics, Al. I. Cuza University, Iasi, Romania*

2:06

BH-04. Radial Vector Model of Hysteresis. *E. Cardelli*[1], E. Pinzaglia[1] and E. Della Torre[2] *1. Dept. of Industrial Engineering, University of Perugia, Perugia, Italy; 2. Institute of Magnetic Research, George Washington University, Washington, DC, USA*

2:18

BH-05. Magnetic Characterization of Samples Using First and Second Order Reversal Curves Diagrams. *A. Stancu*[2] and P. Andrei[1] *1. Electrical and Computer Engineering, Florida State University, Tallahassee, FL, USA; 2. Faculty of Physics, Al. I. Cuza University, Iasi, FL, USA*

2:30

BH-06. Energy loss behavior in disordered hysteretic systems with long range interactions. *O. Hovorka*[1] and G. Friedman[1] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA*

2:42

BH-07. Comparison of the Differential Equation Accommodation Model with Experiment. *L. Yanik*[1], A. Yarimbiyik[1] and E. Della Torre[1,2] *1. Electrical and Computer Engineering, The George Washington University, Ashburn, VA, USA; 2. National Institute of Standards and Technology, Gaithersburg, MD, USA*

MONDAY AFTERNOON 1:30 PIEDMONT

Session BI
INSTRUMENTATION AND MEASUREMENT TECHNIQUES I
Ron Goldfarb, Chair

1:30

BI-01. in-situ magnetometry of Fe/Cr/Fe trilayers. D. Min[1,2], *J. Moreland*[1], S.E. Russek[1] and A. McCallum[1] *1. NIST, Boulder, CO, USA; 2. Applied Physics Department, Colorado School of Mines, Golden, CO, USA*

1:42

BI-02. Magnetic moment measurements using angular magnetoresistance. *F.C. da Silva*[2,1], D.P. Pappas[1], R.R. Owings[1], A.B. Kos[1], J. Unguris[3] and W.C. Uhlig[3] *1. National Institute of Standards and Technology, Boulder, CO, USA; 2. Physics, University of Colorado, Denver, CO, USA; 3. National Institute of Standards and Technology, Gaithersburg, MD, USA*

1:54

BI-03. GMI sensor integrated in an oscillator system. *I. Giouroudi*[1], H. Hauser[1], L. Musiejovsky[1] and J. Steurer[1] *1. Electrical Engineering and Information Technology,Vienna University of Technology, Sensor & Actuator Systems, Vienna, Austria*

2:06

BI-04. DETERMINATION OF INTRINSIC SWITCHING FIELD DISTRIBUTIONS IN PERPENDICULAR RECORDING MEDIA USING A POLAR MAGNETO-OPTICAL KERR EFFECT IMPLEMENTATION OF THE ΔH(M, ΔM)-METHOD. *Y. Xu*[1,2] and A. Berger[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

2:18

BI-05. Three-dimensional hysteresis of soft magnetic composite. *Z.W. Lin*[1], J.G. Zhu[1] and X.L. Wang[2] *1. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia; 2. Institute for Superconducting and Electronic Materials, University of Wollongong, Sydney, NSW, Australia*

2:30

BI-06. A high temperature superconducting magnet system for sensitive measuring instrumentation. *S. Spagna*[1], J. Cherry[1], N.R. Dilley[1] and J. Diederichs[1] *1. Quantum Design, San Diego, CA, USA*

2:42

BI-07. Study of high precision(10^{-4}) transverse kerr effects measurement method applied for laser gyroscope. *H. Cai*[1,2], H. Zhang[1], C. Zeng[3], Z. Li[2] and Y. Chen[1] *1. computer science and technology, Guangdong University of Finance, Guangzhou, Guangdong, China; 2. Electronics science and technology, Huazhong University of Science and Technology, Wuhan, Hubei, China; 3. Applied Physics, National University of Defense Technology, Changsha, Hunan, China*

MONDAY AFTERNOON 3:15 — IMPERIAL

Session BX
ANNIVERSARY PLENARY SESSION
Randall Victora, Chair

TUESDAY MORNING 9:00 — REGENCY I

Session CA
SYMPOSIUM ON MAGNETIC AND FERROELECTRIC PROPERTIES IN RARE-EARTH OXIDES
Jeffrey Lynn, Chair

9:00

CA-01. Multiferroics; multifunctional materials with magnetic order and ferroelectricity. ***(Invited)*** *S. Cheong*[1] *1. Department of Physics & Astronomy, Rutgers University, Piscataway, NJ, USA*

9:36

CA-02. Correlations between magnetic and electrical ordering in multiferroic manganites. ***(Invited)*** *M. Fiebig*[1] *1. Max-Born Institute, Berlin, Berlin, Germany*

10:12

CA-03. Multiferroic complex oxide heterostructures. ***(Invited)*** *R. Ramesh*[1] *1. Materials Science and Engineering and Physics, University of California, Berkeley, Berkeley, CA, USA*

10:48

CA-04. Neutron scattering studies of magnetism in multiferroic $HoMnO_3$. ***(Invited)*** *O. Vajk*[1], J.W. Lynn[1], M. Kenzelmann[2], S.W. Cheong[3] and S.B. Kim[3] *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA; 2. Laboratory for Solid State Physics, ETH Honggerberg, Zurich, CH-8093, Switzerland; 3. Department of Physics & Astronomy, Rutgers University, Piscataway, NJ, USA*

11:24

CA-05. Ferroelectricity Induced by Incommensurate Magnetism. ***(Invited)*** *A.B. Harris*[1] *1. Physics and Astronomy, University of Pennsylvania, Philadelphia, PA, USA*

TUESDAY MORNING 9:00 — REGENCY II

Session CB
SPIN POLARIZED TUNNELING AND INTERFACES
Jagadeesh Moodera, Chair

9:00

CB-01. Coherence of tunnel barrier structure and sign of spin polarization. *A. Thomas*[1,2], J.S. Moodera[1] and B. Satpati[3] *1. Francis Bitter Magnet Lab., MIT, Cambridge, MA, USA; 2. Thin films and nanostructures, University of Bielefeld, Bielefeld, Germany; 3. Institute of Physics, Bhubaneswar, Sachivalaya Marg, India*

9:12

CB-02. $Co_{72}Fe_{20}B_8$: tunneling spin polarization, magnetic and structural properties. *P.V. Paluskar*[1], J.T. Kohlhepp[1], H. Swagten[1] and B. Koopmans[1] *1. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands*

9:24

CB-03. Evidence of a barrier oxidation dependence on the interfacial magnetism in Co/alumina based magnetic tunnel junctions. *N.D. Telling*[1], G. van der Laan[1], S. Ladak[2], R.J. Hicken[2] and E. Arenholz[3] *1. Magnetic Spectroscopy Group, CCLRC Daresbury Laboratory, Warrington, United Kingdom; 2. School of Physics, University of Exeter, Exeter, United Kingdom; 3. Advanced Light Source, LBNL, Berkeley, Berkeley, CA, USA*

9:36

CB-04. Unexpected temperature-driven band motion prior to the phase transition of an intinerant ferromagnet. *A.T. Hindmarch*[1], C.H. Marrows[1] and B.J. Hickey[1] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

9:48

CB-05. Spin accumulation and tunnel magnetoresistance in Au nanoparticles. *S. Mitani*[1,2], K. Yakushiji[1,2], F. Ernult[1,2] and K. Takanashi[1,2] *1. IMR Tohoku University, Sendai, Japan; 2. CREST-JST, Kawaguchi, Japan*

10:00

CB-06. Large enhancement of tunnel magnetoresistance in high quality ferromagnetic single-electron tunneling devices. *T. Niizeki*[1], H. Kubota[2], Y. Ando[1] and T. Miyazaki[1] *1. Applied Physics, Tohoku University, Sendai, Japan; 2. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

10:12

CB-07. Spin accumulation and enhanced spin lifetime in *single* non-magnetic nanoparticles. *A. Bernand-Mantel*[1], P. Seneor[1], N. Lidgi[1], L. Calvet[1], M. Munoz[1], V. Cros[1], S. Fusil[1], K. Bouzehouane[1], C. Deranlot[1], A. Vaures[1], F. Petroff[1] and A. Fert[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France*

10:24

CB-08. Correlation of interface property and spin filter phenomena in ultra-thin EuO film. *T. Santos*[1], J.S. Moodera[1], E. Negusse[2] and Y.U. Idzerda[2] *1. Francis Bitter Magnet Lab, MIT, Cambridge, MA, USA; 2. Physics, Montana State University, Bozeman, MT, USA*

10:36

CB-09. Spin Filtering through Ferromagnetic $BiMnO_3$ Tunnel Barriers. M. Gajek[1], M. Bibes[2], *G. Herranz*[1], A. Barthelemy[1], K. Bouzehouane[1], S. Fusil[3], P. Paruch[5], M. Dawber[5], J. Triscone[5], M. Varela[6], J. Fontcuberta[4] and A. Fert[1] *1. UMP CNRS/Thales, Palaiseau, France; 2. Institut d'Electronique Fondamentale, Universite Paris-Sud, Orsay, France; 3. Universite d'Evry, Evry, France; 4. Institut de Ciencia de Materials de Barcelona, CSIC, Bellaterra, Spain; 5. Condensed Matter Physics Department, University of Geneva, Geneva, Switzerland; 6. Dept. de Fisica Aplicada i Optica, Universitat de Barcelona, Barcelona, Spain*

10:48

CB-10. Indirect spin current depolarization from interfacial roughness for EuO based magnetic tunnel junctions. *E. Negusse*[1], J. Dvorak[1], J.S. Holroyd[1], M. Liberati[1], Y.U. Idzerda[1], T.S. Santos[2], J.S. Moodera[2] and E. Arenholz[3] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Francis Bitter Magnet Labobratory, Massachussets Institute of Technology, Cambridge, MA, USA; 3. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA, USA*

11:00

CB-11. TEM characterisation of tunnel magnetoresistance structures. *D. Kirk*[1], A.K. Petford-Long[1], B.W. Karr[2], M.T. Kief[2] and S. Mao[2] *1. Materials, Oxford University, Oxford, United Kingdom; 2. Seagate, Minneapolis, MN, USA*

11:12

CB-12. XPS studies of the growth and interfacial structure of MgO tunnel barrier layers. *J. Read*[1], P. Mather[1], E. Tan[1] and R. Buhrman[1] *1. Applied and Engineering Physics, Cornell University, Ithaca, NY, USA*

11:24

CB-13. X-ray Absorption Spectroscopy Studies on Magnetic Tunneling Junctions with AlO and AlN tunnel Barriers. H. Ju[1,2], S. Mun[2] and *J. Moon*[1] *1. Department of Physics, Yonsei University, Seoul, South Korea; 2. ALS, LBNL, Berkeley, CA, USA*

11:36

CB-14. Effects of Interfacial Disorder on Spin Transport in MTJ. T. Ong[1,2], *B. Jones*[2,1] and A. Heyman[1] *1. Stanford University, Stanford, CA, USA; 2. IBM Almaden research Center, San Jose, CA, USA*

11:48

CB-15. Strong rectification of current for tunneling through metallic nanoparticles. *A. Iovan*[1] and V. Korenivski[1] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

TUESDAY MORNING 9:00 **CLUB REGENT**

Session CC
PERPENDICULAR MEDIA I
Bin Lu, Chair

9:00

CC-01. The Effects of Oxygen on Intergranular Exchange and Anisotropy Dispersion in Co/Pd Multilayers for Perpendicular Magnetic Recording Media. N. Speetzen[1], *B.H. Stadler*[1] and R.H. Victora[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN, USA*

9:12

CC-02. Recording Studies of Perpendicular Media for 230Gbit/in2 and Beyond. *M. Xiao*[1], H. Do[1], D. Qing[1], Y. Ikeda[1], V. Nayak[1], K. Takano[1], A. Moser[1], N. Supper[1], M. Minardi[2], B. Heinz[2], H. Rosen[1] and B. Marchon[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. 5600 Cottle Road, Hitachi Global Storage Technologies, San Jose, CA, USA*

9:24

CC-03. Determining the Intrinsic Switching-field Distribution in Perpendicular Media: a Comparative Analysis. M. Winklhofer[1,2] and *G.T. Zimanyi*[1] *1. Dept. of Physics and Astronomy, University of California, Davis, CA, USA; 2. Dept. of Geosciences, University of Munich, Munich, Germany*

9:36

CC-04. Experimental determination of intrinsic switching field distributions in perpendicular recording media. ***(Invited)*** *A. Berger*[1], B. Lengsfield[1] and Y. Ikeda[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

10:12

CC-05. Study of Key Factors Affecting Anisotropy Field Distribution and its Correlation with Recording Performance in Rerpendicular Media. *G. Ju*[1], B. Lu[1], T.J. Klemmer[1], A. Sunder[1], H. Zhou[1] and D. Weller[1] *1. Seagate Research, Pittsburgh, PA, USA*

10:24

CC-06. Small-angle neutron scattering as a probe of local magnetic structure in perpendicular magnetic recording media. *S. Lee*[1], M. Wismayer[1], F.Y. Ogrin[2], S. Weekes[2], T. Thomson[3], C.D. Dewhurst[4] and R. Cubitt[4] *1. School of Physics and Astronomy, University of St Andrews, St Andrews, United Kingdom; 2. Department of Physics, University of Exeter, Exeter, United Kingdom; 3. San Jose Research Centre, Hitachi, San Jose, CA, USA; 4. Large Scale Structures Group, Institut Laue-Langevin, Grenoble, France*

10:36

CC-07. Reduction of intermediate layer thickness for CoCrPt-SiO_2 perpendicular recording media by using Ru-SiO_2. *I. Takekuma*[1], I. Tamai[1], R. Araki[1], M. Igarashi[1], H. Nemoto[1], Y. Hirayama[1] and Y. Hosoe[1] *1. Central Research Lab., Hitachi, LTD., Odawara, Kanagawa, Japan*

10:48

CC-08. Effects of Tb/Pt/Ru underlayers on microstructure and magnetic properties of CoPtCr-SiO_2 perpendicular media. Y. Liao[1], *C. Lai*[1], D. Vokoun[1], M. Lin[1], R. Jiang[1], R. Huang[2] and Y. Chu[2] *1. Department of Materials Science & Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Engineering & System Science, National Tsing Hua University, Hsinchu, Taiwan*

11:00

CC-09. Influence of oxide and oxygen on structural and magnetic properties of CoPt alloy. *E. Girt*[1], S. Wu[1], B. Lu[2], T. Nolan[1], S. Harkness[1], A. Dobin[1], M. Munteanu[1], C. Chang[1], J.D. Risner[3], B. Valcu[1], D. Weller[1] and S. Hwang[1] *1. Seagate Technology, Fremont, CA, USA; 2. Seagate Technology, Pittsburgh, PA, USA; 3. Stanford University, Palo Alto, CA, USA*

11:12

CC-10. Effect of thermal fluctuation field on the noise performance of a perpendicular recording system. *S. Batra*[1], W. Scholz[1] and P. Asselin[1] *1. Seagate Research, Pittsburgh, PA, USA*

11:24

CC-11. Recording Performance of CoCrPtO Perpendicular Media with Hard Magnet-biased Synthetic Antiferromagnetically-coupled Soft Magnetic Underlayers. *H.S. Jung*[1], E. Velu[1], S. Malhotra[1], W. Jiang[1] and G. Bertero[1] *1. Komag Inc., San Jose, CA, USA*

11:36

CC-12. Recording Well Below Medium Coercivity Assisted by Localized Microwave Utilizing Spin Transfer. *J. Zhu*[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

11:48

CC-13. Fabrication and characterization of granular type ($FePt/Fe_3Pt$) and (FePt/fcc FePt) tilted magnetic recording media. *A. Singh*[1], J. Yin[1], H. Yu Yu Ko[1] and T. Suzuki[1] *1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan*

TUESDAY MORNING 9:00 **CRYSTAL**

Session CD
MUTILAYER FILMS AND SUPERLATTICES II
David Keavney, Chair

9:00

CD-01. Microstructure - magnetic property relationships in perpendicular Co/Pt multilayers. ***(Invited)*** *J.B. Kortright*[1] *1. Materials Science Division, Lawrence Berkeley National Lab, Berkeley, CA, USA*

9:36

CD-02. Magnetic anisotropy of (110) Fe/Co superlattices. *V.A. Vas'ko*[1], M. Kim[2], O. Mryasov[3], V. Sapozhnikov[1], M.K. Minor[3], A.J. Freeman[4] and M.T. Kief[1] *1. Seagate Recording Heads - R&D, Seagate Technology, Minneapolis, MN, USA; 2. BK 21 Physics Research Group, Seoul National University, Seoul, South Korea; 3. Seagate Research, Seagate Technology, Pittsburgh, PA, USA; 4. Physics and Astronomy Department, Northwestern University, Evanston, IL, USA*

9:48

CD-03. Field Controlled Magnetic Thermal Hysteresis in Co/Tb Multilayers. *M. Hossu*[1] and A.R. Koymen[1] *1. Physics, Univ of Texas at Arlington, Arlington, TX, USA*

10:00

CD-04. Magnetic and electrical transport properties of 1D quasiperiodic Co/Pt multilayers. *L.Y. Zhu*[1], X.M. Cheng[1] and C.L. Chien[1] *1. Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, MD, USA*

10:12

CD-05. Exchange Coupling in [Co Pt/]/Cu/[Co/Pt] Thin Films with Perpendicular Anisotropy. *J. Zhou*[1], R. Skomski[1] and D. Sellmyer[1] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, Lincoln, NE, USA*

10:24

CD-06. Anomalous magnetization reversal behavior in $[Co/Pt]_4$ multilayers with perpendicular anisotropy. *X.M. Cheng*[1], V.I. Nikitenko[2], A.J. Shapiro[2], R.D. Shull[2] and C.L. Chien[1] *1. Department of Physics & Astronomy, The Johns Hopkins University, Baltimore, MD, USA; 2. Magnetic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD, USA*

10:36

CD-07. Finite size scaling effects in FeCo/Rh and FeCo/Ta multilayers. *T. Ambrose*[1], P.R. Ohodnicki[1,2], J. Rosenberg[1,3], O. Mryasov[1] and T. Klemmer[1] *1. Seagate Research, Pittsburgh, PA, USA; 2. Material Science Department, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Department of Physics, California Insitute of Technology, Pasadena, CA, USA*

10:48

CD-08. Phase diagram of stripe domains in a soft spin model of perpedicular magnetic media. C. Pike[1], *G. Zimanyi*[1], R. Scalettar[1] and O. Hellwig[2] *1. physics, uc davis, davis, CA, USA; 2. BESSY, berlin, Germany*

11:00

CD-09. Artificially-Structured Magnetostrictive FeCo and FeTb Single Layer and FeCo/FeTb Multilayer Films. *C.J. Gutierrez*[1], S. Rios[1,2], J. Dunn[1], W.J. Geerts[1] and B. Lanning[2] *1. Physics Department, Texas State University, San Marcos, TX, USA; 2. Materials Engineering, Southwest Research Institute, San Antonio, TX, USA*

11:12

CD-10. Irreversible magnetization reversal in epitaxial Fe/SmCo spring magnets. *J.E. Davies*[1], O. Hellwig[3,2], E.E. Fullerton[2], J.S. Jiang[4], S.D. Bader[4] and K. Liu[1] *1. Physics Department, University of California, Davis, CA, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA; 3. Bessy GmbH, Berlin, Germany; 4. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA*

11:24

CD-11. Magnetic and Microwave Properties of CoFe/PtMn/CoFe sandwich films. *C.I. Pettiford*[1], A. Zeltser[2], S.D. Yoon[1], V.G. Harris[1], C. Vittoria[1] and N.X. Sun[1] *1. Center of Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA, USA; 2. Hitachi Global Storage technologies, San Jose, CA, USA*

11:36

CD-12. In-situ MFM study of the magnetization process in AF coupled CoPt/Ru multilayers. *V. Neu*[1], U. Wolff[1], T. Shapoval[1], U.K. Rossler[1], L. Schultz[1] and O. Hellwig[2] *1. Department of Magnetism and Superconductivity, IFW Dresden, Dresden, Germany; 2. BESSY GmbH, Berlin, Germany*

11:48

CD-13. Method for measuring exchange stiffness in ferromagnetic materials. *E. Girt*[1] and A.Y. Dobin[1] *1. Seagate Technology, Fremont, CA, USA*

TUESDAY MORNING 9:00 **GOLD**

Session CE
$L1_0$ AND OTHER HARD MAGNETIC MATERIALS I

Kevin Coffey, Chair

9:00

CE-01. Structure and magnetic properties of two-phase hard/soft nanoscale clusters. *X. Rui*[1], Z. Sun[3], Y. Xu[2,3], D.J. Sellmyer[2,3] and J.E. Shield[1,3] *1. Mechanical Engineering, University of Nebraska, Lincoln, NE, USA; 2. Physics and Astronomy, University of Nebraska, Lincoln, NE, USA; 3. Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

9:12

CE-02. Improved Synthesis and Easy Axis Alignment of L10-FePt Nanoparticles. *Z. Jia*[1,2], S. Kang[2], S. Shi[1,2], D. Nikles[2,3] and J. Harrell[1,2] *1. Dept of Physics & Astronomy, University of Alabama, TUSCALOOSA, AL, USA; 2. MINT Center, University of Alabama, TUSCALOOSA, AL, USA; 3. Department of Chemistry, University of Alabama, TUSCALOOSA, AL, USA*

9:24

CE-03. Hard Magnetic FePt Nanoparticles by Salt-Matrix Annealing. D. Li[1], K. Elkins[1], N. Poudyal[1], V. Nandwana[1], Z. Jin[1], K. Chen[1] and *J. Liu[1] 1. Department of Physics, University of Texas at Arlington, Arlington, TX, USA*

9:36

CE-04. Magnetic Properties of Co-Rich Co-Pt Thin Films Electrodeposited on Ru Underlayer. *G. Pattanaik*[1], J. Weston[2] and G. Zangari[1,2] *1. Materials Science and Engg., University of Virginia, Charlottesville, VA, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA*

9:48

CE-05. PtMn induced L10 ordering of FePt thin film at low temperature. *C. Chiang*[1], C. Lai[1] and Y. Wu[1] *1. Department of Materials Science & Engineering, National Tsing Hua University, Hsinchu, Taiwan*

10:00

CE-06. $L1_0$ ordering of magnetron sputtered FePt films at temperatures below 400°C. *V. Cantelli*[1], J. von Borany[1], M. Beckers[1] and J. Fassbender[1] *1. Institute of Ion Beam and Materials Research, Forschungszentrum Rossendorf, DRESDEN, Germany*

10:12

CE-07. Magnetization processes in hard CoPt films and dots : a pinning mechanism case study by MFM and magnetometry. *M. Ghidini*[1], G. Zangari[2], I. Prejbeanu[3], G. Pattanaik[2], J. Weston[4], G. Asti[1], C. Pernechele[1], M. Solzi[1], P. Sabon[3], L. Buda-Prejbeanu[3] and J. Nozieres[3] *1. Physics, University of Parma, Parma, Italy; 2. Materials Science and Engineering and CESE, Charlottesville, VA, USA; 3. SPINTEC, CEA/CNRS, Grenoble, France; 4. MINTEC, University of Alabama, Tuscaloosa, AL, USA*

10:24

CE-08. Preparation and Characterization of Bulk FePt From Annealed Mixtures of Chemically Prepared Fe and Pt Nanoparticles. *T.F. Ekiert*[1], B.M. Patterson[2] and K.M. Unruh[1] *1. Physics and Astronomy, Univeristy of Delaware, Newark, DE, USA; 2. Physics, United States Air Force Academy, USAFA, CO, USA*

10:36

CE-09. Intergrain interactions in exchange-coupled nanocomposite FePt powders. *J. Lyubina*[1], K. Khlopkov[1], O. Gutfleisch[1], K. Mueller[1] and L. Schultz[1] *1. Department Magnetism and Superconductivity, Leibniz-Institute of Solid State and Materials Research, IFW Dresden, Dresden, Germany*

10:48

CE-10. Phase-Separated Alloys for Bulk Exchange-Biased Permanent Magnets. *L.H. Lewis*[1], C. Harland[1], R.W. McCallum[2], M.J. Kramer[2] and K.W. Dennis[2] *1. Materials Science Department, Brookhaven National Laboratory, Upton, NY, USA; 2. Ames Laboratory and Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA*

11:00

CE-11. Growth and magnetism of $Sm_{1-x}Gd_xAl_2$: a ferromagnet without magnetization. *A. Avisou*[1], C. Dufour[1], K. Dumesnil[1], A. Rogalev[2] and F. Wilhelm[2] *1. Laboratoire de physique des materiaux, VANDOEUVRE LES NANCY, France; 2. ESRF, Grenoble, France*

11:12

CE-12. Coercivity Mechanism in Epitaxial SmCo5 Films. *A. Singh*[1], V. Neu[1], S. Faehler[1], L. Schultz[1] and B. Holzapfel[1] *1. superconducting materials, IFW, Dresden, Germany*

11:24

CE-13. Magnetic properties of Co-Al melt-spun ribbons. *T. Saito*[1] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan*

11:36

CE-14. Nanostructured Mn-Al-C Permanent Magnets Produced by Mechanical Milling. *Q. Zeng*[1], I. Baker[1] and Z. Yan[2] *1. Thayer School of Engineering, Dartmouth College, Hanover, NH, USA; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA*

11:48

CE-15. Anomalous Magnetic Phase Transition between Ferromagnetism and Antiferromagnetism in ε-$Fe_{2-x}In_xO_3$ Nanorod. *S. Sakurai*[1], S. Kuroki[1], K. Hashimoto[1] and S. Ohkoshi[1,2] *1. Applied Chemistry, School of Engineeing, The University of Tokyo, Tokyo, Japan; 2. PRESTO, JST, Saitama, Japan*

TUESDAY MORNING 9:00 **ATHERTON**

Session CF
AMORPHOUS AND NANOCRYSTALLINE SOFT MATERIALS I

Massimo Pasquale, Chair

9:00

CF-01. High saturation magnetization and soft magnetic properties of nanocrystalline $(Fe,Co)_{90}Zr_7B_3$ alloys annealed under a rotating magnetic field. *K. Suzuki*[1], N. Ito[2], J.S. Garitaonandia[1] and J.D. Cashion[2] *1. Department of Materials Engineering, Monash University, Clayton, VIC, Australia; 2. School of Physics, Monash University, Clayton, VIC, Australia*

9:12

CF-02. Crystallization Study of HITPERM and NANOPERM Soft Ferromagnetic Thin Films. *C. Um*[1], H. Lee[2] and M.E. McHenry[1] *1. Materials Science & Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

9:24

CF-03. Thermomagnetic Analysis of (Fe,Co,Ni)-based Nanocrystalline Soft Magnetic Alloys. *M.A. Willard*[1] and V.G. Harris[2] *1. Code 6324, U. S. Naval Research Laboratory, Washington, DC, USA; 2. Electrical and Computer Engineering Department, Northeastern University, Boston, MA, USA*

9:36

CF-04. Bragg-Williams Model of Fe-Co Order-Disorder Phase Transformations in a Strong Magnetic Field. Y. Hanlumyuang[1], *P.R. Ohodnicki*[1] and M.E. McHenry[1] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

9:48

CF-05. Soft Magnetic Powder-core Composites of $Fe_{90}Zr_7B_3$ and $Fe_{49}Co_{21}Al_5Ga_2P_{9.65}C_{5.75}B_{4.6}Si_3$ Alloys. *Z. Turgut*[1], T.M. Attenweiler[2], M. Huang[1], J.C. Horwath[2] and R.T. Fingers[2] *1. UES Inc., Dayton, OH, USA; 2. AFRL, Wright-Patterson AFB, OH, USA*

10:00

CF-06. Magnetic viscosity in soft magnetic nanocrystalline FeNbB alloys. *I. Skorvanek*[1] and J. Kovac[1] *1. Institute of Experimental Physics, Slovak Acad. Sci., Kosice, Slovakia*

10:12

CF-07. Neutron scattering from dipole-field-induced spin disorder in Nanoperm. *A. Michels*[1], C. Vecchini[2], O. Moze[2], K. Suzuki[3], S. Cadogan[4], K. Pranzas[5] and J. Weissmueller[6] *1. Department of Physics, University of Saarbruecken, Saarbruecken, Germany; 2. Department of Physics, University of Modena and Reggio Emilia, Modena, Italy; 3. Department of Materials Engineering, Monash University, Melbourne, VIC, Australia; 4. School of Physics, University of New South Wales, Sydney, NSW, Australia; 5. Institute of Materials Research, GKSS Research Center, Geesthacht, Germany; 6. Institute of Nanotechnology, Research Center Karlsruhe, Karlsruhe, Germany*

10:24

CF-08. Structure and magnetism of pulsed laser deposited $(Ni_{59}Co_{22}Fe_7)_{88}Zr_7B_4Cu_x$ (x=0,1) thin films. *S.D. Joshi*[1], S.D. Yoon[2], A. Yang[2], C. Vittoria[2], M. Willard[3], R. Goswami[3] and V.G. Harris[2] *1. Mechanical Engineering, Northeastern University, Boston, MA, USA; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Naval Research Laboratory, Washington D. C., DC, USA*

10:36

CF-09. Rf-Mossbauer study of the magnetic properties of nanocrystalline FeNiZrB and FeNiCoZrB alloys. *M. Kopcewicz*[1] and T. Kulik[2] *1. Inst. of Electron. Materials Technology, Warszawa, Poland; 2. Dept. Mater. Sci. and Eng., Warsaw Univ. of Technology, Warszawa, Poland*

10:48

CF-10. Magnetoimpedance effect in new glassy Fe-Au(Cu)-B alloys. *N. Lupu*[1], H. Chiriac[1], M. Tibu[1] and A. Inoue[2] *1. Magnetic Materials and Devices, National Institute of R&D for Technical Physics, Iasi, Romania; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

11:00

CF-11. Origin of low coercivity of $(Fe_{0.75}B_{0.15}Si_{0.10})_{100-x}Nb_x$ (x = 1-4) glassy alloys. *T. Bitoh*[1], A. Makino[2] and A. Inoue[2] *1. Department of Machine Intelligence and Systems Engineering, Akita Prefectural University, Yurihonjo, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

11:12

CF-12. Effect of Length and Annealing on Magnetoimpedance of $Co_{68}Fe_5Si_{12}B_{15}$ Ribbons. V. Satya Narayana Murthy[1] and *G. Markandeyulu*[1] *1. Physics, Indian Institute of Technology Madras, CHENNAI, Tamil Nadu, India*

11:24

CF-13. Effect of a Magnetic Field on the Nanocrystallization Kinetics of Amorphous $Pd_{40}(Fe,Ni)_{20}P_{20}$. *A. Hsiao*[1], L.H. Lewis[2], K. Kang[2] and A.R. Moodenbaugh[2] *1. Mechanical Engineering, Union College, Schenectady, NY, USA; 2. Materials Science Department, Brookhaven National Laboratory, Upton, NY, USA*

TUESDAY MORNING 9:00 **SACRAMENTO**

Session CG
MAGNETIZATION DYNAMICS I
Konstantin Guslienko, Chair

9:00

CG-01. Time resolved magneto-optical studies of picosecond magnetization dynamics in magnetic nano-elements. ***(Invited)*** *R.J. Hicken*[1], V.V. Kruglyak[1], P.S. Keatley[1], J.R. Childress[2] and J.A. Katine[2] *1. Physics, University of Exeter, Exeter, United Kingdom; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

9:36

CG-02. Vortex dynamics in coupled ferromagnetic multilayer structures. *K. Chou*[1], B. Van Waeyenberge[2], H. Stoll[1], A. Puzic[1], T. Tyliszczak[3], K. Rott[4], H. Brueckl[6], G. Reiss[4], I. Neudecker[5], D. Weiss[5], C.H. Back[5] and G. Schuetz[1] *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department of Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 3. Chemical Science Division, LBNL, Berkeley, CA, USA; 4. Faculty of Physics, Bielefeld University, Bielefeld, Germany; 5. Institute for Experimental and Applied Physics, Regensburg University, Regensburg, Germany; 6. ARCS, Nano System Technology, Tech Gate, Vienna, Austria*

9:48

CG-03. Analysis of random Landau-Lifshitz dynamics by using stochastic processes on graphs. G. Bertotti[1], *I.D. Mayergoyz*[2,3] and C. Serpico[4] *1. Materials Dept., IEN Galileo Ferraris (INRIM), Torino, Italy; 2. Dept. of Electrical and Compuetr Engineering, University of Maryland, College Park, MD, USA; 3. UMIACS, University of Maryland, College Park, MD, USA; 4. Dept. of Electrical Eng., Univ. of Napoli Federico II, Napoli, Italy*

10:00

CG-04. Quantitative Analysis of Magnetic Excitations in Landau Flux-Closure Structures Using Synchrotron-Radiation Microscopy. *C. Back*[1], J. Raabe[1,2], F. Nolting[2] and C. Quitmann[2] *1. Physics, University Regensburg, Regensburg, Germany; 2. SLS, Paul Scherrer Institut, Villigen, Switzerland*

10:12

CG-05. MAGNETISATION DYNAMICS IN FERROMAGNETIC DISKS. *C. Back*[1], M. Buess[1,2], K. Perzlmaier[1], M.R. Scheinfein[3] and D. Pescia[1] *1. University Regensburg, Regensburg, Germany; 2. FKP, ETH Zurich, Zurich, Switzerland; 3. Simon Fraser University, Burnaby, BC, Canada*

10:24

CG-06. Intrinsic and non-local Gilbert Damping parameter in all optical pump-probe experiments. *M. Djordjevic*[1], G. Eilers[1], A. Parge[1], M. Muenzenberg[1] and J. Moodera[2] *1. IV. Institute of Physics, University of Goettingen, Goettingen, Germany; 2. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA, USA*

10:36

CG-07. Dynamically enforced Bloch to cross-tie wall transformation. *A. Neudert*[1], J. McCord[1], R. Schaefer[1] and L. Schultz[1] *1. IFW Dresden, Dresden, Germany*

10:48

CG-08. Transient field excitation of magnetic normal modes in the permalloy ring structures. *X. Zhu*[1], V. Metlushko[2], Z. Liu[1] and M.R. Freeman[1] *1. Department of Physics, University of Alberta, Edmonton, AB, Canada; 2. Department of Electrical Engineering, University of Illinois at Chicago, Chicago, IL, USA*

11:00

CG-09. Ultrafast Demagnetization of Thin Magnetic Films Probed by X-ray Spectroscopy. *C. Stamm*[1], C. Lupulescu[1], H. Duerr[1] and W. Eberhardt[1] *1. BESSY, Berlin, Germany*

11:12

CG-10. Observation of ultrafast nonthermal effect of light on the magnetization in a GdFeCo film. 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. College of Science and Technology, Nihon University, Chiba, Japan*

11:24

CG-11. Spin Wave Envelope Soliton Fractals in Magnetic Film Based Active Feedback Rings. *M. Wu*[1], B.A. Kalinikos[1,2], L.D. Carr[3] and C.E. Patton[1] *1. Department of Physics, Colorado State University, Fort Collins, CO, USA; 2. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation; 3. Department of Physics, University of Colorado, Boulder, CO, USA*

11:36

CG-12. FMR studies of single permalloy layers sandwiched by Au. *H.J. Hurdequint*[1] *1. Physique des Solides, CNRS-Universite Paris Sud, Orsay, France*

11:48

CG-13. Magnetization Dynamics in Cobalt Thin Film Structures. *R. Adam*[1], R. Hertel[1], A. Rzhevsky[1] and C.M. Schneider[1] *1. Institute for Solid State Research (IFF), Research Centre Julich, Julich, Germany*

TUESDAY MORNING 9:00 — PIEDMONT

Session CH
ITINERANT MAGNETISM
Srikanth Hariharan, Chair

9:00

CH-01. Field and temperature dependence of the first order antiferromagnetic to ferromagnetic phase transition in FeRh thin films. *S. Maat*[1], J. Thiele[1] and E. Fullerton[1] *1. San Jose Research, Hitachi Global Stroage Technologies, San Jose, CA, USA*

9:12

CH-02. Origin of ferromagnetic behavior in Cr doped Indium oxide thin films. *J. Philip*[1], P.R. LeClair[1], J.S. Moodera[1], K.M. Reddy[2] and A. Punnoose[2] *1. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA, USA; 2. Physics, Boise State University, Boise, ID, USA*

9:24

CH-03. Disorder-induced carrier localization in ultrathin strained $SrRuO_3$ epitaxial films. *R.V. Chopdekar*[1,2], Y. Takamura[2] and Y. Suzuki[2] *1. Applied Physics, Cornell University, Ithaca, NY, USA; 2. Materials Science and Engineering, UC Berkeley, Berkeley, CA, USA*

9:36

CH-04. Effect of crystalline quality and substitution on magnetic anisotropy of $SrRuO_3$ thin films. *S. Kolesnik*[1,2], Y.Z. Yoo[1,2], O. Chmaissem[1,2], D.E. Brown[1,2], B. Dabrowski[1,2], M. Haji-Sheikh[1,3], A.P. Genis[1,3] and C.W. Kimball[1,2] *1. Institute for NanoScience, Engineering and Technology (INSET), DeKalb, IL, USA; 2. Department of Physics, Northern Illinois University, DeKalb, IL, USA; 3. Department of Electrical Engineering, Northern Illinois University, DeKalb, IL, USA*

9:48

CH-05. A neutron scattering investigation of the magnetic structure and magnetic excitations in nanocrystalline Tb. C. Vecchini[1], *O. Moze*[1], A. Hoser[2], M. Prager[2], D. Argyriou[3], A. Michels[4], B. Roessli[5] and J. Weissmuller[6] *1. CNR-INFM S3 National Research Center, Physics Dept, Modena University, Modena, Italy; 2. Institut fur Festkorperforschung, FZ Julich, Julich, Germany; 3. Berlin Neutron Scattering Center, Hahn Meitner Institut, Berlin, Germany; 4. Technische Physik, Universitat des Saarlandes, Saarbrucken, Germany; 5. Laboratory for Neutron Scattering, ETHZ and Paul Scherrer Institut, Villigen, Switzerland; 6. Institut fur Nanotechnologie, Forshungszentrum, Karlsruhe, Germany*

10:00

CH-06. Intra-Atomic Aspects of Magnon-Plasmon Interactions. *R. Skomski*[1] and P. Dowben[1] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

10:12

CH-07. Complex permittivity and permeability of strontium ferrites in Q-, V-, and W-band frequency ranges. *K.A. Korolev*[1], L. Subramanian[1] and M.N. Afsar[1] *1. Tufts University, Medford, MA, USA*

10:24

CH-08. The exchange interactions in magnets: the multiple scattering approach. *V. Antropov*[1] *1. Condensed Matter Physics, Ames Laboratory, Ames, IA, USA*

10:36

CH-09. Antiferromagnetic arrangement in paramagnetic ErCo2. J. Herrero-Albillos[1], *F. Bartolome*[1], L.M. Garcia[1], A.T. Young[2], T. Funk[3] and E. Arenholz[2] *1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, University of California, Berkeley, CA, USA; 3. Physics Research Laboratory, University of California, San Francisco, CA, USA*

10:48

CH-10. Large (H,D) isotope effect on the metamagnetic transition in $RFe_2(H,D)_{4.2}$ compounds. T. Leblond[1], V. Paul-Boncour[1], *M. Guillot*[2] and G. Andre[3] *1. Laboratoire de Chimie Metallurgique des Terres Rares, CNRS, Thiais, France; 2. HMFL, CNRS/MPI, GRENOBLE, France; 3. Laboratoire Leon Brillouin, CEA-CNRS, Gif-sur-Yvette, France*

11:00

CH-11. Magnetic and electronic anisotropy in single crystal YMn_4Al_8. *B. Cho*[1], J. Kim[1], J. Park[1], Y. Janssen[2] and P. Canfield[2] *1. Materials Science and Engineering, GIST, Gwangju, Jeonnam, South Korea; 2. Physisc and Astronomy, Iowa State University, Ames, IA, USA*

TUESDAY MORNING 8:00 — **IMPERIAL**

Session CP
GIANT MAGNETOIMPEDANCE, AMR, AND HALL EFFECT II (POSTER SESSION)

Chris Marrows, Chair

CP-01. On the large anisotropic magnetoresistance in epitaxial thin films of $SrRuO_3$. O. Moran[1], *W. Saldarriaga*[1] and E. Baca[1] *1. Universidad del Valle, Cali, Colombia*

CP-02. High frequency magneto-impedance spectra of multilayer systems. *A. Garcia-Arribas*[1], D. de Cos[1] and J. Barandiaran[1] *1. Departamento de Electricidad y Electronica, Universidad del Pais Vasco, Bilbao, Spain*

CP-03. Magnetophotovoltaic effect in ferromagnetic Schottky barriers. *P. Stamenov*[1] and J. Coey[1] *1. Physics Department, Trinity College, Dublin, Dublin, Ireland*

CP-04. Planar Hall Effect in Orthogonal Submicron Co Wires. *Y. Huang*[1], A.O. Adeyeye[1] and C. Wang[1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

CP-05. MAGNETIC SWITCHING IN EPITAXIAL (110) La2/3Ca1/3MnO3 FILMS. I.C. Infante[1], D. Habrovsky[1], F.B. Sanchez[1], V. Lauhkin[1] and *J. Fontcuberta*[1] *1. Magnetic Materials and Superconductors, Institut de Ciencia de Materials de Barcelona ICMAB-CSIC, Bellaterra, Barcelona, Spain*

CP-06. SUPER-GIANT MAGNETO-IMPEDANCE EFFECT IN A GLASS COATED MICROWIRE LC-RESONATOR. Y. Kim[2], M. Hwang[1], S. Yu[2], J. Rhee[3], M. Vazquez[4] and *H. Lee[1]1. Physics Education, Kongju National University, Kongju, South Korea; 2. Physics, Chungbuk National University, Cheongju, South Korea; 3. Physics, Sookmyung Womens University, Seoul, South Korea; 4. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain*

CP-07. Influence of spin polarization enhancement layer to RE-TM thin films for perpendicular TMR evaluated by ferromagnetic Hall effect. T. Hatori[1] and *S. Nakagawa[1]1. Tokyo Institute of Technology, Tokyo, Japan*

CP-08. ANISOTROPIC MAGNETORESISTANCE IN EPITAXIAL (110) La2/3Ca1/3MnO3 FILMS. V. Lauhkin,[1], I.C. Infante[1], F.B. Sanchez[1], *J. Fontcuberta*[1], O.Y. Gorbenko[2] and A.R. Kaul[2]*1. Magnetic Materials and Superconductors, Institut de Ciencia de Materials de Barcelona ICMAB-CSIC, 08193, Bellaterra, Catalunya, Spain; 2. Department of Chemistry, Moscow State University, 119899 Moscow, Russian Federation*

CP-09. Controlled Fabrication of Perpendicular Nanocontacts using Focused Ion beam Milling. *H. Wei*[1,2], R. Lanford[2] and X. Han[1]*1. Institute of Physics Chinese Academy of Science, Beijing, China; 2. Physics Department, Trinity College, Dublin, Ireland*

TUESDAY MORNING 8:00 — IMPERIAL

Session CQ
MAGNETIC SENSORS (NOT RECORDING) II (POSTER SESSION)

John Snyder, Chair

CQ-01. Compensation of the thermal drift in the sensitivity of fundamental-mode orthogonal fluxgates. A. Plotkin[1], *E. Paperno*[1], A. Samohin[1] and I. Sasada[2]*1. Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel; 2. Applied Science for Electronics and Materials, Kyushu University, Fukuoka, Kyushu, Japan*

CQ-02. A nonlinear hysteresis model and sensitivity analysis for fluxgate sensors. *A.L. Geiler*[1], V.G. Harris[1], C. Vittoria[1] and N.X. Sun[1]*1. Center for Microwave and Magnetic Materials and Integrated Circuits, Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA*

CQ-03. Low Power Orthogonal Fluxgate Sensor with Electroplated Ni80Fe20/Cu Wire. *J. Fan*[1], X. Li[1] and P. Ripka[2]*1. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Czech Technical University, Prague, Czech Republic*

CQ-04. Magnetic motion capture system using LC resonant magnetic marker composed of Ni-Zn ferrite core. *S. Hashi*[1], S. Yabukami[2], Y. Tokunaga[1], M. Toyoda[1], M. Ohya[1], K. Ishiyama[2], Y. Okazaki[1] and K. Arai[2]*1. Department of Materials Science and Technology, Gifu University, Gifu, Gifu, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan*

CQ-05. Magneto-Optic Linear Displacement Sensor with High Spatial-Resolution and Low Noise. *S. Lee*[1], Y. Melikhov[1], D.C. Jiles[1], C. Park[2] and H. Hauser[3]*1. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA; 2. Dept. of Physics, Seonam University, Namwon, South Korea; 3. Institute of Sensor and Actuator Systems, Vienna University of Technology, Vienna, Austria*

CQ-06. Magnetic field sensors based on garnets with in–plane magnetization. *C. Holthaus*[1], I. Nistor[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*

CQ-07. Effects of Bending Loads on Performance of Polarized Band Torque Transducers. *I.J. Garshelis*[1,3] and S. Tollens[2]*1. MagCanica, Inc., Pittsfield, MA, USA; 2. MagCanica, Inc., San Diego, CA, USA; 3. Magnova, Inc., Pittsfield, MA, USA*

CQ-08. Decreasing of hysteresis error of magnetostrictive type non-contact displacement sensor. *H. Wakiwaka*[1], K. Seki[1] and X. Chang[2]*1. Shinshu University, Nagano, Japan; 2. Taiyuanligong University, Taiyuan, China*

CQ-09. A new class of micro-machined magnetic resonator for high frequency magnetic sensor applications. Y. Kim[2], M. Hwang[1], *H. Lee*[1], S. Yu[2] and J. Lee[3]*1. Physics Education, Kongju National University, Kongju, South Korea; 2. Physics, Chungbuk National University, Cheongju, South Korea; 3. Electrical Engineering, University of Texas at Dallas, Richardson, TX, USA*

CQ-10. Demonstration of a new exchange bias sensor. *E. Negusse*[1] and Y.U. Idzerda[1]*1. Physics, Montana State University, Bozeman, MT, USA*

CQ-11. Response of oscillation controlled magnetic sensing. *K. Saisho*[1] and K. Shiiki[1]*1. Applied Physics and-Informatics, Keio University, Yokohama, Japan*

TUESDAY MORNING 8:00

IMPERIAL

Session CR
SPIN GLASS/LOW DIMENSIONAL MAGNETS/STRONGLY CORRELATED ELECTRON SYSTEMS (POSTER SESSION)

Seung-Hun Lee, Co-chair
Peter Schiffer, Co-chair

CR-01. Neutron and Mössbauer studies of $FeCr_2Se_4$. *J. Kang*[1], S. Kim[1], B. Lee[2] and C. Kim[1] *1. Department of Physics, Koomin University, Seoul, South Korea; 2. Department of Physics, Hankuk University of Foreign Studies, Yongin, Kyungki, South Korea*

CR-02. Magnetic properties of $Fe_{1-x}Co_xCr_2S_4$. *R. Noda*[1], Y. Kamihara[1] and M. Matoba[1] *1. Center for Applied Physics and Physico-Informatics, Keio University, Yokohama, Japan*

CR-03. The effect of non magnetic ion substitution for the $FeCr_{2-x}M_xS_4$ (M=Ga, In) by Mössbauer spectroscopy. *B. Son*[1], S. Kim[1], I. Shim[1], K. Joo[2] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, South Korea; 2. Department of Physics, Myongji University, Yongin, Kyungki, South Korea*

CR-04. Stripes in two-dimensional Ising model. *E. Rastelli*[1], S. Regina[2] and A. Tassi[2] *1. IMEM, CNR, Parma, Italy; 2. Physics, University, Parma, Italy*

CR-05. Magnetic-flux-induced Persistent Currents in Symmetric-polymer Mesoscopic Rings. R. Zhang[1], *R. Peng*[1], X. Hu[1], L. Cao[1], M. Wang[1], A. Hu[1] and S. Jiang[1] *1. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China*

CR-06. Spin and charge oscillations of a quantum dot embedded in a ferromagnetic ring with two interacting electrons. J. Feng[1,2], X. Wu[1,2] and *S. Jiang*[1] *1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics, Changshu Institute of Technology, Changshu, 215500, China*

CR-07. Tunneling resonances and Andreev reflection through a interaction quantum dot coupled with two half-metals and a superconductor. J. Feng[1,2], X. Wu[1,2] and *S. Jiang*[1] *1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics, Changshu Institute and Technology, Changshu, China*

CR-08. Spin relaxation of excitons in non-magnetic quantum dots: effect of spin on coupling with magnetic semiconductor quantum dots. *S. Lee*[1], M. Dobrowolska[2] and J.K. Furdyna[2] *1. Physics, Korea University, Seoul, South Korea; 2. Physics, University of Notre Dame, Notre Dame, IN, USA*

CR-09. Magnetic effects in an itinerant electron antiferromagnetic Cr + 1.72 at.% Fe alloy single crystal. H.A. Derrett[1], *A.R. Prinsloo*[1], H.L. Alberts[1] and A.M. Venter[2] *1. Physics, University of Johannesburg, Johannesburg, Gauteng, South Africa; 2. Radiation Utilization Department, Necsa, Pretoria, South Africa*

CR-10. Co magnetism and the order of the magnetic transition in $Er_{1-x}Gd_xCo_2$ Laves phases. *X. Liu*[1] and Z. Altounian[1] *1. physics department, McGill University, Montreal, QC, Canada*

CR-11. Electronic Nature of Layered Oxysulfide $Sr_{2-x}Ca_xCu_2CoO_2S_2$ with CoO_2 Planes. *K. Ito*[1], T. Endo[1], H. Kito[2], T. Kubodera[1], Y. Kamihara[1] and M. Matoba[1] *1. Center for Applied Physics and Physico-Informatics, Keio University, Yokohama, Japan; 2. Nanoelectronics Research Institute, Advanced Industrial Science and Technology, Tsukuba, Japan*

CR-12. Non-Collinear Magnetic Ordering of Cu Magnetic Moments in Nd_2CuO_4. *A. Bazhan*[1] *1. RAS, P.L.Kapitza Institute for Physical Problems, Moscow, Russian Federation*

CR-13. Crystallographic structure and magnetic order in UPt2Si2. *S. Sullow*[1], A. Otop[1], J. Klenke[2], A. Loose[2], R. Feyerherm[2], R.W. Hendrikx[3] and J.A. Mydosh[4,3] *1. IPKM, TU Braunschweig, Braunschweig, Germany; 2. BENSC, HMI, Berlin, Germany; 3. KOL, Leiden University, Leiden, Netherlands; 4. MPI-CPfS, Dresden, Germany*

CR-14. Field-induced ferromagnetic ordering in Ce_2NiSi_3. L.M. da Silva[1], A.O. dos Santos[1], D.P. Rojas[3], A.N. Medina[2] and *F.G. Gandra*[1] *1. Physics Institute, University of Campinas, Campinas, Sao Paulo, Brazil; 2. Department of Physics, State University of Maringa, Maringa, Parana, Brazil; 3. DCITIMAC - Science Institute, University of Cantabria, Cantabria, Santander, Spain*

CR-15. Study of electronic and magnetic structures of delafossite $AgNi_{1-x}Co_xO_2$ using PES and XAS. *J. Kang*[1,3], S. Lee[1], G. Kim[1], J. Kim[1], S. Wi[1], Y. Shin[2], S. Han[3], H. Song[4] and H. Shin[4] *1. Physics, The Catholic University of Korea, Puchon 420-743, South Korea; 2. Chemistry, The Catholic University of Korea, Puchon 420-743, South Korea; 3. CSCMR, Seoul National University, Seoul 151-742, South Korea; 4. Pohang Accelator Laboratory, POSTECH, Pohang 790-784, South Korea*

CR-16. Magnetism of $CaRu_{1-x}Fe_xO_3$. *S. Mizusaki*[1], T. Taniguchi[1], N. Okada[1], Y. Nagata[1], T.C. Ozawa[2], Y. Noro[3] and H. Samata[4] *1. College of Science and Engineering, Aoyama GakuinUniversity, Sagamihara, Kanagawa, Japan; 2. International Affairs & Materials Information office, National Institute for materials Science, Tsukuba, Ibaraki, Japan; 3. Kawazoe Frontier Technologies, Co. Ltd., Yokohama, Kanagawa, Japan; 4. Faculty of Maritime Sciences,, Kobe University, Kobe, Hyogo, Japan*

CR-17. X-ray Magnetic Circular Dichroism Study of Re 5d Magnetism in Sr_2CrReO_6. *S. Gepraegs*[1], P. Majewski[1], O. Sanganas[1], M. Opel[1], F. Wilhelm[2], A. Rogalev[2], L. Alff[3] and R. Gross[1] *1. Walther Meissner Institute, Bavarian Academy of Sciences, Garching, Germany; 2. European Synchrotron Radiation Facility, Grenoble, France; 3. Darmstadt University of Technology, Darmstadt, Germany*

CR-18. Thermal and magnetic properties of La doped $Ce_{1-y}La_yGe_{1.80}$ with $0 < y < 1.0$. *C. Lin*[1], T. Yuen[1], J. Zan[2] and J. Li[3] *1. Physics, Temple University, Philadelphia, PA, USA; 2. Jet Propulsion Laboratory, Pasadena, CA, USA; 3. Chemistry and Chemical Biology, Rutgers University, Piscataway, NJ, USA*

CR-19. Torque magnetometry studies of metamagnetic transitions in single-crystal $HoNi_2B_2C$ and $ErNi_2B_2C$ at $T \approx 1.9$ K. *D.G. Naugle*[1], B.I. Belevtsev[2], D.D. Rathnayaka[1], P.C. Canfiled[3] and S. Lee[4] *1. Department of Physics, Texas A&M University, College Station, TX, USA; 2. B. Verkin Institute for Low Temperature Physics and Engineering, Kharkov, Ukraine; 3. Ames Laboratory and Iowa State University, Ames, IA, USA; 4. National Creative Research Center for Superconductivity and Department of Physics, Pohang University of Science and Technology, Pohang, South Korea*

TUESDAY MORNING 8:00 — IMPERIAL

Session CS
RARE EARTH PERMANENT MAGNETS II (POSTER SESSION)

Jinfang Liu, Co-chair
Sam Liu, Co-chair

CS-01. Structure and Magnetic Properties of Melt-spun (Nd0.625Ni0.375)85Al15 Ribbons. F. Xu[1,2], J. Jiang[3], *F. Zhang*[2], G. Chen[1] and Y. Du[2] *1. Department of Materials Science & Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 2. Physics Department, Nanjing University, Nanjing, Jiangsu, China; 3. Department of Materials Science & Engineering, Zhejiang University, Hangzhou, Zhejiang, China*

CS-02. (Pr,Nd)-Fe-B nanocrystalline magnetic materials with TiC additions. R.K. Murakami[1], *H.R. Rechenberg*[1], R.W. McCallum[2] and V. Villas-Boas[3] *1. Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo, SP, Brazil; 2. Materials and Engineering Physics, Ames Laboratory, Iowa State University, Ames, IA, USA; 3. Dep. de Fisica e Quimica, Centro de Ciencias Exatas e Tecnologia, Universidade de Caxias do Sul, Caxias do Sul, RS, Brazil*

CS-03. Magnetic properties, microstructure and phase evolution of $(Ce_{1-x}Pr_x)_{9.5}Fe_{bal.}Co_yTi_2B_{10}$ ($x = 0$-1 and $y = 0, 2.5$) nanocomposites. *C.H. Chen*[1], C.H. Chiu[1], H.W. Chang[2,1], C.W. Chang[1] and W.C. Chang[1] *1. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

CS-04. Magnetic hardening in $Fe_3B/Nd_2Fe_{14}B$ nanocomposite magnets induced by rapid thermal annealing. *J.C. Shih*[1], A.J. Saldanha[1], K. Suzuki[1], T. Shoji[2], A. Kato[2] and S. Tajima[3] *1. Department of Materials Engineering, Monash University, Clayton, VIC, Australia; 2. Higashifuji Technical Center, Toyota Motor Corporation, Higashifuji, Shizuoka, Japan; 3. Metallic Materials Laboratory, Toyota Central R & D Laboratories Inc., Nagakute, Aichi, Japan*

CS-05. $Nd_2Fe_{14}B$ based nanocomposite magnets with transition metal and carbon additions. *N.J. Harrison*[1], H.A. Davies[1] and I. Todd[1] *1. Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

CS-06. Beneficial effects of Cu and Zr additions on the crystallization behavior and magnetic properties of Nd4.5Fe77B18.5 nanocomposites. *Y. Qiao*[1], M. Zhang[1], Z. Jie[1], S. Zhou[1] and X. Bao[1] *1. State key laboratory for advanced metals and materials, University of Science and Technology Beijing, Beijing, China*

CS-07. Phase Transformation-Induced Coercivity Mechanism in Rare Earth Sintered Magnets. *V.P. Menushenkov*[1] *1. Phys.-Chemical, Moscow State Institute of Steel and Alloys, Moscow, Russian Federation*

CS-08. Magnetic behavior of rapidly solidified Pr-Co alloys with the $TbCu_7$-type structure. J.E. Shield[1,2] and *J. Kostogorova*[1] *1. Mechanical Engineering, University of Nebraska, Lincoln, NE, USA; 2. Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

CS-09. Microstructural evolutions in NdFe10.5Mo1.5NX and ternary Pr13Fe80B7 compounds during hydrogenation disproportionation desorption recombination process. J. Han[1], S. Liu[1], H. Du[1], C. Wang[1] and *Y. Yang*[1] *1. School of Physics, Peking University, Beijing, China*

CS-10. Magnetic Viscosity in High Coercivity Mechanical Milled Nanocrystalline $Y_{1.07}Co_5$ Compound. *J.T. Elizalde-Galindo*[1], J.A. Matutes-Aquino[1], M. Costes[2] and J.M. Broto[2] *1. Centro de Investigacion en Materiales Avanzados, S.C., Chihuahua, Chih., Mexico; 2. Laboratoire National des Champs Magnetiques Pulses, Toulouse, France*

CS-11. Magnetic Properties of Hybrid Polymer Bonded Nd-Fe-B/Ferrite Magnets. *X. Wang*[1], D. Lee[2] and Z. Jiang[3] *1. Zibo Huaguang Permanent Magnetic Material Co., Ltd., Zibo, Shandong, China; 2. Magnetics Lab, University of Dayton, Dayton, OH, USA; 3. Department of Materials Science and Engineering, Tsinghua University, Beijing, China*

CS-12. Microstructure and magnetic properties of bulk NdxFe100-xB6 (x=6, 8, 10) nanocomposite magnets prepared by spark plasma sintering. *M. Yue*[1], J. Zhang[1] and M. Tian[1] *1. The Key Laboratory of Advanced Functional Materials, Ministry of Education, Beijing University of Technology, Beijing, China*

CS-13. Preparation of anisotropic Nd(Fe,Mo)12NX magnetic materials by strip casting technique. J. Han[1], S. Liu[1], C. Wang[1], H. Du[1] and *Y. Yang*[1] *1. School of Physics, Peking University, Beijing, China*

CS-14. Physical Measurements in a Permanent Magnet Field Varying Spatially from 2.6 T to -2.6 T. *A.S. Arrott*[1,3] and T.L. Templeton[2] *1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Quantum Technology Corp., Vancouver, BC, Canada; 3. Chemistry and Physics, Virginia State University, Petersburg, VA, USA*

CS-15. Prediction method of inhomogeneous thermal flux loss in a magnet. H. Fukunaga[1], *A. Toyota*[1], N. Mine[1] and R. Yamamoto[1] *1. Nagasaki University, Nagasaki, Japan*

TUESDAY MORNING 8:00 IMPERIAL

Session CT
MAGNETIC SEMICONDUCTORS II (POSTER SESSION)
Raghava Panguluri, Chair

CT-01. Compositional dependencies of ferromagnetic $Ge_{1-x}Mn_xTe$ grown by solid-source molecular-beam epitaxy. *W. Chen*[1,2], K. Teo[1], M. Jalil[1], T. Liew[1,2] and C. Chong[2] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

CT-02. Local environment of Mn atoms in ferromagnetic semiconductor $Ge_{1-x}Mn_xTe$. *Y. Fukuma*[1], K. Fujimoto[2], H. Sato[3], K. Tsuji[2], A. Kimura[2], M. Taniguchi[2,3], S. Senba[4], A. Tanaka[5], H. Asada[6] and T. Koyanagi[6] *1. Yamaguchi Prefectural Industrial Technology Institute, Ube, Japan; 2. Graduate School of Science, Hiroshima University, Higashi-Hiroshima, Japan; 3. Hiroshima Synchrotron Radiation Center, Hiroshima University, Higashi-Hiroshima, Japan; 4. Ube National College and Technology, Ube, Japan; 5. ADSM, Hiroshima University, Higashi-Hiroshima, Japan; 6. Graduate School of Science and Engineering, Yamaguchi University, Ube, Japan*

CT-03. Transport properties of ferromagnetic GaMnAs interfaced with paramagnetic ZnMnSe in the form of bi-layer structures. *I. Choi*[1], S. An[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*

CT-04. Ferromagnetism in heavily Cr-doped BeTe. *V. Ko*[1,3], K. Teo[2], T. Liew[3,1] and T. Chong[3,1] *1. Graduate School of Integrative Science & Engineering, National University of Singapore, Singapore, Singapore; 2. Information Storage Materials Laboratory, Electrical & Computer Engineering Department, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, Singapore, Singapore*

CT-05. Theoretical study on the stability of ferromagnetism and resistivity of dilute magnetic semiconductors at finite temperature. *A. Sakuma*[1] *1. Tohoku University, Sendai, Japan*

CT-06. Andreev Reflection Spin Polarization Measurements of Dilute Ferromagnetic (Ga,Mn)Sb Epitaxial films. *R.P. Panguluri*[1], B. Nadgorny[1], T. Wojtowicz[2,3], W.L. Lim[2], X. Liu[2] and J.K. Furdyna[2] *1. Department of Physics and Astronomy, Wayne State University, Detroit, MI, USA; 2. Department of Physics, University of Notre Dame, Notre Dame, IN, USA; 3. Institute of Physics, Polish Academy of Sciences, 02-668 Warsaw, Poland*

CT-07. Anisotropic magnetoresistance in (Ga,Mn)As nanoconstrictions. *M. Schlapps*[1], M. Doeppe[1], T. Feil[1], K. Wagner[1], M. Reinwald[1], W. Wegscheider[1] and D. Weiss[1] *1. Institut fuer Experimentelle und Angewandte Physik, University of Regensburg, D-93040 Regensburg, Germany*

CT-08. Microstructure and magnetic properties of self-assembled (In, Mn)As quantum dots. *J. Huang*[1], Y. Chen[1], W. Lee[1], T. Chin[1], R. Huang[2], F. Chen[2], J. Kai[2] and H. Ku[3] *1. Materials Science & Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan; 3. Physics, National Tsing Hua University, Hsinchu, Taiwan*

CT-09. Investigation of the Magnetocrystalline Anisotropy by Planar Hall Effect in GaMnAs Epilayers Grown on Vicinal GaAs Substrates. *W.L. Lim*[1], X. Liu[1], K. Dziatkowski[2,1], Z. Ge[1], S. Shen[1], J.K. Furdyna[1] and M. Dobrowolska[1] *1. Department of Physics, University of Notre Dame, Notre Dame, IN, USA; 2. Institute of Experimental Physics, Warsaw University, Warsaw, Poland*

CT-10. Post-growth annealing effects on heteroepitaxial MnAs thin films grown on GaAs(001) and Si(001). *J. Song*[1,2], Y. Cui[1,2] and J.B. Ketterson[1,2] *1. Physics & Astronomy, Northwestern University, Evanston, IL, USA; 2. Materials Research Center, Northwestern University, Evanston, IL, USA*

CT-11. Magnetotransport experiments in (311)A-(Ga,Mn)As. *M. Doeppe*[1], M. Reinwald[1], W. Wegscheider[1] and D. Weiss[1] *1. Institut fuer Experimentelle und Angewandte Physik, University of Regensburg, D-93040 Regensburg, Germany*

CT-12. Fabrication and transport studies of (Ga,Mn)As nano-constrictions. *S. Cho*[1], H. Choi[1], K. Suh[1], J. Chun[1], Y. Kim[2], Z. Khim[2], S. Chun[3] and Y. Park[1] *1. School of Physics & CSCMR, Seoul National University, Seoul, South Korea; 2. School of Physics, Seoul National University, Seoul, South Korea; 3. Department of Physcis, Sejong University, Seoul, South Korea*

CT-13. Magnetic properties of CdMnS Nanowire. *Y. Kang*[1,2], J. Chang[1] and J. Park[2] *1. Nano device research center, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of Chemistry, Korea University, Jochiwon, South Korea*

CT-14. Growth and magnetic properties of IV-VI diluted magnetic semiconductor $Ge_{1-x}Cr_xTe$. *Y. Fukuma*[1], T. Taya[2], S. Miyawaki[2], T. Irisa[2], H. Asada[2] and T. Koyanagi[2] *1. Yamaguchi Prefectural Industrial Technology Institute, Ube, Japan; 2. Graduate School of Science and Engineering, Yamaguchi University, Ube, Japan*

CT-15. Explorations of the Magnetization of Ga1-x MnxS Over a Wide Range of Concentrations, (1≤x≤19%). *J. Garner*[1], J.L. Tracy[1], R. Mourad[1], T.M. Pekarek[1], I. Miotkowski[2] and A.K. Ramdas[2] *1. Physics Department, University of North Florida, Jacksonville, FL, USA; 2. Physics Department, Purdue University, W. Lafayette, IN, USA*

CT-16. Mn ion-implantation induced ferromagnetic phenomena in Silicon. *P. Bandaru*[1], J. Park[1], J. Lee[1], Y. Tang[1], S. Jin[1] and S. Song[2] *1. Materials Science, UC, San Diego, La Jolla, CA, USA; 2. Samsung Advanced Institute of Technology, Suwon, South Korea*

CT-17. Electronic and magnetic properties of Mn/Ge Digital Ferromagnetic Heterostructures: An ab initio investigation. H. Wang[1] and *M. Qian*[2] *1. Department of Physics, Tsinghua University, Beijing, Beijing, China; 2. Department of Physics, University of California, Davis, CA, USA*

CT-18. Enhancement of Ferromagnetic Coupling in GaAs/MnAs Digital Ferromagnetic Heterostructures by Injection of Free Holes. *M. Qian*[1], W.E. Pickett[1] and C.Y. Fong[1] *1. Department of Physics, University of California, Davis, CA, USA*

TUESDAY MORNING 8:00 IMPERIAL

Session CU
THIN FILM MEDIA AND MAGNETO-OPTICAL RECORDING (POSTER SESSION)

Masahiko Kaneko, Chair

CU-01. EFTEM Study of Grain Separation in FePt/MgO Multilayers. *Y. Fu*[1], J.E. Wittig[1], J. Bentley[2], N.D. Evans[2] and B. Lu[3] *1. Materials Science and Engineeing, Vanderbilt University, Nashville, TN, USA; 2. Metals & Ceramics Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 3. Seagate Research, Pittsburgh, PA, USA*

CU-02. Scaling behavior of thermally activated magnetization reversal in nanoscale elements. *H. Braun*[1] *1. Mathematical Physics, University College Dublin, Dublin, Ireland*

CU-03. Discrete track media simulations for 600 Gb/in2 recording. *S. Greaves*[1], Y. Kanai[2] and H. Muraoka[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. Niigata Institute of Technology, Kashiwazaki, Japan*

CU-04. Thermal Energy Barrier of FePt Nanoparticle. *K. Lee*[1] and T. Lee[2] *1. Samsung Advanced Institute of Technology, Suwon, South Korea; 2. Dept. Mater. Sci. and Eng., KAIST, Daejon, South Korea*

CU-05. Micromagnetic simulation study on exchange coupled composite media. *S. Lee*[1] and T. Lee[1] *1. Material science and engineering, KAIST, Daejon, South Korea*

CU-06. Structural Effects on Exchange in Nanocluster Perpendicular Recording Media. *J. Zhou*[1], R. Skomski[1] and D. Sellmyer[1] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, Lincoln, NE, USA*

CU-07. $L1_0$ FePt Perpendicular Thin Film Deposited by Alternating Sputtering at Elevated Temperature. *Y. Peng*[1] and D.E. Laughlin[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

CU-08. Effect of CrW underlayer on structural and magnetic properties of FePt thin films. J. Cao[1], J. Cai[1], Y. Liu[1], Z. Yang[1], F. Wei[1] and *J. Bai*[2] *1. Research Institute of Magnetic Materials, Lanzhou University, Lanzhou, Gansu, China; 2. The Center for Micromagnetics and Information Technologies (MINT), Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

CU-09. A magnetization modulation writing technique with an anti-parallel coupled medium for heat assisted magnetic recording. *A. Kikitsu*[1], T. Kai[1], T. Nagase[1] and J. Akiyama[1] *1. Storage Materials & Devices Laboratory, Toshiba Corp., Corporate R&D Center, Kawasaki, Kanagawa, Japan*

CU-10. Temperature dependence of laser induced magnetization dynamics in a GdFeCo film: the role of angular momentum compensation. *C. Stanciu*[1], A. Kimel[1], F. Hansteen[1], A. Tsukamoto[2], A. Itoh[2], A. Kirilyuk[1] and T. Rasing[1] *1. IMM, Radboud University Nijmegen, Nijmegen, Netherlands; 2. College of Science and Technology, Nihon University, Chiba, Japan*

CU-11. Near-field optical assisted hybrid head for self-aligned plasmon spot with magnetic field. *K. Nakagawa*[1], S. Kudo[1], J. Kim[1] and A. Itoh[1] *1. College of Science and Technology, Nihon University, Funabashi, Chiba, Japan*

CU-12. TbFeCoAg Amorphous thin films for heat-assisted magnetic recording media. *C. Chou*[1,2], P. Kuo[1,2], Y. Yao[3], Y. Feng[1,2], A. Sun[2], S. Chen[2] and N. Cheng[1,2] *1. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Institute of physics, Academia Sinica, Taipei, Taiwan*

CU-13. Transient Thermal Modeling of a Nanoscale Hot-spot in Multilayered Film. S.S. Ghai[1], *W. Kim*[1], C.H. Amon[2] and M.S. Jhon[1] *1. Department of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Department of Mechanical Engineering and Institute for Complex Engineered Systems, Carnegie Mellon University, Pittsburgh, PA, USA*

CU-14. Preferred orientation plane and magnetic properties of FePt films deposited on different substrates. *C. Zha*[1], J. Gao[1], B. Ma[1], Z. Zhang[1], Q. Jin[1], F. Gan[1], T. Gao[2] and S. Zhou[2] *1. Deparment of optical science and engineering, Fudan University, Shanghai, China; 2. Department of Physics, Fudan University, Shanghai, China*

CU-15. Effect of thermal agitation on the switching field distributions of CoPtCr-SiO_2 perpendicular recording media. *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*

TUESDAY MORNING 8:00 IMPERIAL

Session CV
MICROMAGNETIC SIMULATIONS (POSTER SESSION)
Martin Plumer, Chair

CV-01. Micromagnetic calculation of current-induced magnetization reversal with spin current distribution. *T. Komine*[1], T. Nagayama[1], R. Sugita[1] and T. Muranoi[1] *1. Department of Media and Telecommunications Engineering, Ibaraki University, Hitachi, Ibaraki, Japan*

CV-02. Micromagnetic simulation for detection of a single magnetic microbead or nanobead by spin-valve sensors. *Y. Liu*[1], Y. Yang[1] and Z. Wang[1] *1. Department of Physics, Tongji University, Shanghai, China*

CV-03. Multi-scale analysis of magnetization dynamics driven by external field and spin polarized current. *M. Dimian*[1,2], I.D. Mayergoyz[1,2], G. Bertotti[3] and C. Serpico[4] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. UMIACS, University of Maryland, College Park, MD, USA; 3. Istituto Electtrotecnico Nazionale (IEN) "Galileo Ferraris", Torino, Italy; 4. Electrical and Computer Engineering, University of Napoli "Frederico II", Napoli, Italy*

CV-04. Memory properties in a Landau-Lifshitz hysteresis model for thin ferromagnetic sheets. B. Van de Wiele[1], *L. Dupre*[2] and F. Olyslager[1] *1. INTEC, Ghent University, Ghent, Belgium; 2. EELAB, Ghent University, Ghent, Belgium*

CV-05. Computation of switching rates by Landau_Lifshitz simulation: filtering U-turns. *S. Wang*[1] and P.B. Visscher[1] *1. MINT Center and Physics Department, University of Alabama, Tuscaloosa, AL, USA*

CV-06. Size effects in submicronic dots of [Co/Pt]/NiFe with competing out-of-plane and easy plane anisotropy. L.D. Buda-Prejbeanu[1], J. Toussaint[2], B. Rodmacq[1] and *B. Dieny*[1] *1. SPINTEC, CEA / CNRS/ URA2512, Grenoble, France; 2. Laboratoire Louis Neel, CNRS, Grenoble, France*

CV-07. Guiding center approximation to gyroscopic motion in micromagnetics. *A. Prabhakar*[1] *1. Electrical Engineering, Indian Institute of Technology, Chennai, India*

CV-08. Switching Probability of One Spin Magnetic Particles. F. Ciubotaru[1], M. Cerchez[2,1] and *A. Stancu*[1] *1. Department of Solid State and Theoretical Physics, Alexandru Ioan Cuza University, Iasi, Romania; 2. Institute of Physics, Heinrich Heine University, Duesseldorf, Germany*

CV-09. Relaxation Effects in Interacting Nanostructured Particulate Systems. *D. Cimpoesu*[1,2], A. Stancu[1] and L. Spinu[3] *1. Department of Solid State and Theoretical Physics, "Al. I. Cuza" University, Faculty of Physics, Iasi, Iasi, Romania; 2. Advanced Materials Research Institute (AMRI), Faculty of New Orleans, New Orleans, LA, USA; 3. AMRI and Department of Physics, Faculty of New Orleans, New Orleans, LA, USA*

CV-10. Evolution and Propagation of Vortices in chains of Permalloy Nanospheres. *P. Barpanda*[1], T. Kasama[2,3], R.E. Dunin-Borkowski[3,2], M.R. Scheinfein[4] and A.S. Arrott[5,4] *1. Ceramic and Materials Engineering, Rutgers University, Piscataway, NJ, USA; 2. Institute of Physical and Chemical Research, Frontiers Research Institute (RIKEN), Hatoyama, Saitama, Japan; 3. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 4. Department of Physics, Simon Fraser University, Burnaby, BC, Canada; 5. Department of Physics and Chemistry, Virginia State University, Petersburg, VA, USA*

CV-11. Magnetization Normalization Methods for Landau-Lifshitz-Gilbert. *D.G. Porter*[1] and M.J. Donahue[1] *1. NIST, Gaithersburg, MD, USA*

CV-12. Simulated Domain Wall Dynamics in Magnetic Nanowires. *A. Kunz*[1] *1. Physics, Marquette University, Milwaukee, WI, USA*

TUESDAY MORNING 8:00

IMPERIAL

Session CW
PATTERNED NANOSTRUCTURES: DOMAIN DYNAMICS AND NEW FABRICATION TECHNIQUES (POSTER SESSION)

Fernando Castano, Co-chair
Sergey Kiselev, Co-chair

CW-01. Magnetization reversal study in submicron half-ring patterned wires with different corner structures. *Y. Yao*[1], Y. Chen[1], K. Wu[2], S. Lee[1], Y. Liou[1] and C. Yu[1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics, Fu Jen University, Taipei, Taiwan*

CW-02. Metastable state before magnetization reversal in single-domain elongated thin films. *M. Lai*[1], Z. Wei[1], C. Chang[1], J. Wu[2] and I. Lo[2] *1. Physics, Department of Physics, National Taiwan University, Taipei, Taiwan; 2. Department of Physics and Taiwan SPIN Research Center, Changhua University of Education, Changhua, Taiwan*

CW-03. Reconfigurable ferromagnetic resonance properties in nanostructured multilayers. *M. Zhang*[1], Y. Nozaki[1] and K. Matsuyama[1] *1. Kyushu Univ., Fukuoka, Japan*

CW-04. Magnetic patterning of interlayer exchange coupled Fe/Cr/Fe-trilayers induced by ion irradiation. *S. Blomeier*[1], B. Hillebrands[1], V.E. Demidov[2], S.O. Demokritov[2], B. Reuscher[3], A. Brodyanski[3] and M. Kopnarski[3] *1. Department of Physics, Kaiserslautern University of Technology, Kaiserslautern, Germany; 2. Institut fuer Angewandte Physik, Westfaelische-Wilhelms-Universitaet Muenster, Muenster, Germany; 3. Institut fuer Oberflaechen- und Schichtanalytik, Kaiserslautern University of Technology, Kaiserslautern, Germany*

CW-05. Magnetic domains and magnetization reversal of ion-induced magnetically patterned RKKY-coupled $Ni_{81}Fe_{19}$/Ru/$Co_{90}Fe_{10}$ films. *J. Fassbender*[1], L. Bischoff[1], R. Mattheis[2] and P. Fischer[3] *1. Institut fuer Ionenstrahlphysik und Materialforschung, Forschungszentrum Rossendorf, Dresden, Germany; 2. Institut fuer Physikalische Hochtechnologie Jena e. V, Jena, Germany; 3. Center for X-Ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA, USA*

CW-06. ION IMPLANTATION OF DOPANTS FOR SUB-MICRON CONTROL OF ULTRAFAST DYNAMICS IN FERROMAGNETIC ELEMENTS. *V. Dasgupta*[1], W.E. Bailey[1] and H. Bakhru[2] *1. Material Science Program, Dept of Applied Physics, Columbia University, New York, NY, USA; 2. College of Nanoscale Science and Engineering, State University of New York, Albany, Albany, NY, USA*

CW-07. Magnetization Behavior Of Interacting Nanomagnet Clusters For Multilevel Data Storage Applications. *Q. Xiao*[1], R.V. Krotkov[1] and M.T. Tuominen[1] *1. Physics, Umass,Amherst, Amherst, MA, USA*

CW-08. Exquisite thermal sensitivity of the stochastic switching process in macroscopic ferromagnetic ring elements. *T.J. Hayward*[1], T.A. Moore[1], D.H. Tse[1], J. Bland[1], F.J. Castano[2] and C.A. Ross[2] *1. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

CW-09. Transition between onion state and vortex state in exchange-coupled Ni-Fe/Mn-Ir asymmetric ring dots. *I. Sasaki*[1], R. Nakatani[2,3], Y. Endo[1,3], Y. Kawamura[1], M. Yamamoto[1,3], T. Takenaga[4], S. Aya[4], T. Kuroiwa[4], S. Beysen[4] and H. Kobayashi[4] *1. Department of Materials Science and Engineering, Graduate School of Engineering, Osaka University, Osaka, Japan; 2. Center for Atomic and Molecular Technologies, Graduate School of Engineering, Osaka University, Osaka, Japan; 3. Frontier Research Center, Graduate School of Engineering, Osaka University, Osaka, Japan; 4. Advanced Technology R&D Center, Mitsubishi Electric Corporation, Hyogo, Japan*

CW-10. Spatially periodic magnetic structure produced by femtosecond laser-induced crystallization of amorphous Co_2MnSi thin film. J. Kim[1], J. Kim[1], J. Kim[1], C. Kim[1], *C. Yoon*[1], G. Lee[2] and Y. Lee[2] *1. Department of Materials Science and Engineering, Hanyang Unviersity, Seoul, Seoul, South Korea; 2. Quantum Photonic Science Research Center, Hanyang University, Seoul, Seoul, South Korea*

CW-11. Magnetic configurations and magnetization reversal in the Co rings prepared by capillary force lithography. S. Kim[2], *J. Jeong*[1], S. Kim[1], S. Shin[1] and S. Yang[2] *1. Dept. of Physics, KAIST, Daejeon, South Korea; 2. Dept. of Chemical and Biomolecular Engineering, KAIST, Daejeon, South Korea*

CW-12. Anomalous Hall effect measurement with pulse field on high anisotropy dots of CoPt. *N. Kikuchi*[1], R. Murillo[1], J. Lodder[1], K. Mitsuzuka[2] and T. Shimatsu[2] *1. SMI,, MESA+, University of Twente, Enschede, Netherlands; 2. RIEC, Tohoku University, Sendai, Japan*

CW-13. Investigation of different wire geometries for magnetization reversal and domain-wall trapping in submicron permalloy wires. *L. Ji*[1], E. Varga[1], A. Wolf[1], A. Imre[1], G.H. Bernstein[1], A. Orlov[1] and W. Porod[1] *1. Electrical Engineering, University of Notre Dame, Notre Dame, IN, USA*

CW-14. Low-temperature magnetoresistance in a nanostructured NiFe/Cu/NiFe ring. *K. Sekiguchi*[1], E. Saitoh[1] and H. Miyajima[1] *1. Physics, Keio University, Yokohama, Kanagawa, Japan*

CW-15. Current detection of vortex motion in patterned S-shape wires with constrictions. *Y. Chen*[1], Y. Yao[2,3], S. Lee[2], Y. Lin[2], D. Chen[3] and Y. Liou[2] *1. Department of Physics, National Cheng Kung Univ., Tainan, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Department of Materials Science and Engineering, National Chiao Tung Univ., Hsinchu, Taiwan*

CW-16. Ratchet Effect of a Magnetic Domain Wall in Asymmetric Magnetic Wires. *A. Himeno*[1], S. Kasai[1] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Kyoto, Japan*

CW-17. Magnetoresistance of domain walls in a thin Co film with thickness modulation. *W. Lee*[1], F. Zhu[1] and C. Chien[1] *1. Department of Physics and Astronomy, Johns Hopkins Univ., Baltimore, MD, USA*

CW-18. AC current induced resonance of a single magnetic domain wall. *E. Saitoh*[1], M. Nozue[1] and H. Miyajima[1] *1. Keio University, Yokohama, Japan*

CW-19. Size dependent transition from shape to exchange dominated magnetic nanostructure in patterned zigzags. *W.C. Uhlig*[1] and J. Unguris[1] *1. Electron Physics Group, National Institute of Standards and Technology, Gaithersburg, MD, USA*

CW-20. Nanoscale Spinstructures of Geometrically Confined Domain Walls. M. Klaui[1], H. Ehrke[1,4], D. Backes[1,2], *L. Heyderman*[2], F. Nolting[2], C. Vaz[3], J. Bland[3], R. Dunin-Borkowski[4] and U. Rudiger[1] *1. Physics, University of Konstanz, Konstanz, Germany; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Physics, University of Cambridge, Cambridge, United Kingdom; 4. Materials Sciences, University of Cambridge, Cambridge, United Kingdom*

CW-21. Observation and control of magnetic domains in ferromagnetic nano-network systems. *M. Tanaka*[1], K. Kaneko[1], E. Saitoh[1], H. Miyajima[1] and T. Yamaoka[2] *1. Physics, Keio University, Yokohama, Kanagawa, Japan; 2. SII NanoTechnology Inc., Matsudo, Chiba, Japan*

CW-22. Micromagnetic Simulation of the Complex Transverse Susceptibility in Nanostructured Particulate Systems. *D. Cimpoesu*[1,3], A. Stancu[1] and L. Spinu[2] *1. Department of Solid State and Theoretical Physics, "Al. I. Cuza" University, Faculty of Physics, Iasi, Iasi, Romania; 2. AMRI and Department of Physics, University of New Orleans, New Orleans, LA, USA; 3. Advanced Materials Insitute (AMRI), University of New Orleans, New Orleans, LA, USA*

CW-23. Microwave absorption of nanolithographically defined arrays of magnetic rods. *L. Malkinski*[1], A. Vovk[1], M. Yu[1], W. Zhou[1] and S. Whittenburg[1] *1. AMRI-University of New Orleans, New Orleans, LA, USA*

CW-24. Magnetic Vortex Resonance in Patterned Ferromagnetic Dots. *V. Novosad*[1], F.Y. Fradin[1], P.E. Roy[1,2], K.S. Buchanan[1], K.Y. Guslienko[1] and S.D. Bader[1] *1. Argonne National Laboratory, Argonne, IL, USA; 2. Angstrom Laboratory, Uppsala, Sweden*

CW-25. FERROMAGNETIC RESONANCE OF MONODISPERSE FE203 NANOPARTICLES. *L. Cheng*[1], M. Yin[1], S. O'Brien[1] and W. Bailey[1] *1. Materials Science, Dept. of Applied Physics, Columbia University, New York, NY, USA*

CW-26. Magneto-Optical Circulators in Two-Dimensional Photonic Crystals. *Z. Wang*[1] and S. Fan[2] *1. Applied Physics, Stanford University, Stanford, CA, USA; 2. Electrical Engineering, Stanford University, Stanford, CA, USA*

CW-27. Ab-initio Based RIE Process Design for Magnetic Thin Films. *S. Watanabe*[1,2], W.A. Dino[2], M. David[2], R. Muhida[2], H. Nakanishi[2], H. Kasai[2] and H. Akinaga[1] *1. Nanotechnology Research Institute, SYNAF-National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan; 2. Engeering, SYNAF-Osaka University, Suita, Osaka, Japan*

TUESDAY AFTERNOON 2:00 **REGENCY I**

Session DA
MAGNETIC SEMICONDUCTORS II
Nitin Samarth, Chair

2:00

DA-01. Large tunnel magnetoresistance in $Ga_{1-x}Mn_xAs/ZnSe/Ga_{1-x}Mn_xAs$ magnetic tunnel junctions. *H. Saito*[1], S. Yuasa[1] and K. Ando[1] *1. Nanoelectronics, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan*

2:12

DA-02. Nanomechanical Measurements of Magnetostriction and Magnetic Anisotropy in GaMnAs. *S. Masmanidis*[1], H. Tang[1], E.B. Myers[1], M. Li[1], K. De Greve[2], G. Vermeulen[2], W. Van Roy[2] and M.L. Roukes[1] *1. Applied Physics, California Institute of Technology, Pasadena, CA, USA; 2. IMEC, Leuven, Belgium*

2:24

DA-03. Antisymmetric magnetoresistance across pinned domain walls in laterally patterned (Ga,Mn)As devices. *K.F. Eid*[1], O. Maksimov[1] and N. Samarth[1] *1. Physics Department and Materials Research Institute, Penn State University, University Park, PA, USA*

2:36

DA-04. Resistance of domain-wall in (Ga,Mn)As with perpendicular magnetic easy axis. *D. Chiba*[1,2], M. Yamanouchi[2], F. Matsukura[1,2], T. Dietl[3,1] and H. Ohno[1,2] *1. ERATO Semiconductor Spintronics Project, Japan Science and Technology Agency, Sendai, Japan; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland*

2:48

DA-05. Speed of magnetic domain wall induced by electrical current in (Ga,Mn)As. *M. Yamanouchi*[1], D. Chiba[2,1], F. Matsukura[1,2] and H. Ohno[1,2] *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan; 2. ERATO-JST, Sendai, Miyagi, Japan*

3:00

DA-06. Large magnetoresistance (600%) of GaAs:MnAs granular thin films at room temperature. *M. Yokoyama*[1] and M. Tanaka[1,2] *1. University of Tokyo, Bunkyo-ku, Japan; 2. Japan Science and Technology Agency, Kawaguchi, Japan*

3:12

DA-07. Surface Magnetization Deficit in GaMnAs. *B.J. Kirby*[1], J. Borchers[3], S. Roy[2], M. Fitzsimmons[1], J. Rhyne[1], X. Liu[4] and J. Furdyna[4] *1. Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, NM, USA; 2. Physics, University of California - San Diego, San Diego, CA, USA; 3. NIST Center for Neutron Research, NIST, Gaithersburg, MD, USA; 4. Physics, University of Notre Dame, Notre Dame, IN, USA*

3:24

DA-08. Defect-Diffusion Control of Curie Temperature in Laterally-Patterned Ferromagnetic Semiconductor Heterostructures. B.L. Sheu[1], K.F. Eid[1], O. Maksimov[1], M.B. Stone[2], *P. Schiffer*[1] and N. Samarth[1] *1. Department of Physics and Materials Research Institute, Penn State University, University Park, PA, USA; 2. Condensed Matter Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA*

3:36

DA-09. Magnetic linear dichroism in (Ga,Mn)As: a probe of electronic states responsible for ferromagnetism. *A.V. Kimel*[1], G. Astakhov[2], A. Kirilyuk[1], G. Schott[2], G. Karczewski[3], W. Ossau[2], G. Schmidt[2], L. Molenkamp[2] and T. Rasing[1] *1. Radboud University Nijmegen, Nijmegen, Netherlands; 2. University Wuerzburg, Wuerzburg, Germany; 3. Institute of Physics, Warsaw, Poland*

3:48

DA-10. The Invesrse Magnetic Problem: Predict the ionic arrangment which produces the highest Curie temperature for Mn in GaAs. *A. Zunger*[1] *1. NREL, golden, CO, USA*

4:00

DA-11. Indirect Exchange in Dilute Magnetic Semiconductors. *R. Skomski*[1], J. Zhou[1], J. Zhang[1] and D. Sellmyer[1] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

4:12

DA-12. Structural Stability of GaMnAs Random Alloys, Ordered $Ga_nMn_mAs_{n+m}$ Compounds and GaAs/MnAs Superlattices from First-principles. *J.M. Osorio-Guillen*[1], Y. Zhao[1], S. Barabash[1] and A. Zunger[1] *1. National Renewable Energy Laboratory, Golden, CO, USA*

4:24

DA-13. Defect sites in Mn-doped GaN studied using x-ray spectroscopy. *D.J. Keavney*[1], S. Cheung[2], S. King[2], M. Weinert[2] and L. Li[2] *1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 2. Department of Physics, University of Wisconsin-Milwaukee, Milwaukee, WI, USA*

4:36

DA-14. Properties of ferromagnetic $Ga_{1-x}Mn_xP$ thin films synthesized by ion implantation and pulsed-laser melting. *M. Scarpulla*[1,2], R. Farshchi[1,2], B.L. Cardozo[1,2], W.M. Hlaing Oo[4], K.M. Yu[2], H. Ohldag[3], E. Arenholz[3], M.D. McCluskey[4] and O.D. Dubon[1,2] *1. Materials Science & Engineering, University of California at Berkeley, Berkeley, CA, USA; 2. Materials Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. Physics, Washington State University, Pullman, WA, USA*

4:48

DA-15. Static and dynamic magnetic response in Mn-doped InP diluted magnetic semiconductor (DMS) nanoparticles. *S. Hariharan*[1], P. Poddar[1,3], S. Srinath[1], Y. Sahoo[2] and P. Prasad[2] *1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. Institute of Lasers, Photonics and Biophotonics, University at Buffalo, Buffalo, NY, USA; 3. National Chemical Laboratory, Pune, India*

TUESDAY AFTERNOON 2:00

REGENCY II

Session DB
SPIN TRANSFER TORQUE I: DYNAMICS
William Rippard, Chair

2:00

DB-01. Probabilistic Behavior in Sub-nanosecond Spin Transfer Torque Switching. *K. Ito*[1], T. Devolder[2], C. Chappert[2], M. Carey[3] and J. Katine[3] *1. Hitachi Cambridge Laboratory, Hitachi Europe Ltd., Cambridge, United Kingdom; 2. Institute d'Electronique Foudamentale, Universtiy Paris Sud, Orsay, France; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

2:12

DB-02. Cell Size Dependence of Switching Time and Current Density in Current Induced Magnetization Switching. *K. Lee*[1,2] and B. Dieny[2] *1. Samsung Advanced Institute of Technology, Suwon, South Korea; 2. SPINTEC, URA CEA-CNRS, Grenoble, France*

2:24

DB-03. Effect of magnetic field and temperature on current-induced reversal of magnetization. *I. Krivorotov*[1], N. Emley[1], A. Garcia[1], V. Pribiag[1], J. Sankey[1], D. Ralph[1] and R. Buhrman[1] *1. Cornell University, Ithaca, NY, USA*

2:36

DB-04. Spin-injection induced ultrahigh speed magnetization reversal and ferromagnetic resonance (FMR). ***(Invited)*** *Y. Suzuki*[1,2], A.A. Tulapurkar[2,3], A. Fukushima[2,3], H. Kubota[2,3], S. Yuasa[2,3], H. Maehara[4], K. Tsunekawa[4], D.D. Djayaprawira[4], N. Watanabe[4], K. Yagami[5], T. Devolder[6], P. Crozat[6] and C. Chappert[6] *1. Materials Engineering Science, Osaka University, Toyonaka, Japan; 2. NeRI, AIST, Tsukuba, Japan; 3. CREST, JST, Kawaguchi, Japan; 4. Electron Device Equipment Division, Anelva Corp., Fuchu-shi, Japan; 5. SSNC, SONY Corp., Atsugi, Japan; 6. Institut d'Electronique Fondamentale, Universite Paris Sud, Orsay, France*

3:12

DB-05. Non-Boltzmann energy distributions in spin-torque devices: oscillator linewidths. *P.B. Visscher*[1] and D.M. Apalkov[2] *1. MINT Center and Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 2. Grandis Corporation, Milpitas, CA, USA*

3:24

DB-06. Phase-Locking in Double Point Contact Spin-Transfer Oscillators. *F. Mancoff*[1], N. Rizzo[1], B. Engel[1] and S. Tehrani[1] *1. Technology Solutions Organization, Freescale Semiconductor Inc., Chandler, AZ, USA*

3:36

DB-07. Mutual Phase-Locking of Spin Torque Nano-Oscillators. *S. Kaka*[1], M.R. Pufall[1], W.H. Rippard[1], T.J. Silva[1], S.E. Russek[1] and J.A. Katine[2] *1. Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA*

3:48

DB-08. Mechanisms limiting the coherence time of spontaneous magnetic oscillations driven by DC spin-polarized currents. *J. Sankey*[1], I. Krivorotov[1], S. Kiselev[1], P. Braganca[1], N. Emley[1], K. Thadani[1], R. Buhrman[1] and D. Ralph[1] *1. Cornell University, Ithaca, NY, USA*

4:00

DB-09. Magnetization dynamics driven by the combined action of AC magnetic field and DC spin-polarized current. *G. Finocchio*[1], I. Krivorotov[3], M. Carpentieri[1], G. Consolo[1], B. Azzerboni[1], L. Torres[2], E. Martinez[2] and L. Lopez-Diaz[2] *1. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Messina, Italy; 2. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain; 3. Cornell University, Ithaca, NY, USA*

4:12

DB-10. Spin wave mode excited by spin-polarized current in a magnetic nano-contact is a standing self-localized wave bullet. *A. Slavin*[1] and V. Tiberkevich[1] *1. Depertment of Physics, Oakland University, Rochester Hills, MI, USA*

4:24

DB-11. Theory of Spin Torque-Induced Magnetodynamics in Nanocontacts for Perpendicularly Magnetized Thin Magnetic Films. *M. Hoefer*[1], M.J. Ablowitz[1], B. Ilan[1], M.R. Pufall[2] and T.J. Silva[2] *1. Applied Mathematics, University of Colorado, Boulder, Boulder, CO, USA; 2. National Institute of Standards and Technology, Boulder, CO, USA*

4:36

DB-12. Spin-torque-driven magnetization dynamics in nanomagnets subject to magnetic fields perpendicular to the sample plane. *R. Bonin*[1,2], G. Bertotti[2], C. Serpico[3] and I.D. Mayergoyz[4] *1. Physics Dept., Politecnico di Torino, 10129 Torino, Italy; 2. Materials Dept., IEN Galileo Ferraris (INRIM), 10135 Torino, Italy; 3. Dept. of Electrical Eng., University Federico II, 80125 Napoli, Italy; 4. Electrical and Computer Engineering Department and UMIACS, University of Maryland, 20742 College Park, MD, USA*

4:48

DB-13. Fast Magnetization Switching Method by Use of Spin-Transfer Torque. *H. Morise*[1] and S. Nakamura[1] *1. Corp. R&D Ctr., Toshiba Corp., Kawasaki, Kanagawa, Japan*

TUESDAY AFTERNOON 2:00 CLUB REGENT

Session DC
MAGNETIC NANOPARTICLES
Sara Majetich, Chair

2:00

DC-01. Freestanding and highly ordered $L1_0$ FePt nanoparticles prepared in the gas phase. *J. Wang*[1] and J. Qiu[1] *1. MINT & Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

2:12

DC-02. Nucleation and $L1_0$ Phase Transformation in FePt Nanoparticles. Y. Ding[1] and *S. Majetich*[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, USA*

2:24

DC-03. The composition dependence of the order parameter of FePt $L1_0$ nanoparticles. *R.V. Petrova*[1], B. Yao[2], K.R. Coffey[1,2] and R.R. Vanfleet[3] *1. Department of Physics, University of Central Florida, Orlando, FL, USA; 2. Advanced Materials Processing and Analysis Center, Department of Mechanical, Materials and Aerospace Engineering, University of Central Florida, Orlando, FL, USA; 3. Department of Physics and Astronomy, Brigham Young University, Provo, UT, USA*

2:36

DC-04. One-Pot Synthesis and Magnetic Properties of Fe/Pt Core-Shell Nanoparticles. *H. Yang*[1], T. Ogawa[1], D. Hasegawa[1], C. Chinnasamy[2] and M. Takahashi[2] *1. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

2:48

DC-05. Spin dynamics of FePt nanoparticles: beyond Brown's theory. *U. Nowak*[1,2], O.N. Mryasov[2], K. Guslienko[3,2], R. Wieser[4,2] and R.W. Chantrell[1,2] *1. Department of Physics, University of York, York, United Kingdom; 2. Seagate Research, Pittsburgh, PA, USA; 3. Argonne National Laboratory, Materials Science Division, Argonne, IL, USA; 4. Fachbereich Physik, Universitaet Duisburg-Essen, Duisburg, Germany*

3:00

DC-06. Synthesis and magnetic characterization of $L1_0$-FePt nanocrystals dispersed in solvent. *S. Yamamoto*[1], Y. Morimoto[1], T. Ono[1] and M. Takano[1] *1. Institure for Chemical Research, Kyoto University, Kyoto, Japan*

3:12

DC-07. Microstructure and Direct Ordering of FePt Nanoparticles Produced by Nanocluster Beam Technology. J. Chen[1], *C. Tan*[1,2], B. Liu[2], S. Chow[3] and G. Chow[2] *1. Data Storage Institute, Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. Institute of Materials Research and Engineering, Singapore, Singapore*

3:24

DC-08. FePt Nanoclusters Synthesized by Thermal Pyrolysis of Fe and Pt Compounds in Organic Solvent. *Y. Sui*[1], Y. Zhao[1], M. Daniil[1] and D.J. Sellmyer[1] *1. Department of Physics and Astronomy and CMRA, University of Nebraska-Lincoln, Lincoln, NE, USA*

3:36

DC-09. Tuning the surface magnetic anisotropy of Co nanoparticles by metal capping. F. Luis[1], J. Bartolome[1], *F. Bartolome*[1], F. Petroff[2], L.M. Garcia[1], V. Cros[2], H. Jaffres[2] and M.J. Martinez[1] *1. Instituto de Ciencia de Materiales de Aragon, Zaragoza, Spain; 2. Unite Mixte de Physique CNRS/Thales and Paris-Sud University, Orsay, France*

3:48

DC-10. The Influence of Shape and Structure on the Curie Temperature of Fe and Co Nanoparticles. *R.F. Evans*[1], U. Nowak[1], F. Dorfbauer[2], T. Shrefl[3], O. Mryasov[4], R.W. Chantrell[1] and G. Grochola[5] *1. Department of Physics, University Of York, York, England, United Kingdom; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 4. Seagate Research, Pittsburgh, PA, USA; 5. Department of Applied Physics, Royal Melbourne University of Technology (RMIT), Melbourne, VIC, Australia*

4:00

DC-11. FeCo Nanoparticles with Close-packed Structures. *J. Bai*[1] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

4:12

DC-12. Synthesis of Manganese Zinc Ferrite Nanoparticles in Polyol : Morphological, Structural and Magnetic Studies. *L. Smiri*[1], Z. Beji[1,2], S. Ammar[2], F. Herbst[2], M. Vaulay[2], F. Fievet[2] and F. Villain[3] *1. Departement de Chimie, Faculte des Sciences de Bizerte, Zarzouna, Tunisia; 2. ITODYS, Universite Paris 7, Paris, France; 3. LCI2M, Universite Paris 6, Paris, France*

4:24

DC-13. Nanostructure Calculation of CoAg core-shell clusters. *F. Dorfbauer*[1], M. Kirschner[1], T. Schrefl[2], G. Hrkac[1], D. Suess[1] and J. Fidler[1] *1. Institute for Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Department of Engineering Materials, University of Sheffield, Sheffield, S1 3JD, United Kingdom*

4:36

DC-14. Magnetic Properties of Fe-Co Nanocomposites Embedded in Polystyrene Resins. P.P. Vaishnava[1], U. Senaratne[2], E. Buc[2], *R. Naik*[2], V.M. Naik[3], G.M. Tsoi[4], L.E. Wenger[4] and P. Boolchand[5] *1. Science and Mathematics Department, Kettering University, Flint, MI, USA; 2. Department of Physics and Astronomy, Wayne State University, Detroit, MI, USA; 3. Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, MI, USA; 4. Department of Physics, University of Alabama, Birmingham, AL, USA; 5. Department of ECECS, University of Cincinnati, Cincinnati, OH, USA*

4:48

DC-15. Multiprobe MR Measurements on Homogeneous and Multilayered Magnetic Nanowires. *L. Vila*[1], F. Elhoussine[2], J. George[3], G. Faini[1] and L. Piraux[2] *1. LPN / CNRS, Marcoussis, France; 2. Unite PCPM, Louvain-La-Neuve, Belgium; 3. Unite Mixte de Physique CNRS/THALES, Orsay, France*

TUESDAY AFTERNOON 2:00 — CRYSTAL

Session DD
MAGNETIC SENSORS (NOT RECORDING) III
Alan Edelstein, Chair

2:00

DD-01. Delta-Sigma Digital Magnetometer Utilizing Bi-Stable Spin-Dependent-Tunneling Magnetic Sensors. *J.G. Deak*[1], A. Jander[2,1], E. Lange[1], D. Brownell[1], S. Mundon[1] and L. Tran[1] *1. Advanced Technology Department, NVE Corporation, Eden Prairie, MN, USA; 2. School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR, USA*

2:12

DD-02. High Sensitivity and Quantitative Magnetic Field Measurements at 600°C. *T. Yamamura*[1], D. Nakamura[1] and A. Sandhu[2,1] *1. Dept. of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan; 2. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Tokyo, Japan*

2:24

DD-03. FeF2/Fe/FeF2 sandwiches for high frequency MO sensor applications. *R. Lopusnik*[1], M. Veis[2], I. Harward[1], S. Widuch[1], Z. Celinski[1], R.E. Camley[1] and S. Visnovsky[2] *1. Physics and Energy Science, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Institute of Physics, Charles University, Prague, Czech Republic*

2:36

DD-04. Portable 16×16 Diode/MTJ bioarray microsystem for DNA/cell recognition. *F.A. Cardoso*[1,2], H.A. Ferreira[1,2], J.P. Conde[1,2], V. Chu[1], P.P. Freitas[1,2], D. Vidal[1,2], J. Germano[2,3], L. Sousa[2,3], M.S. Piedade[2,3], B. Andrade[2,3] and J.M. Lemos[2,3] *1. INESC-Microsistemas e Nanotecnologias (INESC-MN), LISBOA, Portugal; 2. Instituto Superior Tecnico, LISBOA, Portugal; 3. INESC-Investigacao e Desenvolvimento (INESC-ID), LISBOA, Portugal*

2:48

DD-05. Self-Assembly And Detection Of Magnetic Nanoparticles On An InAs Quantum Well Micro-Hall Sensor. *P. Manandhar*[1], G. Mihajlovic[1], W. Setyawan[1], S. von Molnar[1], P. Xiong[1], S. Hong[2], K. Ohtani[3], H. Ohno[3], M. Field[4] and G.J. Sullivan[4] *1. MARTECH and Department of Physics, Florida State University, Tallahassee, FL, USA; 2. Physics and NANO Systems Institute, Seoul National University, Seoul, South Korea; 3. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 4. Rockwell Scientific Company LLC, Thousand Oaks, CA, USA*

3:00

DD-06. The size distribution effect of hydrodynamic magnetic nanoparticles on biosensors using AC susceptibility. *J. Nutting*[1], J. Antony[1], D. Meyer[1], A. Sharma[1], Z. Billey[1] and Y. Qiang[1] *1. Physics, University of Idaho, Moscow, ID, USA*

3:12

DD-07. Magnetic Nanowires for Acoustic Sensors. ***(Invited)*** P.D. McGary[1], L. Tan[1], J. Zou[1], *B.J. Stadler*[1], P. Downey[2] and A. Flatau[2] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA; 2. Aerospace Engineering, University of Maryland, College Park, MD, USA*

3:48

DD-08. Non-contact Magnetoelastic Stress Sensors Based on Substituted Cobalt Ferrite. *P.N. Matlage*[1], C.C. Lo[2,3], J.E. Snyder[1,3], Y. Melikhov[1], A. Ring[2] and D.C. Jiles[1,2] *1. Materials Science and Engineering Department, Iowa State University, Ames, IA, USA; 2. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA; 3. Materials and Engineering Physics Program, Ames Laboratory U.S. DOE, Iowa State University, Ames, IA, USA*

4:00

DD-09. Electromagnetic-Based Detector for Dilution Level Measurement in Laser Cladding. H. Aghighi[1], *M. Khamesee*[1] and E. Toyserkani[1] *1. Mechanical Engineering, University of Waterloo, Waterloo, ON, Canada*

TUESDAY AFTERNOON 2:00 GOLD

Session DE
THIN FILM AND PATTERNED MEDIA
Thomas Albrecht, Chair

2:00

DE-01. Time-Temperature-Transformation (TTT) Diagrams for the A1 to $L1_0$ Transformation in FePt and FeCuPt Thin Films. *K. Barmak*[1] and D.C. Berry[1] *1. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

2:12

DE-02. Monitoring the Formation of FePt Nanoparticles by Chemical Synthesis. *H. Wang*[1], Y. Huang[1], Y. Zhang[1], G.C. Hadjipanayis[1], D. Weller[2], T. Simopoulos[3] and V. Papaefthymiou[4] *1. Department of Physics, Univercity of Delaware, Newark, DE, USA; 2. Seagate Technology, Pittsburgh, PA, USA; 3. IMS, NCSR DEMOKRITOS, Agia, Paraskevi, Athens, Greece; 4. Department of Physics, University of Ioannina, Ioannina, Greece*

2:24

DE-03. Fabrication and Magnetic Properties of Nano-Patterned FePt Media. *Y. Tang*[1],.F. AuBuchon[1,2], L. Chen[1,2], S. Jin[1,2], J. Kim[3], Y. Kim[3] and C. Yoon[3] *1. CMRR, UCSD, La Jolla, CA, USA; 2., MAE, UCSD, La Jolla, CA, USA; 3. Hanyang University, Seoul, South Korea*

2:36

DE-04. Nanostructure and Magnetic Properties of Highly (001) Oriented L10 FePt:Cu Films. *M. Yan*[1], Y. Xu[1] and D. Sellmyer[1] *1. Center for Materials Research and Analysis and Department of Physics and Astronomy, University of Nebraska, Lincoln, NE, USA*

2:48

DE-05. Effects of substrate bias on CoPtCr-SiO_2 magnetic recording media. *H. Lee*[1], J.A. Bain[1] and D.E. Laughlin[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

3:00

DE-06. CoPtCr-SiO_2 media with K_{u2} magnetic anisotropy term fabricated with Pd seed layers. *H. Sato*[1], T. Shimatsu[1], T. Kondo[1], S. Watanabe[3], O. Kitakami[2], S. Okamoto[2], H. Aoi[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. IMRAM, Tohoku University, Sendai, Japan; 3. Fuji Electric Co., Ltd., Matsumoto, Japan*

3:12

DE-07. Thermal stability and recording writability of Hard/Soft stacked perpendicular media. *Y. Inaba*[1], T. Shimatsu[1], O. Kitakami[2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. IMRAM, Tohoku University, Sendai, Japan*

3:24

DE-08. Study of stacking faults effect on magnetic anisotropy of CoPtCr-SiO_2 perpendicular media by synchrotron radiation x-ray diffraction. *T. Kubo*[1], Y. Kuboki[1], R. Tanuma[1], A. Saito[1], S. Watanabe[2,1] and T. Shimatsu[2] *1. Fuji Electric Advanced Technology Co., Ltd., Hino, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

3:36

DE-09. Micromagnetic study of pinning behavior in percolated media. *J. Fidler*[1], D. Suess[1], T. Schrefl[2] and D. Weller[3] *1. Physics, Vienna University of Technology, Wien, Austria; 2. Engineering Materials, The University of Sheffield, Sheffield, United Kingdom; 3. Seagate Recording Media Operations, Fremont, CA, USA*

3:48

DE-10. Fabrication of TbFeCo nano dot array by sputtering into porous alumina layer. *M. Rahman*[1], X. Liu[1] and A. Morisako[1] *1. Information engineering, Shinshu university, Faculty of engineering, Nagano, Japan*

4:00

DE-11. CoPt Patterned Media in Anodized Aluminum Oxide Templates. A.I. Gapin[1], X. Ye[1], J.F. Aubuchon[1], L. Chen[1], Y. Tang[1] and *S. Jin*[1] *1. Center for Magnetic Recording Research, University of California at San Diego, La Jolla, CA, USA*

4:12

DE-12. Large uniaxial magnetic anisotropy by lattice deformation in CoPt/Ru perpendicular films. *T. Shimatsu*[1], H. Sato[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, Japan; 2. IMRAM, Tohoku University, Sendai, Japan*

4:24

DE-13. Mechanical Properties and Wear Behavior of Thin Film Carbon Overcoats on Longitudinal and Perpendicular Recording Media. K. Lee[1], C. Yeo[1] and *A.A. Polycarpou*[1] *1. Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, USA*

4:36

DE-14. Angle Dependence of Remanent Magnetization in Perpendicular Media. *J. Miles*[1] and T. Thomson[2] *1. School of Computer Science, The University of Manchester, Manchester, United Kingdom; 2. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA, USA*

4:48

DE-15. Micromagnetic modelling of Small Angle Neutron Scattering (SANS) from magnetic recording media. *F. Ogrin*[1], S.L. Lee[2], M. Wismayer[2], T. Thomson[3], C. Dewhurst[4] and R. Cubitt[4] *1. School of Physics, University of Exeter, Exeter, United Kingdom; 2. School of Physics and Astronomy, University of St. Andrews, St. Andrews, United Kingdom; 3. Hitachi San Jose Research Centre, San Jose, CA, USA; 4. Institute Laue-Langevin, Grenoble, France*

TUESDAY AFTERNOON 2:00 — ATHERTON

Session DF
NANOPARTICLES FOR BIOMEDICAL APPLICATIONS

Weili Luo, Chair

2:00

DF-01. Effects of Surfactants on Oxidation Resistance of Iron Nanoparticle Fluids. *S. Fritz*[1], N.H. Hai[1], S. Wignall[2] and D. Leslie-Pelecky[1] *1. Physics&Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Seward High School, Seward, NE, USA*

2:12

DF-02. One step synthesis of magnetic hollow silica and their application for nanomedicine. W. Wu[1,2], D. Crunta[1], M. Yu[1], J. Chen[2], A. Martin[1], C.J. O'Connor[1] and *W. Zhou*[1] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Research Center of the Ministry of Education for High Gravity Engineering and Technology, Beijing University of Chemical Technology, Beijing, China*

2:24

DF-03. Synthesis and Characterization of Gold/Magnetic Iron-Oxide Composite Nanoparticles for Biomedical Applications. *S. Seino*[1], T. Kinoshita[2], T. Nakagawa[2], Y. Kakimi[2], Y. Kawabe[2], J. Iida[2], Y. Mizukoshi[3], T. Kusunose[1], T. Sekino[1] and T.A. Yamamoto[2] *1. The Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Osaka, Japan; 2. Graduate School of Engineering, Osaka University, Osaka University, Suita, Osaka, Japan; 3. Faculty of Engineering, Nagasaki University, Nagasaki, nagasaki, Japan*

2:36

DF-04. Brownian Magnetic Relaxation of Water-based Cobalt Nanoparticles. *Y. Bao*[1], A.B. Pakhomov[1] and K.M. Krishnan[1] *1. University of Washington, Seattle, WA, USA*

2:48

DF-05. Maximizing and Modeling Heat Deposition in Iron Oxide Nanoparticles for Localized Hyperthermia. *I. Baker*[1], Q. Zeng[1], W. Li[1] and C.R. Sullivan[1] *1. Thayer School of Engineering, Dartmouth College, Hanover, NH, USA*

3:00

DF-06. Heating ability of magnetite nanobeads with various sizes for magnetic hyperthermia at 120 kHz, a noninvasive frequency. *K. Okawa*[1], M. Maeda[1], N. Matsushita[2], M. Tada[1], K. Nishio[3], M. Ikeda[3], H. Handa[3] and M. Abe[1] *1. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 3. Department of Biological Information, Tokyo Institute of Technology, Yokohama, Japan*

3:12

DF-07. Magnetic and Structural Properties of DNA-Maghemite Nanocomposite. *P. Dutta*[1], A. Manivannan[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*

3:24

DF-08. Vortex State Magnetic Nanoparticles for Bio-applications. *G. Xiong*[1,2], R. Slade[3], T.S. Baker[4], A. Sowerby[3], M. Eaton[4], J. Evans[1] and R.P. Cowburn[2] *1. Department of Chemistry, University of Durham, Durham, United Kingdom; 2. Department of Physics, Imperial College London, London, United Kingdom; 3. Oxford Instruments Molecular Biotools Ltd, Surrey, United Kingdom; 4. UCB-Celltech Research and Development, Slough Berks, United Kingdom*

3:36

DF-09. Application of ferromagnetic nanowires to the study of thin fluid films. *A. Anguelouch*[1], R.L. Leheny[1] and D.H. Reich[1] *1. Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, MD, USA*

3:48

DF-10. Establishing threshold toxicity for introducing magnetic nanoparticles into HeLa and HEK 293 cells. *K. Chen*[1], W. Luo[1] and P.E. Kolattukudy[2] *1. Physics, University of Central Florida, Orlando, FL, USA; 2. Burnett College of Biomedical Sciences, University of Central Florida, Orlando, FL, USA*

4:00

DF-11. Monitoring the Evolution of Magnetic Nanoparticles in Spherical Protein Cages Using EMR. *M.T. Klem*[1,2], H. Li[3,2], K. Gilmore[3,2], T. Mercer[3,2], M. Young[4,2], D. Singel[1,2], 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 Science, Montana State University, Bozeman, MT, USA*

4:12

DF-12. Magnetic carriers of Fe nanoparticles coated with a functional polymer for high throughput bio-screening. *M. Maeda*[1], C.S. Kuroda[1], T. Shimura[1], M. Tada[1], S. Yamamuro[2], K. Sumiyama[2], H. Handa[3] and M. Abe[1] *1. Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Materials Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan; 3. Biological Information, Tokyo Institute of Technology, Yokohama, Japan*

TUESDAY AFTERNOON 2:00 **SACRAMENTO**

Session DG
MAGNETIC MICROSCOPY AND IMAGING I
John Moreland, Chair

2:00

DG-01. Magnetic soft X-ray microscopy at 15nm resolution probing nanoscale local magnetic hysteresis. ***(Invited)*** *P. Fischer*[1], D. Kim[1], W. Chao[1], E. Anderson[1], S. Choe[2], M. Im[3] and S. Shin[3] *1. CXRO, LBNL, Berkeley, CA, USA; 2. Dept. of Physics, Seoul National Univ, Seoul, South Korea; 3. Dept. of Physics, KAIST, Daejeon, South Korea*

2:36

DG-02. Imaging Magnetic Nanostructures via Resonant Soft X-Ray Spectro Holography. *O. Hellwig*[1,2], S. Eisebitt[1], W. Eberhardt[1], W.F. Schlotter[3,4], J. Luening[3,4] and J. Stoehr[3,4] *1. In-House Research, BESSY GmbH, Berlin, Germany; 2. Advanced Media Group, Hitachi Global Storage Technologies, San Jose, CA, USA; 3. SSRL, Stanford Linear Accelerator Center, Menlo Park, CA, USA; 4. Department of Applied Physics, Stanford University, Stanford, CA, USA*

2:48

DG-03. Influence of domain wall interactions on nanosecond switching in magnetic tunnel junctions. *F. Romanens*[1], J. Vogel[1], W. Kuch[2,3], R. Hertel[4], K. Fukumoto[2,3], J. Camarero[5], S. Pizzini[1], M. Bonfim[1], F. Petroff[6] and J. Kirschner[3] *1. Laboratoire Louis Neel, CNRS, Grenoble, France; 2. Institut fur Experimentalphysik, Freie Universitat Berlin, Berlin, Germany; 3. Max-Planck-Institute fur Mikrostrukturphysik, Halle, Germany; 4. Institute of Solid State Research, Julich, Germany; 5. Departamento de Fisica de la Materia Condensada, Madrid, Spain; 6. Unite Mixte de Physique CNRS/Thales, Orsay, France*

3:00

DG-04. Quasiresonant Excitation of Magnetic Modes in Permalloy Platelets Observed with Time-Resolved XPEEM. A. Krasyuk[2], F. Wegelin[2], S. Nepijko[2], A. Oelsner[2], H. Elmers[2], *C.M. Schneider*[1] and G. Schoenhense[2] *1. Inst. f. Festkoerperforschung IFF 6, Research Centre Juelich, Juelich, Germany; 2. Inst. f. Physik, Johannes-Gutenberg-Universitaet Mainz, Mainz, Germany*

3:12

DG-05. RF burst excitation: a stroboscopic technique for time-resolved magnetic X-ray microscopy. *A. Puzic*[1], K. Chou[1], B. Van Waeyenberge[2], H. Stoll[1], T. Tyliszczak[3], I. Neudecker[4], D. Weiss[4], C.H. Back[4] and G. Schuetz[1] *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department of Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 3. Chemical Science Division, LBNL, Berkeley, CA, USA; 4. Institute for Experimental and Applied Physics, Regensburg University, Regensburg, Germany*

3:24

DG-06. 100ps Time-Resolved Magnetic Scanning Transmission X-ray Microscopy. *H. Stoll*[1], A. Puzic[1], K. Chou[1], B. Van Waeyenberge[2], T. Tyliszczak[3], I. Neudecker[4], D. Weiss[4], C.H. Back[4] and G. Schuetz[1] *1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department of Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 3. Chemical Science Division, LBNL, Berkeley, CA, USA; 4. Institute for Experimental and Applied Physics, Regensburg University, Regensburg, Germany*

3:36

DG-07. Observing antiferromagnetic domain structures using x-ray resonant magnetic imaging (XRMI). J.W. Kim[1], A. Kreyssig[1], *A.I. Goldman*[1], L. Tan[1], D. Wermeille[1], S. Bud'ko[1] and P. Canfield[1] *1. Ames Laboratory, USDOE and Iowa State University, Ames, IA, USA*

3:48

DG-08. Micro-BLS study of spin dynamics in magnetic nanostructures. ***(Invited)*** *S.O. Demokritov*[1], V.E. Demidov[1] and B. Hillebrands[2] *1. Institute of Applied Physics, University Muenster, Muenster, Germany; 2. Fachbereich Physik, Technische Universitaet Kaiserslautern, Kaiserslautern, Germany*

4:24

DG-09. Ballistic Hole Magnetic Microscopy. *T. Banerjee*[1], E. Haq[1], J.C. Lodder[1] and R. Jansen[1] *1. SMI, MESA+ Institute for Nanotechnology, Enschede, Netherlands*

4:36

DG-10. Lorentz microscopy of elliptical magnetic ring structures. *T. Bromwich*[1], F. Castrano[2], A. Petford-Long[1] and C. Ross[2] *1. Materials, University of Oxford, Oxford, United Kingdom; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

4:48

DG-11. Lorentz transmission electron microscopy determination of energy barrier to magnetic vortex nucleation. *J.W. Lau*[1,2], J.K. Bording[1], M. Beleggia[1], G.F. Neumark[2] and Y. Zhu[1] *1. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY, USA; 2. Applied Physics and Applied Mathematics, Columbia University, New York, NY, USA*

TUESDAY AFTERNOON 2:00 **PIEDMONT**

Session DH
SPIN GLASSES AND ONE-DIMENSIONAL MAGNETS

Frances Hellman, Co-chair
Peter Schiffer, Co-chair

2:00

DH-01. Spin Frustration In Fe Nanodots and Cu Multilayer System. *m.A. torija*[1,2], A. Li[1], E.W. Plummer[1,2] and J. Shen[1,2] *1. Condense Matter Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. Physics Departament, University of Tennessee,, Knoxville, TN, USA*

2:12

DH-02. Glass transition in labyrinth magnetic domains in perpendicular magnetic media model. *C. Pike*[1], G. Zimanyi[1], R. Scalettar[1] and O. Helllwig[2] *1. physics, uc davis, davis, CA, USA; 2. BESSY, Berlin, Germany*

2:24

DH-03. SMALL ANGLE NEUTRON SCATTERING STUDIES OF RE-ENTRANT SPIN-GLASS BEHAVIOUR IN FE-AL ALLOYS. D. Martin Rodriguez[1], *F. Plazaola*[1], J. del Val[2], J. Garitaonandia[3], G. Cuello[4] and C. Dewhurst[3] *1. Elektrika eta Elektronika Saila, UPV/EHU, Bilbao, Spain; 2. Departamento de Fisica de Materiales, UPV/EHU, San Sebastian, Spain; 3. Fisika Aplikatua II Saila, UPV/EHU, Bilbao, Spain; 4. Institute Laue Langevin, Grenoble, France*

2:36

DH-04. Ordered and glassy states of Fe near the percolation threshold in NdFexGa1-xO3. *F. Bartolome*[1], M. Parra[1], A. Montes[1], J. Blasco[1] and J. Bartolome[1] *1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain*

2:48

DH-05. Magnetic and Transport Properties of Amorphous GdxGe1-x Alloys near the Metal-Insulator Transition. *F. Hellman*[1], E.B. Helgren[1], D. Smith[2], R. Islam[2] and L. Zeng[3] *1. Physics, University of California Berkeley, Berkeley, CA, CA, USA; 2. Arizona State University, Tempe, AZ, USA; 3. UCSD, La Jolla, CA, USA*

3:00

DH-06. Magnetic Rare Earth (Gd) Doped Amorphous Hydrogenated Carbon (a-C:H). *L. Zeng*[1,2], E. Helgren[2], F. Hellman[2], R. Islam[3], D. Smith[3], J. Ager[4] and K. Yu[4] *1. Materials Science Program, UC, San Diego, Berkeley, CA, USA; 2. Physics, UC, Berkeley, Berkeley, CA, USA; 3. Center for Solid State Science, Arizona State University, Tempe, AZ, USA; 4. Materials Science Division, LBNL, Berkeley, CA, USA*

3:12

DH-07. The S=5/2 two-dimensional antiferromagnet in a magnetic field. A. Cuccoli[1,2], G. Gori[1], *R. Vaia*[3,2] and P. Verrucchi[3,2] *1. Dipartimento di Fisica, Universita di Firenze, Sesto Fiorentino, FI, Italy; 2. Istituto Nazionale per la Fisica della Materia, Sezione di Firenze, Sesto Fiorentino, FI, Italy; 3. Istituto dei Sistemi Complessi, Sezione di Firenze, Consiglio Nazionale delle Ricerche, Sesto Fiorentino, FI, Italy*

3:24

DH-08. Temperature dependence of induced Ni^{2+} moment fluctuations in the Eu_2BaNiO_5 Haldane system. C.J. Voyer[2], *J. van Lierop*[1], D.H. Ryan[2] and S.M. Cadogan[3] *1. Physics & Astronomy, University of Manitoba, Winnipeg, MB, Canada; 2. Centre for the Physics of Materials and Physics Department, McGill University, Montreal, QC, Canada; 3. School of Physics, The University of New South Wales, Sydney, NSW, Australia*

3:36

DH-09. Impact of Impurity Doping on the Magnetic Ordering in Haldane Chain Compounds. *A. Zorko*[1], D. Arcon[1], A. Lappas[2] and Z. Jaglicic[3] *1. Codansed Matter Physics Department, "Jozef Stefan" Institute, Ljubljana, Slovenia; 2. Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece; 3. Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia*

3:48

DH-10. Emergence of Soliton Chirality and Spin Currents in the Quantum Antiferromagnet $CsCoBr_3$. *H. Braun*[1], J. Kulda[2], B. Roessli[3] and P. Boeni[4] *1. Mathematical Physics, University College Dublin, Dublin, Ireland; 2. Institut Laue-Langevin, Grenoble, France; 3. Paul Scherrer Institut, Villigen, Switzerland; 4. Physics, TU Munich, Garching, Germany*

4:00

DH-11. Magnetism of $Cu_2CdB_2O_6$: Quantum spin system having a nearly singlet state and antiferromagnetic long-range order. *M. Hase*[1], M. Kohno[1], H. Kitazawa[1], O. Suzuki[1], K. Ozawa[1], G. Kido[1], M. Imai[1] and X. Hu[1] *1. National Institute for Materials Science, Tsukuba, Japan*

TUESDAY AFTERNOON 1:00 — IMPERIAL

Session DP
MAGNETOELECTRONIC DEVICES I (POSTER SESSION)

Alek Dediu, Co-chair
John Xiao, Co-chair

DP-01. Temeprature Dependence Properties of $Co_xAl_yO_z$ Films and Devices. *V. Ng*[1] and K.M. Tun[1] *1. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore*

DP-02. Spin injection of InAs 2-DEG. *D. Jung*[1], J. Chang[1], J. Eom[2] and S. Han[1] *1. Future Technology Research Division, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of physics, Sejong University, Seoul, South Korea*

DP-03. Miniature spin-valve transistor. Y. Huang[1], *C. Lo*[1,2] and Y. Yao[3] *1. Lab. For spintronics, OES, Industrial Technology Research Institute, Hsinchu, Taiwan; 2. Nano Technology Research Center, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

DP-04. IMPEDANCE BEHAVIOR OF SPIN VALVE TRANSISTOR. T. Peng[1], *L. Hsieh*[2,4], C. Lo[2,4], Y. Huang[2,4], S. Chen[1] and Y. Yao[3,1] *1. The Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Lab. for Spintronics, Opto Electronics and Systems Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Nanotechnology Research Center, Industrial Technology Research Institute, Hsinchu, Taiwan*

DP-05. Injection of spin-polarized electrons into Silicon : towards a silicon-based spintronic device. *C. Duluard*[1], A. Bsiesy[1,2], C. Baraduc[1], V. Safarov[3], A. Filipe[4] and A. Francinelli[4] *1. SPINTEC, CEA de Grenoble and CNRS, Grenoble, France; 2. Universite Joseph Fourier - Grenoble I, Grenoble, France; 3. CRMCN, Universite de la Mediterranee and CNRS, Marseille, France; 4. SPINTRON, Marseille, France*

DP-06. Magnetic tunneling transistor with Al2O3/MgO. J. Kuo[1,2], *Y. Huang*[2], C. Lo[2,3] and Y. Yao[1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Lab. For spintronics, OES, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Nano Technology Research Center, Industrial Technology Research Institute, Hsinchu, Taiwan*

DP-07. Optical spin-valve transistor with a Co/Au/Co base grown on Si(111). *J. Rietjens*[1], S. Rieter[1], J. Kohlhepp[1], O. Kurnosikov[1], W. de Jonge[1], H. Swagten[1] and B. Koopmans[1] *1. Department of Applied Physics, Center for Nanomaterials, Eindhoven University of Technology, Eindhoven, Netherlands*

DP-08. Magnetic tunnel junction compact device model for electrical simulations of spintronic components. *V. Javerliac*[1], L. Buda-Prejbeanu[1], F. Bernard-Granger[1], J. Nozieres[1] and B. Dieny[1] *1. SPINTEC URA CEA/CNRS, CEA/Grenoble, Grenoble, France*

DP-09. Phonon Satellites in the Electroluminescence spectra from Fe-based spin LEDs. *R. Mallory*[1], M. Yasar[1], A. Petrou[1], G. Kioseoglou[2], A.T. Hanbicki[2], C.H. Li [2], O.J. van 't Erve[2], B.T. Jonker[2], M. Shen[3], S. Saikin[3], M. Cheng[3] and V. Privman[3] *1. SUNY Buffalo, Buffalo, NY, USA; 2. Naval Research Laboratory, Washington, DC, USA; 3. Clarkson University, Potsdam, NY, USA*

DP-10. Remote writing of data into magnetic nanowire networks for ultrahigh density non-volatile memory. *R. Cowburn*[1], D.A. Allwood[2] and G. Xiong[1] *1. Blackett Physics Laboratory, Imperial College London, London, United Kingdom; 2. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

DP-11. Fabrication and Testing of Deep Submicron Ring Shape Vertical MRAM with Enhanced Magnetoresistance. *M.T. Moneck*[1] and J. Zhu[1] *1. Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

DP-12. Field Assisted Spin Switching in magnetic random access memory. *W. Jeong*[1], J. Park[1], J. Oh[1], G. Koh[1], G. Jeong[1], H. Jeong[1] and K. Kim[1] *1. Technology Development Team 2, Samsung Elec. Co., LTD., Yongin-City, Gyeonggi-Do, South Korea*

DP-13. The Effect of Charge-Polarized and Spin-Polarized on Dielectric Tunnel Relaxation Time Constant in a CoFe/Al-O/CoFe MTJ. S.C. Li[1], C. Hsu[1], M. Shu[1] and *T. Wu*[1] *1. Taiwan SPIN Research Center,, Touliu, Taiwan*

DP-14. A spin-based detector for circularly polarized light. *L. Cywinski*[1], H. Dery[1] and L.J. Sham[1] *1. Physics, University of California, San Diego, La Jolla, CA, USA*

DP-15. Precessionless spin transport wire confined in quasi-two-dimensional electron systems. *M. Liu*[1], C. Chang[1] and S. Chen[1] *1. Department of Physics, National Taiwan University, Taipei, Taiwan*

DP-16. Electrical Spin Injection and Accumulation in FM/Au/FM Lateral Spin Valves. *J. Ku*[1,2], J. Chang[1], S. Han[1], J. Ha[2] and J. Eom[1,3] *1. Nano device research center, Korea Institute of Science and Technology (KIST), Seoul, South Korea; 2. Department of Electronic Materials Engineering, Kwangwoon University, Seoul, South Korea; 3. Department of Physics, Sejong University, Seoul, South Korea*

DP-17. The role of surface scattering in spin relaxation in Al. *N. Poli*[1], M. Urech[1], V. Korenivski[1] and D.B. Haviland[1] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

DP-18. Spin detection in an InAs based two-dimensional electron gas. *Y. Jo*[1], H. Kim[1], M. Jung[1], H. Yi[2], H. Koo[2] and S. Han[2] *1. Quantum Materials Research Team, Korea Basic Science Institute, DAEJEON, South Korea; 2. Nano Devices Research Team, Korea Institute of Science and Technology, SEOUL, South Korea*

TUESDAY AFTERNOON 1:00 **IMPERIAL**

Session DQ
ELECTROMAGNETIC COMPUTATIONS AND HYSTERESIS MODELING (POSTER SESSION)
Thomas Schulthess, Chair

DQ-01. Hysteresis modeling of single domain particles. *K. Gilmore*[1] and Y.U. Idzerda[1] *1. Physics, Montana State University, Bozeman, MT, USA*

DQ-02. Effects of Monte Carlo Parameters on the Simulated Magnetic Properties of Stoner-Wohlfarth Particles. C. Russell[1] and *K.M. Unruh[1] 1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA*

DQ-03. Monte Carlo simulation of ferrimagnetic $NiFe_2O_4$ nanopoarticles. *C. Zhou*[1,2], T. Schulthess[1] and D.P. Landau[2] *1. Computer Science and Mathematics, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. Center for Simulational Physics, University of Georgia, Athens, GA, USA*

DQ-04. Modeling the Third Harmonic Flux Density of Steel Subjected to a Series of Loadings and Unloadings in Continuing Plastic Deformation [+]. *M.J. Sablik*[1], S. Rios[2,1] and C.J. Gutierrez[2] *1. Applied Physics Division, Southwest Research Institute, San Antonio, TX, USA; 2. Physics Dept.,, Texas State University, San Marcos, TX, USA*

DQ-05. Magnetic minor hysteresis loops of compressively deformed transition-metal single crystals. *S. Kobayashi*[1], S. Takahashi[1], Y. Kamada[1] and H. Kikuchi[1] *1. NDE&Science Research Center, Iwate University, Morioka, Japan*

DQ-06. Complementary Point Memory and the Interaction Field Distribution in a system of Preisach hysterons. R. Tanasa[1] and *A. Stancu[1] 1. Faculty of Physics, Department of Solid State & Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Romania*

DQ-07. Electromagnetic Body Force Calculation Based on Virtual Air-gap. *H. Choi*[1], S. Lee[2] and I. Park[1] *1. Sungkyunkwan Univ., Suwon, South Korea; 2. Massachusetts Institute of Technology, Boston, MA, USA*

DQ-08. A Statistical Mechanics-Based Model for Cubic and Mixed-Anisotropy Ferromagnetic Systems. *S.H. Aly*[1], S. Yehia[2], M. Soliman[1] and N. El-Wazzan[1] *1. Physics, Faculty of Science at Damietta, Mansoura University, New Damietta, Egypt; 2. Physics, Faculty of Science, Helwan University, Cairo, Egypt*

DQ-09. Space mapping method for the design of passive shields. *P. Sergeant*[1], L. Dupre[1] and J. Melkebeek[1] *1. Department of Electrical Energy, Systems and Automation, Ghent university, Gent, Belgium*

DQ-10. Reconstruction of local magnetic properties of steel sheets by needle probe methods using space mapping techniques. *G. Crevecoeur*[1], L. Dupre[1], L. Vandenbossche[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*

DQ-11. Magnetic Field Analysis of Laminated Core by Using Homogenization Method. *H. Muto*[1], Y. Takahashi[1], S. Wakao[1], K. Fujiwara[2] and A. Kameari[3] *1. Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan; 2. Electrical and Electronic Engineering, Okayama University, Okayama, Japan; 3. Science Solutions International Laboratory, Inc., Tokyo, Japan*

DQ-12. Numerical simulations of eddy currents in transcranial magnetic stimulation to the cerebellum. *M. Sekino*[1], M. Hirata[2,3], K. Sakihara[3], S. Yorifuji[3] and S. Ueno[1] *1. Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Tokyo, Japan; 2. Department of Neurosurgery, Osaka University Medical School, Osaka, Japan; 3. Division of Functional Diagnostic Science, Osaka University Medical School, Osaka, Japan*

DQ-13. Large-scale and Highly Accurate Magnetic Field Analysis of Magnetic Shield. *Y. Takahashi*[1], S. Wakao[1] and A. Kameari[2] *1. Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan; 2. Science Solutions International Laboratory, Inc., Tokyo, Japan*

DQ-14. Field Analysis using the Magnetic Vector Potential Transfer Relations in Surface-Mounted Permanent Magnet Machines. S. Jang[1], *H. Cho*[1] and J. Choi[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

DQ-15. A numerical approach to the description of the role of electromagnetic noise on the iron losses. L. Testa[1] and *M. Trapanese[1] 1. Electrical Engineering Department, University of Palermo, Palermo, Italy*

TUESDAY AFTERNOON 1:00 — IMPERIAL

Session DR
$L1_0$ AND OTHER HARD MAGNETIC MATERIALS II (POSTER SESSION)

J.-Ping Liu, Co-chair
Laura Lewis, Co-chair

DR-01. Preferential Alignment of FePt Nanoparticles. *M. Chen*[1,2], S. Sun[3], J. Liu[2] and C. Murray[1] *1. Nanoscale Materials and Devices, IBM J. T. Watson Research Center, Yorktown Heights, NY, USA; 2. Physics Department, University of Texas at Arlington, Arlington, TX, USA; 3. Chemistry Department, Brown University, Providence, RI, USA*

DR-02. Compositional Stability of FePt Nanoparticles on SiO_2/Si During Annealing. *B. Yao*[1], R.V. Petrova[2], R.R. Vanfleet[3] and K.R. Coffey[1,2] *1. Advanced Materials Processing and Analysis Center, Department of Mechanical, Materials and Aerospace Engineering, University of Central Florida, Orlando, FL, USA; 2. Department of Physics, University of Central Florida, Orlando, FL, USA; 3. Department of Physics and Astronomy, Brigham Young University, Provo, UT, USA*

DR-03. Microstructure and magnetization reversal of FePt grown on MgO(110) substrates. *C. Yu*[1,3], D. Wei[2], Y. Yao[3], Y. Liou[3], J. Chan[4], W. Cheng[4] and T. Chin[2] *1. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan*

DR-04. Improvement of Energy Product in Exchange Coupled $Fe_{49-x}Co_xPt_{51}$ (x=0.0, 0.7, 1.3, 2.2) Thin Films. *F. Yuan*[1], S. Hsiao[1], W. Liao[1], C. Hsu[1], S. Chen[1] and L. Horng[2] *1. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 2. Physics, National Changhua University of Education, Chunghua, Taiwan*

DR-05. A survey of Anisotropy Measurement techniques and study of thickness effect on interfacial and volume anisotropy in Co/Pt multilayer media. *V. Guo*[1], X. Wu[2], B. Lu[2], G. Ju[2] and D. Weller[2] *1. Carnegie Mellon University, Pittsburgh, PA, USA; 2. Seagate Research, Pittsburgh, PA, USA*

DR-06. Synthesis of Fe-Pt-B Nanocomposite Magnets with High Coercivity Only by Rapid Solidification. *W. Zhang*[1,2], K. Yubuta[1], P. Sharma[2] and A. Inoue[1,2] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Core Research for Evolutional Science and Technology, Japan Science and Technology Agency, Sendai, Japan*

DR-07. Magnetic Properties of FePt and FePtAg Nanostructured Magnets by Cyclic Cold Rolling. *B. Cui*[1], K. Han[1], H. Garmestani [2], N. Dempsey [3], J. Liu[4] and H. Schneider-Muntau[1] *1. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, USA; 2. School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA, USA; 3. Laboratoire Louis Neel, Grenoble, France; 4. Department of Physics, University of Texas at Arlington, Arlington, TX, USA*

DR-08. Magnetic aftereffect and MFM studies of Fe-B/FePt-type nanocomposite ribbons. *C. Chang*[1], H. Chang[1,2], C. Chiu[1], W. Chang[1], B. Han[3] and Y. Fang[3] *1. Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Physics, Academia Sinica, Taipei, Taiwan; 3. Physics, Center for Condensed Matter Physics Chinese Academy of Science, Beijing, China*

DR-09. Magnetic Nanoparticles Produced By Surfactant-Assisted Ball Milling. V. Chakka[1], B. Altuncevahir[1], Z. Jin[1] and *J. Liu*[1] *1. Department of Physics, University of Texas at Arlington, Arlington, TX, USA*

DR-10. Exchange Coupled Nanocomposite Magnets of $SmCo_5/Fe_3O_4$ with Core/Shell Structure. *J.H. Hong*[1], Y.B. Lee[1], H.M. Song[1], J.C. Kim[1], J.I. Lee[1], W.S. Kim[2] and N.H. Hur[1] *1. Center for CMR Materials, KRISS, Daejon, South Korea; 2. Division of Electromagnetic Metrology, KRISS, Daejeon, South Korea*

DR-11. Magnetic properties of Co-Zn-P alloy powders produced by chemical reduction. *T. Saito*[1] *1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan*

DR-12. Nanostructural M-type barium hexaferrite synthesized by spark plasma sintering method. *W. Zhao*[1], Q. Zhang[1], X. Tang[1] and H. Cheng[1] *1. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, China*

DR-13. Granular Ba-ferrite thin films deposited on the Al-Si. *N.N. Shams*[1], S. Yamamoto[1], X. Liu[1] and A. Morisako[1] *1. Information Engineering, Shinshu University, Nagano, Japan*

DR-14. Finite-Temperature Anisotropy of Heavy-Transition-Metal Alloys. *R. Skomski*[1], O. Mryasov[2], J. Zhou[1] and D. Sellmyer[1] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA; 2. Seagate Research, Pittsburgh, PA, USA*

DR-15. Spin and Orbital Magnetic Moments of Ir in Co-Ir alloys from Ir L2,3 Edge X-ray Magnetic Circular Dichroism. *V.V. Krishnamurthy*[1], N. Kawamura[2], M. Suzuki[2], T. Ishikawa[2,3] and J.L. Robertson[1] *1. Condensed Matter Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. SPring8/JASRI, Mikazuki, Japan; 3. SPring8/RIKEN, Mikazuki, Japan*

DR-16. Heat Capacity and X-ray absorption studies on the intermetallic compound $YbMn_2Sb_2$. *R. Nirmala*[1,2], S. Malik[2], A. Morozkin[3], H. Kim[4], J. Kim[4], B. Park[5] and S. Oh[6] *1. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India; 2. Tata Institute of Fundamental Research, Mumbai, India; 3. Moscow Lomonosov State University, Moscow, Russian Federation; 4. Pohang University of Science and Technology, Pohang, South Korea; 5. University of Science and Technology, Pohang, South Korea; 6. School of Physics and Center for Strongly Correlated Materials Research, Seoul National University, Seoul, South Korea*

TUESDAY AFTERNOON 1:00 **IMPERIAL**

Session DS
HALF-METALLICS I (POSTER SESSION)
John Freeland, Chair

DS-01. Preparation of ferromagnetic silicide $Fe_{1-x}Si_x$ using silicon-on-insulator (SOI) substrates for Si-based spin-electronic devices. *R. Nakane*[1,2], M. Tanaka[1,2] and S. Sugahara[3] *1. Dept. of Electronic Eng., The Univ. of Tokyo, Tokyo, Japan; 2. SORST Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Dept. of Frontier Informatics, The Univ. of Tokyo, Kashiwa, Chiba, Japan*

DS-02. Ferromagnetic resonance in the stripe domain state: a study in Co2MnGa (001). *C. Yu*[1], M.J. Pechan[1], D. Carr[2] and C.J. Palmstrom[2] *1. physics, miami unversity, oxford, OH, USA; 2. Department of Chemical Engineering & Materials Science, University of Minnesota, Minneapolis, MN, USA*

DS-03. Magnetism and transport properties of the Heusler alloy Au_2MnAl. M. Zhang[1,2], *E.H. Bruck*[1], F.R. de Boer[1], Z. Li[2] and G. Wu[2] *1. Van der Waals-Zeeman Instituut, Amsterdam, Netherlands; 2. Institute of Physics, Beijing, China*

DS-04. Slater-Pauling behaviour and Curie-Temperature of Heusler compounds. *G.H. Fecher*[1], H.C. Kandpal[1], S. Wurmehl[1], C. Felser[1] and G. Schoenhense[2] *1. Institute of Inorganic and Analytical Chemistry, Johannes Gutenberg University, Mainz, Germany; 2. Institute of Physics, Johannes Gutenberg University, Mainz, Germany*

DS-05. Sulfur stoichiometry effects in highly spin polarized CoS2 single crystals. *L. Wang*[1] and C. Leighton[1] *1. Chemical Engineering and Material Science, University of Minnesota, Minneapolis, MN, USA*

DS-06. First-principles Study on Half-metallicity at Surface and Interface of Zinc-blende CrS/GaAs(001). *Y. Byun*[1], J. Lee[1] and Y. Jang[2] *1. Physics, Inha University, Incheon, South Korea; 2. Physics, University of Incheon, Incheon, South Korea*

DS-07. Structural and magnetic properties of chlorine-doped $CuCr_2Se_4$. *J.R. Neulinger*[1], M. Liberati[2,3], R.V. Chopdekar[4,5], E. Arenholz[3], Y. Idzerda[2], Y. Suzuki[5] and A.M. Stacy[1] *1. Chemistry, University of California, Berkeley, Berkeley, CA, USA; 2. Physics, Montana State University, Bozeman, MT, USA; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. Applied Physics, Cornell University, Ithaca, NY, USA; 5. Materials Science and Engineering, University of California, Berkeley, Berkeley, CA, USA*

DS-08. Effects of high-field thermo-chemical treatment on magnetic properties of epitaxial magnetite (100) films on MgO substrate. *Y. Zhou*[1] and I.V. Shvets[1] *1. Dept. of Physics, SFI Nanoscience Lab., Trinity College, Dublin, Ireland*

DS-09. Effect of Fe_2O_3 on the Transport and Magnetic Properties of Half Metallic Fe_3O_4. *D. Tripathy*[1] and A. Adeyeye[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

DS-10. Effect of Mn3+ and Sr2+ substitution on the structural and magnetic properties of NdFeO3 orthoferrites. K. Bouziane[1], *A.A. Yousif*[1], H.M. Widatallah[1], M.E. Elzain[1], I. Al Omari[1] and I.A. Abdel-Latif[2] *1. Physics, Sultan Qaboos University, Muscat, Oman; 2. Reactor Physics Department, Atomic Energy Authority, Cairo, Egypt*

DS-11. Magnetic tunnel junctions based on Sr_2FeMoO_6. *T. Fix*[1], D. Stoeffler[1], S. Colis[1], Y. Henry[1], J. Loison[1], G. Versini[1], G. Pourroy[1], A. Dinia[1], T. Dimopoulos[2], L. Baer[2] and J. Wecker[2] *1. IPCMS, Strasbourg, France; 2. Siemens Corporate Technology, Erlangen, Germany*

DS-12. Structure and transport properties on $YMnO_3$ with Ca doping. Z. Jiang[1], X. Wu[1], Q. Ji[1], H. Cai[1] and *S. Jiang*[1] *1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China*

DS-13. CPP-GMR in epitaxial full-Heusler Co-Mn-Si/Cr/Co-Mn-Si trilayers. *K. Yakushiji*[1], K. Saito[1], S. Mitani[1] and K. Takanashi[1] *1. IMR Tohoku Univ., Sendai, Japan*

TUESDAY AFTERNOON 1:00 — IMPERIAL

Session DT
METALLIC MAGNETS, MAGNETIZATION DYNAMICS (POSTER SESSION)

Ganping Ju, Co-chair
Christian Back, Co-chair

DT-01. Crystal structure and low temperature physical properties of $Gd_3Co_4Sn_{13}$ intermetallic antiferromagnet. *M. Pires*[1,2], L. Mendonca Ferreira [1], J. Duque[1], R. Urbano[1], C. Rettori[1], O. Aguero[1], I. Torriani[1], E. Bittar[1] and P.G. Pagliuso[1] *1. DEQ, Instituto de Fisica Gleb Wataghin - Unicamp, Campinas, Sao Paulo, Brazil; 2. Deartamento de Fisica - Universidade Federal de Goias, Goiania, Goias, Brazil*

DT-02. Valence fluctuation and anomalous Hall effect in single crystal YbB_4. *J. Kim*[1] and B. Cho[1] *1. Center for Froniter Materials, Material Science and Engineering, Gwangju Institue of Science and Technology (GIST), Gwangju, South Korea*

DT-03. ESR Study of Gadolinium Borosilicide, a Rare Earth Ladder Compound. *T. Mori*[1] *1. National Institute for Materials Science, Namiki 1-1, Tsukuba 305-0044, Japan*

DT-04. First principles study on the electronic structure and effective exchange interaction of $Y(Co_{1-X}Cu_X)_5$. *A. Sakuma*[1] *1. Applied physics, Tohoku University, Sendai city, Japan*

DT-05. Electronic structures and magnetic properties of $LaCo_4B$ and $LaNi_4B$. *T. Ito*[1] and H. Ido[1] *1. Applied Physics, Tohoku Gakuin University, Tagajo, Miyagi, Japan*

DT-06. Electronic Band Structure, Magnetic Moment and Magnetocrystalline Anisotropy of $SmCo_5$. *S. Yehia*[1], M. Hammam[1], A. Hamid[1], A.E. Aly[1] and S.H. Aly[2] *1. Physics, Faculty of Science, Helwan University, Cairo, Egypt; 2. Physics, Faculty of Science at Damietta, Mansoura University, New Damietta, Egypt*

DT-07. Electronic Structures and Magnetic Properties of Transition-Metal in Binary of B2 and $L1_2$ structures. *Y. Tanaka*[1,2], S. Ishida[2], S. Asano[3] and T. Suzuki[1] *1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan; 2. Kagoshima University, Kagoshima, Japan; 3. Tokyo University, Tokyo, Japan*

DT-08. Temperature induced spin reorientation in $TbMn_6Sn_{6-x}Ga_x$. *L.K. Perry*[1], D.H. Ryan[1], G. Venturini[2] and J.M. Cadogan[3] *1. Centre for the Physics of Materials and Physics Depratment, McGill University, Montreal, QC, Canada; 2. Laboratoire de Chimie du Solide Minerale, URA 158, Universite de Nancy I, Vandoeuvre-les-Nancy, France; 3. School of Physics, The University of New South Wales, Sydney, NSW, Australia*

DT-09. Electrical Resistivity of Amorphous Cr74Fe26 Thin Film: Giant Moment Formation. *Y. Oner*[1] *1. Department of Physics, Istanbul Technical University, Istanbul, Turkey*

DT-10. Magnetization of Electrodeposited Nickel. C. O'Reilly[1], S. Stefano[1], *F. Rhen*[1], P. Stamenov[1] and M. Coey[1] *1. Physics Department and CRANN, Trinity College, Dublin, Dublin, Ireland*

DT-11. Investigation of dynamic and static magnetic properties of Fe(001)/ZnSe by simultaneous measurement of ferromagnetic resonance, magneto optical Kerr effect and non-time-resolved MOKE detected FMR. *M. Moeller*[1], D. Spoddig[1] and R. Meckenstock[1] *1. Experimentalphysik III AG, Ruhr-University Bochum, Bochum, Germany*

DT-12. Real time evidence of two-magnon scattering in exchange coupled bilayers. *M.C. Weber*[1], H.T. Nembach[1], M.J. Carey[2], B. Hillebrands[1] and J. Fassbender[3] *1. Fachbereich Physik and Forschungsschwerpunkt MINAS, Technische Universitaet Kaiserslautern, Kaiserslautern, Germany; 2. Hitachi Global Storage Technologies, San Jose Research Center, San Jose, CA, USA; 3. Institut fuer Ionenstrahlphysik und Materialforschung, Forschungszentrum Rossendorf, Dresden, Germany*

DT-13. Formation of longitudinal patterns by propagating nonlinear spin waves. V.E. Demidov[1], O. Dzyapko[1], U. Hansen[1], N. Koulev[1] and *S.O. Demokritov*[1] *1. Institute of Applied Physics, University of Muenster, Muenster, Germany*

DT-14. Microscopic theory of spin-wave excitations in ferromagnetic nanorings. *T.M. Nguyen*[1] and M.G. Cottam[1] *1. Physics and Astronomy, University of Western Ontario, London, ON, Canada*

DT-15. Optically induced magnetization dynamics in ferromagnetic-manganite films studied by time-resolved magneto-optical Kerr effect. *D. Talbayev*[1], H.H. Zhao[1], G. Luepke[1], A. Venimadhav[2], J. Chen[2] and Q. Li[2] *1. Department of Applied Science, College of William & Mary, Williamsburg, VA, USA; 2. Department of Physics, Pennsylvania State University, University Park, PA, USA*

DT-16. Stimulated phase-coherent recovery of microwave signal stored in spin wave excitations. *S.O. Demokritov*[1], A.A. Serga[2], B. Hillebrands[2], G.A. Melkov[3] and A.N. Slavin[4] *1. Institute of Applied Physics, University Muenster, Muenster, Germany; 2. Fachbereich Physik, Technische Universitaet Kaiserslautern, Kaiserslautern, Germany; 3. Radiophysics Faculty, Kiev Taras Shevchenko National University, Kiev, Ukraine; 4. Department of Physics, Oakland University, Rochester, MI, USA*

DT-17. MEASUREMENT OF BURIED LAYER PRECESSION IN FM/NM/FM TRILAYERS BY TIME-RESOLVED X-RAY MAGNETIC CIRCULAR DICHROISM. *Y. Guan*[1], D.A. Arena[2], E. Vescovo[2], C. Kao[2] and W.E. Bailey[1,3] *1. Department of Applied Physics, Columbia University, New York, NY, USA; 2. National Synchrotron Light Source, Brookhaven National Libratory, Upton, NY, USA; 3. Materials Science Program, Department of Applied Physics, Columbia University, New York, NY, USA*

DT-18. Direct observation of spin and orbital angular momentum transfer following ultrafast optical excitation of Fe/Gd multilayers. *T.E. Eimueller*[1,2], A. Scholl[3], S. Choe[4,3], B. Ludescher[2], T. Dragon[2], E. Amaladass[2], G. Schuetz[2] and J. Stoehr[5] *1. Junior Research Group, Experimental Physics, University of Bochum, Bochum, Germany; 2. Modern Magnetic Materials, MPI for metals research, Stuttgart, Germany; 3. Advanced Light Source, LBNL, Berkeley, CA, USA; 4. Department of Physics, Seoul National University, Seoul, South Korea; 5. Stanford Synchrotron Radiation Laboratory, SLAC, Stanford, CA, USA*

TUESDAY AFTERNOON 1:00 — IMPERIAL

Session DU
MOLECULAR MAGNETS, MULTIFERROICS AND OTHER ADVANCED MATERIALS (POSTER SESSION)

Igor Levin, Co-chair
Jonathan Friedman, Co-chair

DU-01. Magnetic Properties of a Novel Fe(II) meso-tetra(4-pyridyl)porphyrin Network. *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*

DU-02. Magnetic and electronic properties of transition metal substituted, dimeric polyoxotungstates. *K. Kuepper*[1,2], M. Prinz[1], A. Takacs[1], M. Neumann[1], U. Kortz[3], I. Balasz[4] and E. Burzo[4] *1. Physics, University of Osnabrueck, D-49069 Osnabrueck, Germany; 2. Inst. Ionenphys. & Mat. Forsch., Forschungszentrum Rossendorf e. V., D-01328 Dresden, Germany; 3. International University Bremen, P. O. Box 750561, D-28725 Bremen, Germany; 4. Faculty of Physics, Babes-Bolyai University, 400085 Cluj-Napoca, Romania*

DU-03. Optical switching between bistable phases in rubidium manganese hexacyanoferrate at room temperature. *S. Ohkoshi*[1,2], H. Tokoro[1] and K. Hashimoto[1] *1. Department of Applied Chemistry, School of Engineering,, The University of Tokyo, Tokyo, Japan; 2. PRESTO, JST, Tokyo, Japan*

DU-04. Mn,Cd-metallothionein-2: A room temperature ferromagnetic protein. *C. Chang*[1], S. Lee[2], K. Sun[1] and L. Kan[3] *1. Physics, National Dong Hwa University, Hualien, Taiwan; 2. Physics, Academia Sinica, Taipei, Taiwan; 3. Chemistry, Academia Sinica, Taipei, Taiwan*

DU-05. Synthesis and magnetic properties of hexanuclear manganese antiferromagnetic rings {Mn6}. *K. Han*[1], B. Kim[1], B. Suh[1], J. Kim[2], K. Lee[2] and M. Lah[2] *1. Physics, The Catholic University of Korea, Bucheon-si, Gyeonggi-do, South Korea; 2. Chemistry, Hanyang University, Ansan-si, Gyeonggi-do, South Korea*

DU-06. Rate dependent light induced thermal hysteresis of [Fe(PM-BiA)2(NCS)2] spin transition complex. C. Enachescu[1], R. Tanasa[1,3], *A. Stancu*[1], G. Chastanet[2], J. Letard[2], J. Linares[3] and F. Varret[3] *1. Department of Solid State and Theoretical Physics, Alexandru Ioan Cuza University, Iasi, Romania; 2. Groupe des Sciences Moleculaires, Institut de Chimie de la Matiere Condensee de Bordeaux, Pessac, France; 3. Laboratoire de Magnetisme et d'Optique, Universite de Versailles Saint Quentin en Yvelines, Versailles, France*

DU-07. Effect of ^{4}He exchange gas on spin avalanches in Mn_{12}-acetate. *C.H. Webster*[1], O. Kazakova[1], A.Y. Tzalenchuk[1] and A. Hernandez-Minguez[2] *1. National Physical Laboratory, Teddington, United Kingdom; 2. Departament de Fisica Fonamental, Universitat de Barcelona, Barcelona, Spain*

DU-08. Origin of magnetization observed in epitaxially grown $BaFe_{1-x}Zr_xO_{3-\delta}$ thin films. *T. Matsui*[1], R. Sato[1], N. Fujimura[1], H. Tsuda[1] and K. Morii[1] *1. Graduate School of Engineering, Osaka Prefecture University, Sakai, Osaka, Japan*

DU-09. R-dependent Magnetic and Structural Properties in RMn2O5 with R = Y, Er, Ho, Dy and Tb. *T. Han*[1] and J. Lin[1,2] *1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan*

DU-10. Characterization of ferromagnetic Mn-Si-C compounds synthesized on SiC substrates. *F. Takano*[1], H. Ofuchi[2], S. Kuroda[3] and H. Akinaga[1] *1. SYNAF and NRI, AIST, Tsukuba, Ibaraki, Japan; 2. Nagoya University, Nagoya, Aichi, Japan; 3. University of Tsukuba, Tsukuba, Ibaraki, Japan*

DU-11. Enhanced magnetoelectric effect in core-shell particulate composites. *V. Corral Flores*[1], D. Bueno-Baques[1], D.M. Carrillo-Flores[2] and J.A. Matutes-Aquino[1] *1. Magnetic Materials, CIMAV, Chihuahua, Chihuahua, Mexico; 2. Instituto Tecnologico de Chihuahua, Chihuahua, Chihuahua, Mexico*

DU-12. Epitaxial growth of single $BiFeO_3$ films by rf sputtering. *S. Kim*[1], V. Ravindranath[1], J. Jeong[1] and S. Shin[1] *1. Dept. of Physics, KAIST, Daejeon, South Korea*

DU-13. Effect of DMSO on electrodeposition of Co-Zn magnetic film in molten ZnCl2-DMSO2 electrolyte. C. Yang[1], *M. Shu*[2] and T. Wu[3] *1. Department of Environmental Resources Management, Overseas Chinese Institute of Technology, Taichung, Taiwan; 2. Graduate School of Engineering Science & Technology (Doctoral Program), National Yunlin University of Science and Technology, Yunlin, Taiwan; 3. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Yunlin, Taiwan*

DU-14. Complex magnetic ordering in $Dy_3Ag_4Sn_4$. *L.K. Perry*[1], D.H. Ryan[1], F. Canepa[2], M. Napoletano[2], D. Mazzone[3], P. Riani[3] and J.M. Cadogan[4] *1. Centre for the Physics of Materials and Physics Department, McGill University, Montreal, QC, Canada; 2. Dipartimento di Chimica e Chimica Industriale, Via Dodeceneso 31, 16146 Genova, Italy; 3. INSTM and Dipartimento di Chimica e Chimica Industriale, Via Dodeceneso 31, 16146 Genova, Italy; 4. School of Physics, University of New South Wales, Sydney, NSW, Australia*

DU-15. Magnetism and Electrical Transport in $Dy_xGd_{5-x}Si_2Ge_2$ (x = 0.0, 1.5, 2.5, 3.0, 3.5, 4.5 and 5.0) compounds. *R. Nirmala*[1,2], V. Sankaranarayanan[2], K. Sethupathi[2], A. Morozkin[3], A. Joshi[4] and S. Malik[4] *1. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India; 2. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 3. Department of Chemistry, Moscow Lomonosov State University, Moscow; 4. Tata Institute of Fundamental Research, Mumbai, India*

DU-16. Spin dynamics and quantum tunneling of the Neel vector in the Fe_{10} magnetic ring. *S. Carretta*[1], P. Santini[1], G. Amoretti[1], T. Guidi[2], R. Caciuffo[2], A. Caneschi[3], D. Rovai[3], Y. Qiu[4,5] and J. Copley[4] *1. Dipartimento di Fisica, Universita di Parma, Parma, Italy; 2. Dipartimento di Fisica, Universita Politecnica delle Marche, Ancona, Italy; 3. Dipartimento di Chimica, Universita di Firenze, Firenze, Italy; 4. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA; 5. Department of Materials Science and Engineering, University of Maryland, College Park, MD, USA*

TUESDAY AFTERNOON 1:00 — IMPERIAL

Session DV
ULTRA-THIN FILMS AND EPITAXY (POSTER SESSION)
Yingguo Peng, Chair

DV-01. ac susceptibility of ultrathin ferromagnets *in situ* in UHV. *C. Ruedt*[1], A. Scherz[2] and K. Baberschke[1] *1. Institut fuer Experimentalphysik, Freie Universitaet Berlin, Berlin, Germany; 2. Experimental Systems and Research, SSRL, SLAC, 2575 Sand Hill Road, Menlo Park, CA, USA*

DV-02. Coverage-dependent magnetization of 3d transition-metal adatoms on Co(001) in the submonolayer regime. T. Carrillo-Cazares[1], *S. Meza-Aguilar*[1] and C. Demangeat[2] *1. Escuela de Ciencias Fisico-Matematicas, Culiacan, Sinaloa, Mexico; 2. GEMME, Institut de Physique et Chimie des Materiaux de Strasbourg, Strasbourg, France*

DV-03. In-situ Brillouin Scattering study of magnetic anisotropy in Fe/Gas(110) ultrathin films. *G. Carlotti*[1], G. Gubbiotti[2], M. Madami[3], G. Socino[3], A. Stollo[3] and S. Tacchi[3] *1. Dipartimento di Fisica, INFM-S3, Perugia, Italy; 2. Dipartimento di Fisica, INFM-Soft, Perugia, Italy; 3. Dipartimento di Fisica, INFM di Perugia, Perugia, Italy*

DV-04. Spin wave excitations in epitaxial ultrathin FeCo with zero magnetocrystalline anisotropy. *M. Sperl*[1], W. Kipferl[1], M. Dumm[1] and G. Bayreuther[1] *1. Institut fuer Experimentelle und Angewandte Physik, Universitaet Regensburg, Regensburg, Germany*

DV-05. Magnetic properties of ultrathin Co/Ge(111) film with oxygen surfactant. *H.W. Chang*[1], J. Tsay[2,3], Y. Chiou[3], K. Huang[1], W. Chan[1] and Y. Yao[1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Physics, National Chung Cheng University, Chia-Yi, Taiwan; 3. Physics, Tunghai University, Taichung, Taiwan*

DV-06. Preparation of epitaxial MgO tunnel barriers on FePt electrode layers. M. Hagiuda[1], *S. Mitani*[1] and K. Takanashi[1] *1. IMR Tohoku University, Sendai, Japan*

DV-07. Epitaxial growth and magnetic properties of γ'-Fe_4N films on Cu(100). D. Ecija[1], *J. Camarero*[1], J. Gallego[2], D. Boerma[1] and R. Miranda[1] *1. Fisica de la Materia Condensada, Universidad Autonoma de Madrid, Madrid, Spain; 2. Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain*

DV-08. MAGNETIZATION INDUCED SECOND-HARMONIC GENERATION IN EPITAXIAL MAGNETITE THIN FILMS Fe_3O_4/MgO(100). *A.A. Rzhevsky*[1,2], B.B. Krichevtsov[2], D. Rata[1], C.M. Schneider[1], C. Chang[3], R. Sutarto[3] and L.H. Tjeng[3] *1. Inst. f. Festkoerperforschung IFF 6, Research Centre Juelich, Juelich, Germany; 2. Ioffe Physico-Technical Institute of RAS, St. Petersburg, Russian Federation; 3. Physikalisches Institut II, Universitaet zu Koeln, Koeln, Germany*

DV-09. A FMR Study on Magnetic Anisotropy in Fe Ultrathin Films Grown on III-V Semiconductor Substrates. Z. Kou[1], C. Ni[1], *Y. Zhai*[1], Y. Xu[2], S. Lepadatu[3], J. Wu[3] and H. Zhai[4] *1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Electronics, The University of York, London, United Kingdom; 3. Department of Physics, The University of York, London, United Kingdom; 4. National Laboratory of Solid Microstructures,Center for Materials Analysis, Nanjing University, Nanjing, China*

DV-10. Local Oxidation Nanolithography of Ferromagnetic Thin Films Using Tapping Mode SPM. *Y. Shibata*[1], Y. Tomoda[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-11. Strong uniaxial anisotropies of iron grown on UHV cleaved InAs(110) investigated by correlated scanning tunnelling microscopy and ferromagnetic resonance. D. Spoddig[1], C. Urban[2], D. You[1], U. Koehler[2] and *R. Meckenstock*[1] *1. Ruhr-University Bochum, Experimental Physics III, Bochum, NRW, Germany; 2. Ruhr-University Bochum, Experimental Physics IV, Bochum, NRW, Germany*

DV-12. Effect of applied magnetic field on the electron transfer kinetics. *V. Desikan*[1], S. Mohanapriya[1] and V. Lakshminarayanan[1] *1. Liquid Crystal Department, Raman Research Institute, Bangalore, India*

TUESDAY EVENING 7:30 P.M. — REGENCY I & II

Session YA
SYMPOSIUM ON SEMICONDUCTOR SPINTRONICS: PHYSICS AND APPLICATIONS
Paul Crowell, Chair

7:30

YA-01. Current-Induced Polarization and the Spin Hall Effect in Semiconductors. *(Invited)* Y.K. Kato[1], V. Sih[1], R.C. Myers[1], A.C. Gossard[1] and *D. Awschalom*[1] *1. Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA, USA*

8:06

YA-02. Electrical control of domain wall motion in ferromagnetic semiconductors. *(Invited)* *H. Ohno*[1,2] *1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. ERATO Semiconductor Spintronics Project, JST, Sendai, Japan*

8:42

YA-03. Single-shot read-out, relaxation and decoherence of single spins in GaAs quantum dots. ***(Invited)*** *L. Vandersypen[1] 1. Kavli Institute of NanoScience, TU Delft, Delft, Netherlands*

9:18

YA-04. Spin-based quantum computing in quantum dots. ***(Invited)*** *D. Loss[1] 1. Physics, University of Basel, Basel, Switzerland*

WEDNESDAY MORNING 9:00 REGENCY I

Session EA
SYMPOSIUM ON BIOMAGNETIC APPLICATIONS
Axel Hoffmann, Chair

9:00

EA-01. Detecting and Manipulating Magnetic Nanoparticles. ***(Invited)*** *M. Tondra[1]*, A. Popple[1], N. Pekas[2] and M.D. Porter[2] *1. NVE Corporation, Eden Prairie, MN, USA; 2. Dept. of Chemistry, Iowa State Univ., Ames, IA, USA*

9:36

EA-02. Microfluidic High Gradient Magnetic Separation. ***(Invited)*** *D. Inglis[1]*, R. Riehn[2], J.C. Sturm[1] and R.H. Austin[2] *1. Electrical Engineering, Princeton University, Princeton, NJ, USA; 2. Physics, Princeton University, Princeton, NJ, USA*

10:12

EA-03. Biomolecular diagnostics by a 'magnetic lab-on-a-chip'. ***(Invited)*** *H. Brueckl[1]*, J. Schotter[1], R. Heer[1], M. Panhorst[2], M. Brzeska[2], P. Kamp[3] and A. Becker[3] *1. Division Nano-Systemtechnologies, ARC-sr, Vienna, Austria; 2. Dept. of Thin Films and Nanostructures, University of Bielefeld, Bielefeld, Germany; 3. Dept. of Genetics, University of Bielefeld, Bielefeld, Germany*

10:48

EA-04. LTS SQUID-Microscopy: A Leap in sensitivity?. ***(Invited)*** *F.J. Baudenbacher[1]*, L.E. Fong[1], J.R. Holzer[1], E.A. Lima[1] and K.K. McBride[1] *1. BioMedical Engineering, Vanderbilt University, Nashville, TN, USA*

WEDNESDAY MORNING 9:00 REGENCY II

Session EB
HALF METALLIC AND OXIDE BASED FERROMAGNETIC JUNCTIONS
Arunava Gupta, Chair

9:00

EB-01. Epitaxial Oxide Magnetic Tunnel Junctions with Paramagnetic Barriers. *B. Nelson-Cheeseman[1]*, L. Alldredge[2,1], R. Chopdekar[2,1] and Y. Suzuki[1] *1. Dept. of Materials Science and Engineering, University of California - Berkeley, Berkeley, CA, USA; 2. Applied Physics, Cornell University, Ithaca, NY, USA*

9:12

EB-02. Observation of a Magnetovoltage Effect in CrO2-based Magnetic Tunnel Junctions. *G. Miao[1,2]*, A. Gupta[1], W.H. Butler[1] and G. Xiao[2] *1. MINT center, University of Alabama, Tuscaloosa, AL, USA; 2. Physics Department, Brown University, Providence, RI, USA*

9:24

EB-03. Spitronics with Spinel Ferrites. U. Luders[4,3], *G. Herranz[1]*, A. Barthelemy[1], M. Bibes[2], J. Fontcuberta[3], J. Bobo[4], K. Bouzehouane[1], E. Jacquet[1], J. Contour[1] and A. Fert[1] *1. Unite Mixte CNRS-Thales, Palaiseau, France; 2. IEF, Bat220, Universite Paris-Sud, Orsay, France; 3. ICMAB, Campus de la UAB, Bellaterra, Spain; 4. LNMH, ONERA Toulouse, Toulouse, France*

9:36

EB-04. $Co_{1-x}Fe_xS_2$: A tunable source of highly spin polarized electrons. ***(Invited)*** L. Wang[1], K. Umemoto[1], R. Wentzcovitch[1], T. Chen[2], C. Chien[2], J. Checkelsky[3,4], J. Eckert[3,4], D. Dahlberg[4] and *C. Leighton[1] 1. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA; 2. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA; 3. Physics, Harvey Mudd College, Claremont, CA, USA; 4. Physics and Astronomy, University of Minnesota, Minneapolis, MN, USA*

10:12

EB-05. Large Room Temperature TMR Effect in Tunnel Junctions Based on Magnetite. *M. Opel[1]*, E. Menzel[1], S. Qureshi[1], D. Reisinger[1], A. Boger[1] and R. Gross[1] *1. Walther Meissner Institute, Bavarian Academy of Sciences, Garching, Germany*

10:24

EB-06. Large magnetoresistance in magnetic tunnel junctions using epitaxial Co_2MnSi Heusler alloy electrode. *Y. Sakuraba*[1], J. Nakata[1], M. Oogane[1], H. Kubota[2], A. Sakuma[1] and T. Miyazaki[1] *1. Department of Applied Physics, Tohoku university, Sendai, Japan; 2. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

10:36

EB-07. Investigation of CoFe2O4 as a Tunnel Barrier with Half Metallic Fe3O4 Electrodes. *M.G. Chapline*[1] and S.X. Wang[1] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA*

10:48

EB-08. Complex Oxide-Based Magnetic Tunnel Junctions with Magnetic and Nonmagnetic Insulating Barrier Layers. *L. Alldredge*[1,2], R.V. Chopdekar[1,2], B.B. Nelson-Cheeseman[2] and Y. Suzuki[2] *1. School of Applied Physics, Cornell University, Ithaca, NY, USA; 2. Dept. of Materials Science and Engineering, University of California, Berkeley, Berkeley, CA, USA*

11:00

EB-09. Resonant tunneling magnetoresistance with III-V barriers : the role of defects. *V. Garcia*[1], H. Jaffres[2], M. Eddrief[1], M. Marangolo[1], V.H. Etgens[1] and J. George[2] *1. Institut des NanoSciences de Paris (INSP), Paris, France; 2. Unite Mixte de Physique CNRS/THALES, Orsay, France*

11:12

EB-10. Spin Dependent Tunneling in FM/semiconductor/FM Structures. S. Vutukuri[1], *M. Chshiev*[1] and W.H. Butler[1] *1. MINT Center, University of Alabama, Tuscaloosa, AL, USA*

11:24

EB-11. Interfacial characteristics of a Fe_3O_4/Nb(0.05, 0.5%):$SrTiO_3$ oxides junction. *D. Kundaliya*[1], S.B. Ogale[1], L. Fu[2], S.J. Welz[2], S. Dhar[1], G. Langham[1], N.D. Browning[2] and T. Venkatesan[1] *1. Center for Superconductivity Research, University of Maryland, College park, MD, USA; 2. Lawrence Berkeley National Laboratory, NCEM, One Cyclotron Road, Berkeley, CA, USA*

11:36

EB-12. Spin polarization of tunneling current from ferromagnet/MgO tunnel junctions with a NbN superconducting detector. ***H. Yang***[1,2], S. Yang[1], C. Kaiser[1] and S. Parkin[2] *1. IBM Almaden Research Center, San Jose, CA, USA; 2. Stanford University, Stanford, CA, USA*

WEDNESDAY MORNING 9:00

CLUB REGENT

Session EC
RECORDING MODELING, SYSTEMS AND THEORY

Adam Torabi, Chair

9:00

EC-01. Requirements for Novel Sensor Devices. ***(Invited)*** *B. Gurney*[1], N. Smith[1], J. Lille[1] and J.R. Childress[1] *1. Hitachi Global Storage Technologies, San Jose, CA, USA*

9:36

EC-02. Micromagnetic Recording Model of Writer Geometry Effects at Skew. *M. Plumer*[2,1], S.P. Bozeman[1], J. van Ek[1] and R. Michel[1] *1. Seagate Technology, Bloomington, MN, USA; 2. Department of Physics and Oceanography, Memorial University of Newfoundland, St John's, NF, Canada*

9:48

EC-03. Effect of side shields on neighbor induced transition shift in perpendicular magnetic recording. *M. Kapoor*[1], S.G. Yoseph[1] and R.H. Victora[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

10:00

EC-04. Effects of Reader Response on Medium Noise Modes. *X. Wang*[1], X. Feng[1], Z. Jin[1] and J. Fernandez-de-Castro [1] *1. Seagate Technology, Bloomington, MN, USA*

10:12

EC-05. Magnetism of FeM, M= (Pt, Pd, Rh) Nano-Alloys: theory in the context of data storage applications. ***(Invited)*** *O.N. Mryasov*[1] *1. Seagate Research, Pittsburgh, PA, USA*

10:48

EC-06. Energy Surface Model for Exchange Coupled Magnetic Particles. *K. Gao*[1] and J. Fernandez-de-Castro[1] *1. Seagate Technology, Bloomington, MN, USA*

11:00

EC-07. A Quantitative Model of SNR as Function of Magnetic Spacing. *K. Zhang*[1] *1. Maxtor Corporation, Milpitas, CA, USA*

11:12

EC-08. Incomplete Switching of Media Magnetization in Perpendicular Magnetic Recording. *J. Xue*[1], Y. Zhou[1], L. Zhong[1] and J. Fernandez-de-Castro[1] *1. Seagate Technology, Bloomington, MN, USA*

11:24

EC-09. The Stoner-Wohlfarth energy threshold for anisotropic fluctuation fields. *E. Della Torre*[1,2], L.H. Bennett[1,2], R. deWit[2] and R.E. Watson[3] *1. ECE, George Washington University, Ashburn, MD, USA; 2. NIST, Gaithersburg, MD, USA; 3. Physics, Brookhaven National Laboratory, Upton, NY, USA*

11:36

EC-10. Optimal detection for perpendicular recording channels with transition noise. *X. Zhang*[1] and R. Negi[1] *1. ECE, Carnegie Mellon University, Pittsburgh, PA, USA*

11:48

EC-11. Sector-based timing recovery for high media noise perpendicular recording. *Y. Lin*[1], X. Zou[1] and W. Ye[1] *1. Mechatronics & Recording Channel Division, Data Storage Institute, Singapore, Singapore*

WEDNESDAY MORNING 9:00 **CRYSTAL**

Session ED
MAGNETIC TUNNELING JUNCTION BASED DEVICES

Paulo Freitas, Chair

9:00

ED-01. Extremely low resistance-area product below 1 $\Omega\cdot\mu m^2$ in fully epitaxial magnetic tunnel junctions with ultrathin MgO(001) tunnel barrier. *S. Yuasa*[1,2], A. Fukushima[1], H. Kubota[1], T. Nagahama[1], Y. Suzuki[1,3] and K. Ando[1] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. PRESTO, Japan Science and Technology Agency (JST), Kawaguchi, Saitama, Japan; 3. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan*

9:12

ED-02. Key Technology Ingredients for Obtaining High Write Yields in MRAMs. *G. Lee*[1], U. Klostermann[1], R. Leuschner[1], C. Park[1], I. Kasko[1] and P. Blanchard[2] *1. MP TI NMP MRAM, Infineon Technologies, Corbeil Essonnes, France; 2. MRAM JDP, Altis Semiconductor, Corbeil Essonnes, France*

9:24

ED-03. Influence of reference layer stability on the switching performance of sub-micron sized magnetic tunnel junctions. *U. Klostermann*[1], F. Dahmani[2], C. Park[1], W. Raberg[1] and M. Ruehrig[3] *1. MP TI NMP MRAM, Infineon Technologies, Corbeil Essonnes, France; 2. MRAM JDP, Altis Semiconductor, Corbeil Essonnes, France; 3. Siemens AG, Erlangen, Germany*

9:36

ED-04. In-situ transport in alumina based magnetic tunnel junctions during UHV annealing. *A.T. Hindmarch*[1], G. Anderson[1], C.H. Marrows[1] and B.J. Hickey[1] *1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom*

9:48

ED-05. MgO-based Tunnel Junction Material for High-Speed Toggle MRAM. *R.W. Dave*[1], G. Steiner[1], J.M. Slaughter[1], J.J. Sun[1], B. Craigo[1], S. Pietambaram[1], K. Smith[1], G. Grynkewich[1], M. DeHerrera[1], J. Akerman[1] and S. Tehrani[1] *1. Freescale Semiconductor, Inc., Chandler, AZ, USA*

10:00

ED-06. Interlayer Exchange Coupling Dependence of Thermal Stability Parameters in Synthetic Antiferromagnetic Free Layers. *Y. Saito*[1,3], H. Sugiyama[1,3], T. Inokuchi[1,3] and K. Inomata[2,3] *1. Corporate R & D Center, Toshiba Corporation, Kawasaki, Japan; 2. Department of Material Science, Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. CREST, JST, Kawaguchi, Saitama, Japan*

10:12

ED-07. Soft magnetic layers for low-field detection with magnetic-tunnel-junction sensors. ***(Invited)*** *W.F. Egelhoff*[1], R.D. McMichael[1], M.D. Stiles[1], F. Johnson[1], A.J. Shapiro[1], C.L. Dennis[1], B.B. Maranville[1] and C.J. Powell[1] *1. NIST, Gaithersburg, MD, USA*

10:48

ED-08. Improvement of Writing Margin in MRAM through Controlling Magnetic Mass and Shape. *K. Nam*[1], S. Oh[1], J. Lee[1], H. Kim[1], J. Jeong[1], S. Park[1], H. Kim[1], U. Chung[1] and J. Moon[1] *1. Process Development Team, Samsung Electronics, Yongin-City, South Korea*

11:00

ED-09. Reduction of write currents by use of parallel coupling for 45 nm node MRAM. *D.W. Abraham*[1] and D. Worledge[1] *1. IBM TJ Watson Research Center, Yorktown Heights, NY, USA*

11:12

ED-10. Conceptual Material Design for MTJ Cap Layer for High MR Ratio. *M. Nagamine*[1], T. Nagase[1], K. Nishiyama[1], M. Yoshikawa[1], M. Amano[1], Y. Asao[1], S. Ikegawa[1], H. Yoda[1], H. Honjou[2], K. Mori[2], N. Ishiwata[2] and S. Tahara[2] *1. c/o MRAM TG, System Devices Research Laboratories, NEC Corporation, Toshiba Corporation, Sagamihara, Kanagawa, Japan; 2. MRAM TG, System Devices Research Laboratories, NEC Corporation, Sagamihara, Kanagawa, Japan*

11:24

ED-11. Tuning of MgO Barrier Magnetic Tunnel Junctions Bias Current for Pico-Tesla Magnetic Field Detection. *R. Ferreira*[1,2], P.P. Freitas[1,2], J. Langer[3], B. Ocker [3] and W. Maass[3] *1. Microsystems and Nanotechnology, Instituto de Engenharia de Sistemas Computacionais (INESC-MN), Lisboa, Portugal; 2. Physics Department, Instituto Superior Tecnico, Lisboa, Portugal; 3. Singulus Technologies AG, Kahl/Main, Germany*

11:36

ED-12. Polarity dependence of breakdown characteristics in magnetic tunnel junctions. *K. Kim*[1], Y. Jang[1], C. Nam[1], K. Lee[1] and B. Cho[1] *1. Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea*

WEDNESDAY MORNING 9:00 **GOLD**

Session EE
MAGNETO-CALORIC MATERIALS
Ekkes Brueck, Chair

9:00

EE-01. The magneto-thermal behavior of mixed valent Eu3O4. *K. Ahn*[1,2], A. Tsokol[1], V. Pecharsky[1,2] and K. Gschneidner, Jr.[1,2] *1. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA, USA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA*

9:12

EE-02. Amorphous FeCoCrZrB ferromagnets for use as high temperature magnetic refrigerants. *F. Johnson*[1] and R.D. Shull[1] *1. Magnetism Group, Metallurgy Div., Materials Science & Engineering Lab., National Institute of Standards and Technology, Gaithersburg, MD, USA*

9:24

EE-03. Ferromagnetic rare earth mononitirides - a new type material of magnetic refrigerant and regenerator -. *T. Nakagawa*[1], K. Sako[1], T. Arakawa[1], N. Tomioka[1], S. Nishio[1], T.A. Yamamoto[1], T. Kusunose[2], K. Niihara[3], K. Kamiya[4] and T. Numazawa[4] *1. Graduate School of Engineering, Osaka University, Suita, Japan; 2. Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Japan; 3. Extreme Energy-Density Research Institute, Nagaoka University of Technology, nagaoka, Japan; 4. Tsukuba Magnet Laboratory, National Institute for Materials Science, Tsukuba, Japan*

9:36

EE-04. Magnetic entropy change in melt-spun MnFePGe. ***(Invited)*** A. Yan[1], K. Mueller[1], L. Schultz[1] and *O. Gutfleisch*[1] *1. IFW Dresden, Dresden, Germany*

10:12

EE-05. The Effects of Small Metal Additions (Co, Cu, Ga, Mn, Al, Bi, Sn) on the Magnetocaloric Properties of the $Gd_5Ge_2Si_2$ Alloy. *R.D. Shull*[1], V. Provenzano[1], A.J. Shapiro[1], A. Fu[1], G. Kletetschka[2,3] and V. Mikula[2,4] *1. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. Dept. of Physics, Catholic University of America, Washington, DC, USA; 3. Goddard Space Flight Center, NASA, Code 691, Greenbelt, MD, USA; 4. Geological Institute, Academy of Science, Prague, Czech Republic*

10:24

EE-06. Thermodynamic Aspects of Magnetic-Field-Driven Phase Transformations in Gd-Si-Ge Alloys. *V. Basso*[1], M. LoBue[1], C.P. Sasso[1] and G. Bertotti[1] *1. IEN Galileo Ferraris, Torino, Italy*

10:36

EE-07. Influence of Partial Substitution of Ce on the Curie Temperature and Magnetic Entropy Change in Itinerant-Electron Metamagnetic $La(Fe_xSi_{1-x})_{13}$ Compounds. *A. Fujita*[1], S. Fujieda[1] and K. Fukamichi[2] *1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi, Japan*

10:48

EE-08. Improvement of refrigerant capacity of $La_{0.67}Ca_{0.33}MnO_3$ single crystal with a few percent Fe doping. Z. Kou[1], X. Ma[1], N. Di[1], Q. Li[1] and *Z. Cheng[1]1. State Key Laboratory of Magnetism, Insitute of Physics, Chinese Academy of Sciences, Beijing 100080, China*

11:00

EE-09. Giant Magnetocaloric effect (MCE) in Clathrates. S. Srinath[1], D. Rebar[1], J. Gass[1], G. Woods[1], *S. Hariharan*[1], M. Beekman[2] and G. Nolas[2]*1. Materials Physics Lab, Physics Department, University of South Florida, Tampa, FL, USA; 2. Novel Materials Lab, Physics Department, University of South Florida, Tampa, FL, USA*

11:12

EE-10. Structure and Magnetocaloric Properties of the Fe-Doped HoTiGe Alloy. *V. Provenzano*[1], B. Baumgold[1], R.D. Shull[1], A.J. Shapiro[1], K. Koyama[2], K. Watanabe[2], N.K. Singh[3], K.J. Suresh[3], A.K. Nigam[4] and S.K. Malik[4]*1. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Department of Physics, Indian Institute of Technology, Bombay, Mumbai, India; 4. Tata Institute of Fundamental Research, Bombay, Mumbai, India*

11:24

EE-11. Correlation between magnetism and magnetocaloric effect in the intermetallic compound DyNiAl. *N.K. Singh*[1], K.G. Suresh[1], R. Nirmala[2], A.K. Nigam[2] and S.K. Malik[2]*1. Physics, I.I.T. Bombay, Mumbai, Maharastra, India; 2. Tata Institute of Fundamental Research, Mumbai, Maharastra, India*

11:36

EE-12. Magnetic properties of DyNi3FeGa. *D.A. Joshi*[1], C.V. Tomy[1], D.S. Rana[2], R. Nagarajan[2] and S.K. Malik[2]*1. Physics, IIT Bombay, Mumbai, Maharastra, India; 2. CMP&MS, TIFR Bombay, Mumbai, Maharastra, India*

11:48

EE-13. Magneto-structural transition and adiabatic temperature variation in poly- and single-crystal Ni_2MnGa alloys. *C.P. Sasso*[1], M. Pasquale[1], L. Giudici[1], S. Besseghini[2], E. Villa[2], L.H. Lewis[3], T.A. Lograsso[4] and D.L. Schlegel[4]*1. Materials, IEN Galileo Ferraris, Torino, Italy; 2. CNR-IENI, Lecco, Italy; 3. Materials Science, Brookhaven National Laboratory, Upton, NY, USA; 4. Materials and Engineering Physics, Ames Laboratory, Ames, IA, USA*

WEDNESDAY MORNING 9:00

ATHERTON

Session EF
OXIDE MAGNETIC SEMICONDUCTORS I

Tim Droubay, Chair

9:00

EF-01. Magnetoresistance of Co-doped ZnO thin films. *P. Stamenov*[1], M. Venkatesan[1], L.S. Dorneles[1] and J. Coey[1]*1. Physics Department and CRANN, Trinity College, Dublin 2, Ireland*

9:12

EF-02. The electronic structure of Co-doped ZnO probed through x-ray absorption and resonant x-ray emission spectroscopy. *S. Krishnamurthy*[1], C. McGuinness[1], J. Coey[1], L.S. Dorneles[1], M. Venkatesan[1], J.G. Lunney[1], C. Patterson[1], K.E. Smith[2], T. Learmonth[2], P.-. Glans[2] and T. Schmitt[3]*1. Department of Physics, Trinity College Dublin, Dublin, Ireland; 2. Department of Physics, Boston University, Boston, MA, USA; 3. Max-Lab National Laboratory, Lund University, Lund, Sweden*

9:24

EF-03. Magnetism in doped oxides: Cr:TiO2 and Cu:ZnO. *L. Ye*[1] and A.J. Freeman[1]*1. Department of Physics and Astronomy, Northwestern University, Evanston, IL, USA*

9:36

EF-04. Room temperature ferromagnetic semiconductor-ZnO:Cu from experiment and theory. *L. Huang*[1], A. Gupta[2], A.L. Rosa[1], K.V. Rao[2] and R. Ahuja[1,2]*1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. Department of Materials Science, Royal Institute of Technology, Stockholm, Sweden*

9:48

EF-05. Oxide-based dilute ferromagnetic semiconductors. *A.K. Pradhan*[1], D. Hunter[1], B.A. Lasley-Hunter[1], K. Zhang[1], J.B. Dadson[1], T.M. Williams[1], K. Lord[1], R.R. Rakhimov[1], J. Zhang[2] and D.J. Sellmyer[2]*1. Ceneter for Materials research, Norfolk State University, Norfolk, VA, USA; 2. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

10:00

EF-06. Direct Measurements of Spin Polarization of the Magnetic Semiconductor EuO. *R.P. Panguluri*[1], V. Vaithyanathan[2,3], D.G. Schlom[2,3] and B. Nadgorny[1] *1. Department of Physics and Astronomy, Wayne State University, Detroit, MI, USA; 2. Department of Materials Science and Engineering, Penn State University, University Park, PA, USA; 3. Center for Oxide-Semiconductor Materials for Quantum Computation (COSMQC), University of Pittsburgh, Pittsburgh, PA, USA*

10:12

EF-07. Detailed investigation of Cr-doped anatase TiO_2 as a potential DMS. *T. Kaspar*[1], T. Droubay[1], S.M. Heald[1], V. Shutthanandan[1], C.M. Wang[1], D.E. McCready[1], J.E. Jaffe[1] and S.A. Chambers[1] *1. Pacific Northwest National Laboratory, Richland, WA, USA*

10:24

EF-08. Atomic-scale studies of cobalt distribution in Co-TiO_2 anatase thin films: Processing, microstructure and the origin of ferromagnetism. *K.A. Griffin*[1], M. Varela[2], S.J. Pennycook[2] and K.M. Krishnan[1] *1. Department of Materials Science & Engineering, University of Washington, Seattle, WA, USA; 2. Solid State Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA*

10:36

EF-09. Carrier induced ferromagnetism in Nb doped Co:TiO_2 and Fe:TiO_2 epitaxitial thin film. *T. Hitosugi*[1,2], G. Kinoda[2], Y. Yamamoto[2], Y. Furubayashi[2], K. Inaba[2,3], Y. Hirose[2], T. Shimada[1,2] and T. Hasegawa[1,2] *1. Dept. of Chemistry, University of Tokyo, Bunkyo, Tokyo, Japan; 2. KAST, Kawasaki, Japan; 3. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan*

10:48

EF-10. Magnetic tunnel junction with ferromagnetic semiconductor rutile $Ti_{1-x}Co_xO_{2-\delta}$ as spin injection electrode. *H. Toyosaki*[1], T. Fukumura[1], K. Ueno[1], M. Nakano[1] and M. Kawasaki[1,2] *1. institute for materials research, Tohoku university, Sendai, Miyagi, Japan; 2. Combinatorial Materials Exploration and Technology, Tsukuba, Japan*

11:00

EF-11. Magnetism and carrier transport in cobalt-doped TiO_2 magnetic semiconductor. *R. Ramaneti*[1], J.C. Lodder[1] and R. Jansen[1] *1. Systems and Materials for Information Storage, Faculty of Electrical Engineering, Mathematics and Computer Science., MESA+ Institute for Nanotechnology, University of Twente, Enschede, Overijssel, Netherlands*

11:12

EF-12. Possible polaron manifestation in cobalt XAS of cobalt-doped TiO_2. *A. Lussier*[1], E. Neguse[1], J. Holroyd[1], J. Dvorak[1], Y. Idzerda[1], E. Arenholz[2], S. Shinde[3], S. Ogale[3] and T. Venkatesan[3] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Ctr for Superconductivity Res., Dept. of Physics, U. of Maryland, College Park, MD, USA*

11:24

EF-13. Suitable impurity-pair doped TiO_2 rutile for fabricating spintronic devices. *M. Palanichamy*[1], R.V. Belosludov[1], H. Mizuseki[1], T. Nishimatsu[1], T. Fukumura[1], M. Kawasaki[1] and Y. Kawazoe[1] *1. Institute for Materials Research, Sendai, Japan*

11:36

EF-14. The structure and magnetic properties of pure and Gd-doped HfO_2 thin films. *W. Wang*[1], Y. Hong[1], M. Yu[2], B. Rout[3], G. Glass[3] and J. Tang[1] *1. Department of Physics, University of New Orleans, New Orleans, LA, USA; 2. Advance Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 3. Louisiana Accelerator Center, PO Box 42410, University of Louisiana at Lafayette,, Lafayette, LA, USA*

11:48

EF-15. Orbital ferromagnetism in V-doped SnO_2 thin films. *J. Zhang*[1,3], R. Skomski[1,3], B. Jones[1,3], J. Zhou[1,3], L. Yue[1,3], X. Li[3], J. Shi[2,3], Y. Lu[2,3] and D.J. Sellmyer[1,3] *1. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE, USA; 2. Department of Electrical Engineering, University of Nebraska, Lincoln, NE, USA; 3. Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

WEDNESDAY MORNING 9:00 SACRAMENTO

Session EG
SOFT FILMS AND CRYSTALLINE MATERIALS
Kiyonori Suzuki, Chair

9:00

EG-01. Interfacial and annealing effects on magnetic properties of CoFeB thin film. *Y. Wang*[1], W. Chen[1], S. Yang[1], K. Shen[1], M. Kao[1] and M. Tsai[1] *1. Electronics Research and Service Organization (ERSO), Industrial Technology Research Institute (ITRI), Hsinchu, Taiwan*

9:12

EG-02. Spin-reorientation transition in glassy Co-Fe-Ta-B thin films. *P. Sharma*[1], H. Kimura[2], A. Inoue[2], E. Arenholz[3] and J. Guo[3] *1., Japan Science and Technology Agency, Sendai 980-8577, Japan; 2. Institute for Materials Research, Tohoku University, Sendai 980-8577, Japan; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley 94720, CA, USA*

9:24

EG-03. Structure, ferromagnetic resonance and permeability of nanogranular CoFeBNi films. *M. Pasquale*[1], F. Celegato[1], A. Magni[1], S. Perero[1], P. Kabos[3], V. Teppati[2], S. Han[5], J. Kim[6] and S. Lim[4] *1. Materials, IENGF, Torino, Italy; 2. DELEN, Politecnico di Torino, Torino, Italy; 3. Electromagnetic Division, NIST, Boulder, CO, USA; 4. Materials Science and Engineering, Korea University, Seoul, South Korea; 5. Nano Device Research Center, KIST, Seoul, South Korea; 6. Department of Materials Science and Engineering, Hanyang University, Seoul, South Korea*

9:36

EG-04. Characterization of high frequency behaviours in Fe-Co-B-Ni thin soft magnetic films grown by an oblique deposition method. *I. Kim*[1] and J. Kim[2] *1. Mobile-RF, Samsung Electro-Mechanics, Suwon, South Korea; 2. Material Science Eng., Hanyang University, Ansan, Gyunggi-do, South Korea*

9:48

EG-05. Effect of Aging on Microstructure of FeCo Alloys. *Z. Turgut*[1], M. Huang[1], J.C. Horwath[2], R.T. Fingers[2], Y. Peng[3] and D.E. Laughlin[3] *1. UES Inc., Dayton, OH, USA; 2. AFRL, Wright-Patterson AFB, OH, USA; 3. Department of MSE, Carnegie Mellon University, Pittsburgh, PA, USA*

10:00

EG-06. Electroplated CoFe Thin Films for Electromagnetic Microactuators. *M. Bedenbecker*[1] and H.H. Gatzen[1] *1. Institute for Microtechnology, Hanover University, Garbsen, Germany*

10:12

EG-07. Granular soft magnetic material CoFeHfO developed by high deposition-rate pulsed reactive sputtering for system-in-package applications. *L. Li*[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*

10:24

EG-08. Mn-Ir/Fe-Si exchange-coupled multilayer film with plural FMR absorptions for wideband noise filter. *M. Sonehara*[1], T. Ishikawa[1], T. Sugiyama[1], T. Sato[1], K. Yamasawa[1] and Y. Miura[1] *1. Department of Electrical and Electronic Engineering, Faculty of Engineering, Shinshu University, Nagano-shi, Nagano-ken, Japan*

10:36

EG-09. Influence of Aluminum Substitution on the Magnetic Couplings in R-T Alloys $Ho_6(Fe_{1-x}Al_x)_{23}$. J. Ostorero[1] and *M. Guillot*[2] *1. UPR 209, CNRS, Thiais, France; 2. LCMI, CNRS, Grenoble, France*

10:48

EG-10. Micro-fluxgate sensor with amorphous cobalt (Co-Nb-Zr) soft magnetic core for electronic compass. *K. Na*[1], J. Yuan[1], J. Ji[1] and S. Choi[2] *1. Nano Fabrication Center, Samsung Advanced Institute of Technology, Suwon, South Korea; 2. MEMS Lab., Samsung Advanced Institute of Technology, Suwon, South Korea*

11:00

EG-11. Thickness Dependence of the Microstructure and In-plane Magnetic Anisotropy of Sputtered $Fe_{50}Ni_{50}$ Films. *Q. Zeng*[1], I. Baker[1], Y. Sun[1], J. Cui[1] and C.P. Daghlian[2] *1. Thayer School of Engineering, Dartmouth College, Hanover, NH, USA; 2. Rippel Electron Microscopy Facility, Dartmouth College, Hanover, NH, USA*

11:12

EG-12. Magnetic anisotropy and crystal structure of CoP films synthesized from the electrodeposition from alkaline electrolytes. *X. Xu*[1] and G. Zangari[2] *1. Chemical Engineering, Univ. Virginia, Charlottesville, VA, USA; 2. Materials Science and Engineering, Univ. Virginia, Charlottesville, VA, USA*

11:24

EG-13. Lattice, magnetic property and Electronic Structure Studies on Pd-based Alloys. *Q. Li*[1,2], D. Greig[2], J.A. Matthew[3], T. Shen[4] and G. Beamson[5] *1. Department of Physics, Southeast University, Nanjing, China; 2. Physics and Astronomy, Leeds University, Leeds, United Kingdom; 3. Physics, York University, York, United Kingdom; 4. Physics, Salford University, Salford, United Kingdom; 5. CLRC, Daresbury Laboratory, Warrington, United Kingdom*

11:36

EG-14. A-parameter for the texture characterization of non conventional high Si non-oriented electrical steel. *J. Barros*[1], O. Leon-Garcia[1], T. Ros-Yanez[1], L. Kestens[1,2] and Y. Houbaert[1] *1. Laboratory for Materials Physics, Dept. of Metallurgy and Materials Science, Gent University, Gent, Belgium; 2. Dept. of Materials Science Engineering, Delf University of Technology, Delft, Netherlands*

WEDNESDAY MORNING 9:00 — PIEDMONT

Session EH
MAGNETIZATION DYNAMICS II
David Awschalom, Chair

9:00

EH-01. Dynamics of magnetostatically coupled vortices in tri-layer magnetic dots. *K. Guslienko*[1], K. Buchanan[1], V. Novosad[1] and S.D. Bader[1] *1. Materials Science Division and Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL, USA*

9:12

EH-02. Laser induced ultrafast spin dynamics in epitaxial Co/Mn exchange coupled bilayers. *F. Dalla Longa*[1,2], J.T. Kohlhepp[1,2] and B. Koopmans[1,2] *1. Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands; 2. Center for NanoMaterials, Eindhoven University of Technology, Eindhoven, Netherlands*

9:24

EH-03. Two magnon scattering and spinpumping studies in magnetic bilayer Fe/Au,Pd/Fe(001) structures using network analyzer measurements. *O. Mosendz*[1], B. Kardasz[1] and B. Heinrich[1] *1. Physics, Simon Fraser University, Burnaby, BC, Canada*

9:36

EH-04. INVESTIGATION OF PUMPED SPIN CURRENTS BY DUAL-FREQUENCY FERROMAGNETIC RESONANCE. *Y. Guan*[1] and W. Bailey[2,1] *1. Applied Physics, Columbia University, New York, NY, USA; 2. Materials Science, Columbia Unversity, New York, NY, USA*

9:48

EH-05. Ultraslow femtosecond relaxation observed for high excitation power. M. Djordjevic[1], G. Eilers[1], M. Luettich[1], *M. Muenzenberg*[1] and J.S. Moodera[2] *1. IV. Phys. Institute, Goettingen University, Goettingen, Germany; 2. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA, USA*

10:00

EH-06. Study of diffraction patterns of magnetostatic mode surface waves by taking the Green's function approach. *S. Tamaru*[1], J.A. Bain[1] and M.H. Kryder[2] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Seagate Research, Pittsburgh, PA, USA*

10:12

EH-07. Dispersion relation of traveling spin waves in a long-strip magnetic waveguide. *S. Choi*[1], K. Lee[1] and S. Kim[1] *1. Nanospintronics Laboratory, School of Materials Science and Engineering, Seoul National University, Seoul, South Korea*

10:24

EH-08. Dynamic field enhancement in a time-resolved experiment. *A. Dobin*[1], E. Girt[1] and G. Ju[1] *1. Seagate Technology, Fremont, CA, USA*

10:36

EH-09. Large angle magnetization generated dynamics generated by time-resolved ferromagnetic resonance. *T. Gerrits*[1], M.L. Schneider[1], A.B. Kos[1] and T.J. Silva[1] *1. Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO, USA*

10:48

EH-10. The Cloning of Magnetostatic Wave Pulses by Parametric Pumping. *K.R. Smith*[1], V.I. Vasyuchka[2], M. Wu[1], G.A. Melkov[2] and C.E. Patton[1] *1. Department of Physics, Colorado State University, Fort Collins, CO, USA; 2. Faculty of Radiophysics, National Taras Shevchenko University of Kiev, Kiev, Ukraine*

11:00

EH-11. Nonthermal optical control of magnetization on a femtosecond timescale. ***F. Hansteen***[1,2], A.V. Kimel[1], A. Kirilyuk[1] and T. Rasing[1] *1. IMM, Radboud University Nijmegen, Nijmegen, Netherlands; 2. The Norwegian University of Science and Technology, Trondheim, Norway*

11:12

EH-12. Fast resonant switching of magnetic vortex cores. *B. Van Waeyenberge*[1], H. Stoll[2], A. Puzic[2], K. Chou[2], M. Almokhtar[2], T. Tyliszczak[3], K. Rott[4], H. Brueckl[6], G. Reiss[4], I. Neudecker[5], D. Weiss[5], C.H. Back[5] and G. Schuetz[2]*1. Department of Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 2. Max Planck Institute for Metals Research, Stuttgart, Germany; 3. Chemical Science Division, LBNL, Berkeley, CA, USA; 4. Faculty of Physics, Bielefeld University, Bielefeld, Germany; 5. Institute for Experimental and Applied Physics, Regensburg University, Regensburg, Germany; 6. ARCS, Nano System Technology, Tech Gate, Vienna, Austria*

11:24

EH-13. Coherent spin waves in epitaxial Fe films on GaAs (001). *H. Zhao*[1], D. Talbayev[1], G. Luepke[1], A.T. Hanbicki[2], C.H. Li[2], O.M. van't Erve[2], G. Kioseoglou[2] and B.T. Jonker[2]*1. Applied Science, College of William and Mary, Williamsburg, VA, USA; 2. Naval Research Laboratory, Washington, DC, USA*

11:36

EH-14. Gyromagnetic damping and the role of magnetostatic spin-waves in pulsed inductive microwave magnetometry. *M. Schneider*[1], T. Gerrits[1], A.B. Kos[1] and T.J. Silva[1]*1. NIST, Boulder, CO, USA*

11:48

EH-15. Gilbert Damping Constants in Ni-Co, Ni-Fe and Half-metallic Heusler Alloy Thin Films. *M. Oogane*[1], T. Wakitani[1], S. Yakata[1], R. Yilgin[1], Y. Ando[1], A. Sakuma[1] and T. Miyazaki[1]*1. Tohoku University, Sendai, Japan*

WEDNESDAY MORNING 8:00 — IMPERIAL

Session EP
SUPERCONDUCTIVITY I (POSTER SESSION)
John Wei, Chair

EP-01. Transport, thermal and magnetic properties of $RuSr_2(Gd_{1.5}Ce_{0.5})Cu_2O_{10-\delta}$, a magnetic superconductor. *D.G. Naugle*[1], D.D. Rathnayaka[1], V.B. Krasovitsky[2], B.I. Belevtsev[2], M.P. Anatska[1], G. Agnolet[1] and I. Felner[3]*1. Department of Physics, Texas A&M University, College Station, TX, USA; 2. B.Verkin Institute for Low Temperature Physics and Engineering, Kharkov, Ukraine; 3. Racah Institute of Physics, The Hebrew University, Jerusalem, Israel*

EP-02. Nanoscale spatial non-homogeneity of 3D Δ_π in $Mg_{1-x}Al_xB_2$ single crystals. F. Giubileo[1,2], F. Bobba[2,1], D. Roditchev[3], *A. Cucolo*[2,1], N. Zhigadlo[4], S.M. Kazakov[4] and J. Karpinski[4]*1. INFM SUPERMAT LAB, CNR at University of Salerno, Baronissi (SA), Italy; 2. Physics Department, University of Salerno, Baronissi (SA), Italy; 3. Institut des Nanosciences de Paris, University of Paris 6 et 7, Paris, France; 4. Solis State Physics Laboratory, ETH Zurich, Zurich, Switzerland*

EP-03. Magnetoresistance in La and Ca doped $YBa_2Cu_3O_{7-d}$. B. Qian[1,2], X. Wu[1,2], J. Xing[1,2], J. Gao[3] and *S. Jiang*[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, 215500, China; 3. Department of Physics, The University of Hong Kong, Hong Kong, China*

EP-04. Characterization of surface and interface structure of $YBa_2Cu_3O_{7-\delta}$-based trilayer with $La_{0.67}Ca_{0.33}MnO_3$ spacer. W. Tan[1,2], H. Cai[1], J. Liu[1], X. Wu[1], *S. Jiang*[1], Z. Wu[3], Q. Jia[3] and J. Gao[4]*1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Applied Physics, Nanjing University of Science and Technology, Nanjing, 210094, Jiangsu, China; 3. Institute of High Energy Physics, Chinese Academy of Science, Beijing, 100039, China; 4. Department of Physics, The University of Hong Kong, Hong Kong, China*

EP-05. Uniform films of MgB_2 superconductor prepared by EBE and in-situ. Y. Zhang[1], H. Zhu[1], S. Zhou[1], *S. Ding*[2,3] and X. Wang[3]*1. Department of Physics, Shanghai University, Shanghai, China; 2. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 3. Institutes for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia*

EP-06. The ac effect of vortex pinning in the arrays of defect sites on Nb films. T. Wu[1], *L. Horng*[2], J. Wu[2], C. Hsiao [2], J. Koláček[3] and T. Yang[2]*1. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan; 2. Taiwan SPIN Research Center and Department of Physics, National Changhua University of Education, Changhua, Taiwan; 3. Institute of Physics ASCR, Cukrovarnicka 10, 162 53 Praha 6, Czech Republic*

EP-07. Analysis of diffusive interface resistance with perpendicular current in Fe/Nb multilayers. *S. Huang*[1,2], S. Lee[1], C. Yu[3], S. Hsu[2] and Y. Yao[1]*1. Institute of physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Electrophysics, National Chiao-Tung University, Taipei, Taiwan; 3. Institute of Physics, National Chung Cheng University, Taipei, Taiwan*

EP-08. Effect of doping level and annealing temperature on Jc(H) performance in nano-SiC doped MgB2 wires. O. Shcherbakova[1], S. Soltanian[1], *M. Qin*[1], S.X. Dou[1], M. Bhatia[2] and E.W. Collings[2]*1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. LASM, Materials Science and Engineering Department, Ohio State University, Columbus, OH, USA*

EP-09. Transport properties of the multilayered MgB2/Mg2Si superconducting thin film. Y. Zhao[1], *M. Qin*[1], S. Dou[1], M. Ionescu[2] and P. Munroe[3] *1. ISEM, University of Wollongong, Wollongong, NSW, Australia; 2. Australian Nuclear Science and Technology Organization (ANSTO), Menai, NSW, Australia; 3. E.M. Unit, University of New South Wales, Sydney, NSW, Australia*

EP-10. Quantum Effects in Small-Capacitance High Temperature Superconducting Tunneling Junctions. G.A. Alvarez[1,2], I. Iguchi[2], *X.L. Wang*[1], S.X. Dou[1] and C. Cook[3] *1. Spintronic and Electronic Materials Group, ISEM, University of Wollongong, Wollongong, NSW, Australia; 2. Applied Physics, Tokyo Institute of Technology, Tokyo, Japan; 3. Engineering, University of Wollongong, Wollongong, NSW, Australia*

EP-11. Impact of Co and Mo substitution at Ru site in RuSr2Eu1.5Ce0.5Cu2O10. *V.P. Awana*[1], H. Kishan[1] and A.V. Narlikar [2] *1. Superconductivity, NPL, New Delhi, India; 2. Department of Physics, IUC for DAE, Indore, India*

EP-12. Three-dimensional vortex structure in *d*-superconductors. *P. Bessarab*[1] and A. Radievsky[2] *1. physics department, Immanuel Kant Russian State University, Kaliningrad, Russian Federation; 2. Western Department, IZMIRAN, Kaliningrad, Russian Federation*

WEDNESDAY MORNING 8:00 IMPERIAL

Session EQ
MAGNETO-OPTICAL AND MAGNETO-ELASTIC MATERIALS (POSTER SESSION)

David Lederman, Chair

EQ-01. Development of LPE–grown (Bi, Gd, Lu)–substituted thin film garnets. *I. Nistor*[1], C. Holthaus[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*

EQ-02. Magneto-optical properties of wider gap II-VI DMS ZnMnTe and ZnMnCoTe films. *M. Imamura*[1] and A. Okada[2] *1. Electrical Engineering, Fukuoka Institute of Technology, Fukuoka, Japan; 2. Advanced Technology R&D Center, Mitsubishi Electric Corporation, Amagasaki, Japan*

EQ-03. Magneto-Optical Properties of Three-Dimensional Magnetophoptonic Crystals. *A. Khanikaev*[1], M. Inoue[1,2], H. Uchida[1] and A. Granovsky[3] *1. Toyohashi University of Technology, Toyohashi, Aichi, Japan; 2. CREST, Japan Science and Technology Corporation, 113-0033 Japan, Tokyo, Aichi, Japan; 3. Magnetism, Faculty of Physics, Lomonosov Moscow State University, Leninski Gory 119992, Moscow, Japan*

EQ-04. Sites occupancy of Al3+ and Cr3+ in co-substituted Y3Fe5O12 garnets. K. Bouziane[1], *A.A. Yousif*[1], H.M. Widatallah[1], A.D. Al Rawas[1], A. Gismlseed[1] and J. Amighian[2] *1. Physics, Sultan Qaboos University, Muscat, Oman; 2. Physics, University of Isfahan, Isfahan, Iran*

EQ-05. Three-dimensional photonic crystals: Faraday rotation and transmissivity. *A. Baryshev*[1,2], R. Fujikawa[1], K. Nishimura[1], H. Uchida[1] and M. Inoue[1,3] *1. Toyohashi University of Technology, Toyohashi, Japan; 2. Ioffe Physico-Technical Institute, Saint-Petersburg, Russian Federation; 3. CREST, Japan Science and Technology Corporation, Tokyo, Japan*

EQ-06. Anomalous domain nucleation in an orthoferrite optical prism. *Y.S. Didosyan*[1], G.A. Reider[1] and H. Hauser[1] *1. Electrical Engineering, TU Wien, Vienna, Austria*

EQ-07. Growth and Magnetic Properties of BiCaInVIG Single Crystals. *Z. Xu*[1] *1. Materials Science and Engineering, ZheJiang University, Hangzhou, ZheJiang, China*

EQ-08. Epitaxial bismuth and gallium substituted lutetium iron garnet films grown on gadolinium gallium garnet by pulsed laser deposition. *S. Leitenmeier*[1], A. Heinrich[1], T. Koerner[1], J. Lindner[1] and B. Stritzker[1] *1. Lehrstuhl fuer Experimentalphysik IV, University of Augsburg, Augsburg, Bavaria, Germany*

EQ-09. Structural and Magnetic Properties of Laves Compounds $Dy_{1-x}Pr_x(Fe_{0.35}Co_{0.55}B_{0.1})_2$ ($0 \le x \le 1$). *W.J. Ren*[1,2], X.G. Zhao[1,2], D. Li[1,2], J.J. Liu[1,2], J. Li[1,2] and Z.D. Zhang[1,2] *1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China; 2. International Centre for Materials Physics, Chinese Academy of Sciences, shenyang, China*

EQ-10. Intermartensitic Transformation in $Ni_2Mn_{1-x}Co_xGa$ Heusler Alloys. *M.U. Khan*[1], S. Stadler[1] and N. Ali[1] *1. Physics, Southern Illinois University Carbondale, Carbondale, IL, USA*

EQ-11. Application of the Villari effect to electric power harvesting. X. Zhao[1] and *D. Lord*[1] *1. Institute for Materials Research, University of Salford, Salford, M5 4WT, United Kingdom*

EQ-12. Magnetoelastic anisotropy and exchange bias in $[FeCo/TbFe]_3$ multilayer films. *J. Tan*[1], H. Zeng[2], R.C. Wetherhold[3] and W.A. Anderson[1] *1. Electrical Engineering, SUNY Buffalo, Buffalo, NY, USA; 2. Physics, SUNY Buffalo, Buffalo, NY, USA; 3. Mechanical Engineering, SUNY Buffalo, Buffalo, NY, USA*

EQ-13. Study on the new sintering method of Terfenol-D. S. Zhao[1], H. Liu[1], S. Li[2], J. Qu[1] and *Y. Li*[1] *1. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China; 2. Department of Physics, North China Electric Power University, Baoding, Hebei Province, China*

EQ-14. Critical phenomenon in soft magnetic properties of giant magnetostrictive materials - computer simulation. H. Fukunaga[1] and *T. Yamaguchi*[1] *1. Nagasaki University, Nagasaki, Japan*

EQ-15. Magnetic anisotropy of Ni-Mn-Ga non-modulated tetragonal martensite with long c-axis. *O. Heczko*[1], L. Straka[1] and S. Hannula[1] *1. Helsinki University of Technology, Espoo, Finland*

WEDNESDAY MORNING 8:00 IMPERIAL

Session ER
FERRITES, GARNETS AND MICROWAVE MATERIALS I (POSTER SESSION)

Vince Harris, Chair

ER-01. Cation Occupancy Determination in Manganese Zinc Ferrites using Fourier Transform Infrared Spectroscopy. S. Morrison[1], *M.D. Shultz*[1] and E.E. Carpenter[1] *1. Chemistry, Virginia Commonwealth University, Richmond, VA, USA*

ER-02. Dynamic Magnetic Properties of Fe_3O_4 Nanoparticle Assembly in Ultra-high Frequency Range. *T. Ogawa*[1], S. Kakibe[1], D. Hasegawa[1], M. Takahashi[2] and M. Yamaguchi[3] *1. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan; 3. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan*

ER-03. Conduction Noise Attenuation by Fe_3O_4 Thin Films Attached on Microstrip Line. S. Kim[1], *S. Kim*[1] and G. Ryu[1] *1. Department of Materials Engineering, Chungbuk National University, Cheongju 361-763, South Korea*

ER-04. A computational study of magnetic properties of artificial copper ferrite ($CuFe_2O_4$). X. Zuo[1,2], A. Yang[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*

ER-05. Investigation of Cr substitution in Co-Ferrite ($CoCr_xFe_{2-x}O_4$) using Mossbauer Spectroscopy. *K. Krieble*[1], C. Lo[2], J.E. Snyder[2] and Z. Melikhov[2] *1. Department of Physics and Earth Science, Moravian College, Bethlehem, PA, USA; 2. MSE Department and Center for NDE, Iowa State University and Ames Laboratory, Ames, IA, USA*

ER-06. Preparation and Characteristics of the Ni-ferrite Encapsulated Mo-permalloy Powder. P. Hyun-Kyu[1], *O. Jae-Hee*[1], K. Taegyung[1] and L. Tae-Gyung [2] *1. School of Materials Science and Engineering, Inha University, Inchon, South Korea; 2. Changsung Corporation, Inchon, South Korea*

ER-07. Size dependent Magnetic properties of Ordered $Li_{0.5}Fe_{2.5}O_4$ prepared by Sol-Gel method. *K. Kang*[1], S. Hyun[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, South Korea*

ER-08. Cation Valence and Magnetic Order in Cu-ferrite thin films: an XAS & XMCD Study. *D.A. Arena*[1], A. Yang[2], S. Stadler[3] and V.G. Harris[2] *1. National Synchrotron Light Source, Brookhaven National Lab, Upton, NY, USA; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Physics, Southern Illinois University, Carbondale, IL, USA*

ER-09. Fabrication and Frequency Dependent Properties of Polyurethane Nanocomposites Containing Core/Shell Ferrite Nanoparticles. *C.R. Vestal*[1] and M.D. Alexander[2] *1. Universal Technology Corporation, Dayton, OH, USA; 2. Air Force Research Laboratory, Wright-Patterson AFB, OH, USA*

ER-10. Ferrite core loss calculations and modeling with square wave and DC bias. A.P. Van den Bossche[1], V.C. Valchev[2] and *D.M. Van de Sype*[1] *1. EELAB, Ghent University, Gent, Belgium; 2. Electronics, Technical University of Vrana, Varna, Bulgaria*

ER-11. Self-biased Barium Hexaferrite Screen Printed Thick Films. *Y. Chen*[1], A.L. Geiler[1], T. Sakai[1], S.D. Yoon[1], C. Vittoria[1] and V.G. Harris[1] *1. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA*

ER-12. LIQUID PHASE EPITAXIAL GROWTH OF THICK BARIUM FERRITE FILMS FOR MMIC APPLICATIONS. *J. Jalli*[1], Y. Hong[1], S. Gee[1], C. Juan[1] and C. Weatherspoon[1] *1. Materials Science and Engineering, University of Idaho, Moscow, ID, USA*

ER-13. Electronic and magnetic properties of Mn doped lanthanum ferrites. *X. Zhou*[1], Q. Cai[2], J. Yang[1], B. Scarfino[1], W.B. Yeon[1], W.J. James[1], H.U. Anderson[1] and H.U. Anderson[1] *1. University of Missouri-Rolla, Rolla, MO, USA; 2. University of Missouri-Columbia, Columbia, MO, USA*

ER-14. Microwave absorption of integrated CoNbZr film on coplanar waveguide. *K. Kim*[1] and M. Yamaguchi[1] *1. Electrical and Communication Engineering, Tohoku University, Sendai, Japan*

WEDNESDAY MORNING 8:00 IMPERIAL

Session ES
SPIN TRANSFER TORQUE (POSTER SESSION)

Nikoleta Theodoropoulou, Co-chair
Shehzaad Kaka, Co-chair

ES-01. Control of Magnetic domain structure in perpendicularly magnetized FePt wire. *H. Tanigawa*[1], A. Yamaguchi[1], S. Kasai[1], T. Ono[1], T. Seki[2], T. Shima[2] and K. Takanashi[2] *1. Graduate school of Science, Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

ES-02. Magnetoresistance and Domain Wall Motion in Horseshoe $Ni_{80}Fe_{20}$ Wires. *J. Tsai*[1], Y. Yao[2], S. Lee[2], K. Cheng[2] and T. Chen[2] *1. Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

ES-03. Vortex domain wall dynamics driven by spin-current. *J. He*[1], Z. Li[1] and S. Zhang[1] *1. physics, university of missouri, Columbia, MO, USA*

ES-04. Simulation of domain-wall configuration transformation by spin currents. *Y. Nakatani*[1], A. Thiaville[2] and J. Miltat[2] *1. Department of Computer Science, University of Electro-Communications, Tokyo, Japan; 2. Universite Paris-sud, Laboratoire de physique des solides, Orsay Cedex, France*

ES-05. Vortex domain walls depinned by polarized current in submicron half-ring wires. *Y. Chen*[1], K. Cheng[1], C. Yu[1], S. Lee[1], D. Chen[2], S. Wu[1], M. Lin[1], Y. Liou[1] and Y. Yao[1] *1. Institute of Phsics, Academia Sinica, Taipei, Taiwan; 2. Department of Material Science&Engineering, National Chiao Tung University, Hsinchu, Taiwan*

ES-06. Effects of artificial domain wall traps in pulsed-current induced domain wall motion in a spin valve device. *S.H. Florez*[1,2], C. Krafft[2] and R.D. Gomez[1,2] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Sciences, College Park, MD, USA*

ES-07. Current induced magnetization switching in asymmetric necked wires. *S. Lepadatu*[1], C. Bunce[1], J. Wu[1] and Y. Xu[2] *1. Physics Department, University of York, York, United Kingdom; 2. Electronics Department, University of York, York, United Kingdom*

ES-08. Field-Dependence of Critical Switching Current in Exchange Biased Spin Valves. *H.T. Nguyen*[1], H. Yi[1], S. Joo[1] and K. Shin[1] *1. Nano Device Research Center, Korea Institute of Science and Technology, Seoul, South Korea*

ES-09. Reduction of the threshold current density for the current-driven domain wall motion by shape control. *A. Yamaguchi*[1], H. Tanigawa[1], K. Yano[1], S. Kasai[1] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Uji, Japan*

ES-10. Spin transfer switching in spin valve nanopillars using non-exchange biased IrMn buffer layer. *J. Lee*[1,3], M. Chun[3], W. park[3], C. You[1], S. Choi[2], W. Jung[3] and K. Kim[3] *1. Department of physics, Inha. university, In-Cheon, South Korea; 2. Department of Physics, Seoul National University, Seoul, South Korea; 3. Advanced Metals Research Center, Korea Institute of Science & Technology, Seoul, South Korea*

ES-11. Magnetization switching induced by in-plane current with low density in Pt/Co/Pt sandwich. *W.W. Lin*[1], H. Sang[1], D. Liu[1], B. You[1], A. Hu[1], X.S. Wu[1] and G. Xiao[2] *1. National lab of Solid State Microstructrues, Nanjing Univ, Nanjing, China; 2. Physics, Brown Univ, Providence, RI, USA*

ES-12. Interpretation of relationship between CPP-GMR and Spin Torque Amplitude. A. Manchon[1], N. Strelkov[2,1], A. Deac[1], A. Vedyayev[2,1] and *B. Dieny*[1] *1. SPINTEC, CEA-Grenoble, Grenoble, France; 2. Department of Magnetism, University Lomonosov, Moscow, Russian Federation*

ES-13. Spin pumping in hybrid diffusive systems. *S.M. Watts*[1] and B.J. van Wees[1] *1. Materials Science Center, Rijksuniversiteit Grongingen, Groningen, Netherlands*

ES-14. Influence of Lead Structure on Switching Characteristics in Nanopillar Spin Valves. *P.M. Braganca*[1], O. Ozatay[1], A. Garcia[1], I.N. Krivorotov[1], N.C. Emley[1], E.M. Ryan[1], D.C. Ralph[1] and R.A. Buhrman[1] *1. Applied and Engineering Physics, Cornell University, Ithaca, NY, USA*

ES-15. Current induced magnetization reversal in epitaxially grown FePt / Au / FePt nanopillars. *T. Seki*[1], S. Mitani[1], K. Yakushiji[1] and K. Takanashi[1] *1. Magnetic materials devision, Institute for materials research, Tohoku Univ., Sendai, Japan*

ES-16. Spin Current Induced Torque in Magnetic Tunnel Junctions. A. Kalitsov[1], I. Theodonis[1,3], N. Kioussis[1], *M. Chshiev*[2], W.H. Butler[2] and A.V. Vedyayev[4] *1. Department of Physics, California State University, Northridge, CA, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 3. Department of Physics, National Technical University, Athens, Greece; 4. Faculty of Physics, M. V. Lomonosov Moscow State University, Moscow, Russian Federation*

ES-17. ENHANCEMENT OF SPIN TORQUE IN DOUBLE BARRIER MAGNETIC JUNCTIONS. *I. Theodonis*[1,2], A. Kalitsov[1] and N. Kioussis[1] *1. Physics, California State University Northridge, Northridge, CA, USA; 2. Physics, National Technical University of Athens, Zografou, Athens, Greece*

ES-18. Energy Fokker-Planck equation for spin-torque driven magnetization dynamics. *C. Serpico*[1], G. Bertotti[2], I.D. Mayergoyz[3,4], M. d'Aquino[1] and R. Bonin[2,5] *1. Dept. of Electrical Eng., Univ. of Napoli Federico II, Napoli, Italy; 2. Materials Dept., IEN Galileo Ferraris (INRIM), Torino, Italy; 3. Dept. of Electrical and Computer Eng., University of Maryland, College Park, MD, USA; 4. UMIACS, University of Maryland, College Park, MD, USA; 5. Politecnico di Torino, Torino, Italy*

ES-19. Micromagnetic simulations of nanosecond magnetization reversal processes in magnetic nanopillars. *G. Finocchio*[1], M. Carpentieri[1], B. Azzerboni[1], E. Martinez[2], L. Torres[2] and L. Lopez-Diaz[2] *1. University of Messina, Messina, Italy; 2. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*

ES-20. Sustained Precession under Spin-torque in the Micro-magnetic Regime. *B. Montigny*[1,2] and J. Miltat[1] *1. Laboratoire de Physique des Solides, Univ. Paris Sud, Orsay, France; 2. Altissemiconductor-Infineon Technologies, Corbeil-Essonnes, France*

ES-21. Spin-polarized Current Induced Magnetization Precession and Switching for Perpendicular Anisotropic Ferrimagnetic 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*

ES-22. Analytic microscopic analysis of spin-current transfer and noise in multilayer devices. *V.L. Safonov*[1] and H. Bertram[1] *1. Center for Magnetic Recording Research, University of California - San Diego, La Jolla, CA, USA*

ES-23. Spin Transfer Excitation Linewidths in Magnetic Nanocontacts. *W.H. Rippard*[1], M.R. Pufall[1], S. Kaka[1], T. Silva[1], S. Russek[1] and J. Katine[2] *1. NIST, Boulder, CO, USA; 2. HGST, San Jose, CA, USA*

ES-24. Coherent Locking Effects in Spin Transfer Nano-Oscillators Induced By ac Currents and Fields. *M.R. Pufall*[1], W.H. Rippard[1], S. Kaka[1], S.E. Russek[1], T.J. Silva[1] and J. Katine[2] *1. NIST, Boulder, CO, USA; 2. HGST, San Jose, CA, USA*

ES-25. Micromagnetic modeling of nano-contact spin-transfer oscillators. *S.E. Russek*[1], S. Kaka[1], W.H. Rippard[1], M. Pufall[1], T.J. Silva[1] and M. Donahue[2] *1. National Institute of Standards and Technology, Boulder, CO, USA; 2. NIST, Gaithersburg, MD, USA*

ES-26. Novel dynamic modes induced by spin-transfer in exchange biased spin-valves. *A.M. Deac*[1,3], O. Redon[1,3], Y. Liu[2], S. Petit[1], M. Li[2], C. Baraduc[1], P. Wang[2], J. Nozieres[1] and B. Dieny[1] *1. Spintec, CEA/CNRS, Grenoble, France; 2. Headway Technologies, Milpitas, CA, USA; 3. Leti, CEA, Grenoble, France*

ES-27. Spin torque driven hysteresis in magneto-conductance of point contacts to thin ferromagnetic films. *A. Konovalenko*[1] and V. Korenivski[1] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

ES-28. Spin-transfer-induced magnetization switching in 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*

ES-29. Magnetic Excitation Induced by Lateral Spin Diffusion. *K. Lee*[1,2] and B. Dieny[2] *1. Samsung Advanced Institute of Technology, Suwon, South Korea; 2. SPINTEC, URA CEA-CNRS, Grenoble, France*

ES-30. Oscillatory time dependence of the domain wall motion driven by current pulses in magnetic nanowires. *L. Thomas*[1], M. Hayashi[1], X. Jiang[1], R. Moryia[1], C. Rettner[1] and S. Parkin[1] *1. IBM Almaden Research Center, San Jose, CA, USA*

WEDNESDAY MORNING 8:00 IMPERIAL

Session ET
HEAD-MEDIA INTERFACE AND TRIBOLOGY (POSTER SESSION)
Peter Baumgart, Chair

ET-01. Understanding Friction at Contacting Head-Disk Interfaces: Experiment and Theory. A.Y. Suh[1], *C. Mate*[2], R.N. Payne[2] and A.A. Polycarpou[1] *1. Dept. of Mechanical and Industrial Engineering, Univerisity of Illinois, Urbana, IL, USA; 2. San Jose Research Center, Hitachi, San Jose, CA, USA*

ET-02. Inspection of Pole Tip DLC Wear Due to Heater-Induced Head-Disc Contact. *D. Song*[1], R.J. Kvitek[1] and D.S. Schnur[1] *1. Seagate Technologies, Bloomington, MN, USA*

ET-03. Vacuum vapor deposition of PFPE lubricant films on Si-incorporated diamond-like carbon surfaces. *J. Choi*[1], M. Kawaguchi[2], T. Kato[2] and M. Ikeyama[1] *1. National Institute of Advanced Industrial Science and Technology, Nagoya, Aichi, Japan; 2. The University of Tokyo, Tokyo, Japan; 3. The University of Tokyo, Tokyo, Japan*

ET-04. Vapor deposition of PFPE lubricant on fluorinated DLC surface. *M. Kawaguchi*[1], J. Choi[2] and T. Kato[1] *1. Mechanical Engineering, The University of Tokyo, Tokyo, Japan; 2. National Institute of Advanced Industrial Science and Technology, Nagoya, Japan*

ET-05. Thermal effects of heated magnetic disk on the slider in heat assisted magnetic recording. *B. Xu*[1], S. Hu[1], H. Yuan[1], J. Zhang[1], Y. Chen[1], R. Ji[1], X. Miao[1], J. Chen[1] and T. Chong[1] *1. Data Storage Institute, A-star, Singapore, Singapore*

ET-06. Analytical Determination of the Surface Energy of Ultra-Low Flying Head-Disk Interfaces. A.Y. Suh[1] and *A.A. Polycarpou*[1] *1. ME, University of Illinois at Urbana-Champaign, Urbana, IL, USA*

ET-07. Surface Energy and Adhesion of Perfluoropolyether Nanofilms on CHx Overcoat: The Backbone Chain Flexibility Effect. *H. Chen*[1], L. Li[2], A.G. Merzlikine[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, Pittsburg, PA, USA*

ET-08. Molecular Rheology of Perfluoropolyether Lubricant via NEMD Simulation. Q. Guo[1], *H. Chen*[1] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

ET-09. Viscoelastic Liquid Bearing Modeling for the Head-Disk Interface via Lattice Boltzmann Method. *H. Chen*[1], W. Kim[1] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

ET-10. The Interaction between Lubricant Droplet and Air Flow within the Head/Disk Interface of Disk Drives. *L. Wu*[1] *1. Department of Mechanical Engineering, University of Nebraska-Lincoln, Lincoln, NE, USA*

ET-11. Study of Head Take-off Phenomenon Influenced by Stick-Slip Vibration of Slider on Head-Disk-Interface. *H. Tani*[1], K. Goushi[2], K. Suzuki[3] and T. Hamaguchi[2] *1. Media Enginnering, Hiatchi Global Storage Technologies, Odawara-shi, Kanagawa-ken, Japan; 2. Graduate School of Engineering, The university of Tokyo, Bunkyo-ku Hongou, Tokyo, Japan; 3. Mechanical Sytems Engineering, Kogakuin University, Hachioji-shi, Tokyo, Japan*

ET-12. Challenges in Glide Avalanche Measurements and Sensitivity Improvements. *S.K. Deoras*[1] and S. Suzuki[1] *1. Advanced Mechanical Design, Komag Inc., San Jose, CA, USA*

ET-13. EFFECT OF TEMPERATURE/HUMIDITY AND CORROSIVE GAS AT HEAD DISK INTERFACE. *R. Ji*[1], T. Liew[1] and T. Chong[1] *1. Data Storage Institute, Siganpore, Sigapore, Singapore*

WEDNESDAY MORNING 8:00 IMPERIAL

Session EU
HARD MAGNETIC FILMS FOR MEMS (POSTER SESSION)
Tom Nolan, Chair

EU-01. Magnetic Properties and Surface Roughness of Electrodeposited CoNiP Thin Films on Cu Substrates. *D.M. Kirkwood*[1], V.C. Zoldan[2], W. Figueiredo[2], A.A. Pasa[2] and G. Zangari[1] *1. Materials Science and Engineering, University of Virginia, Charlottesville, VA, USA; 2. Departamento de Fisica, UFSC, Florianopolos, Santa Catarina, Brazil*

EU-02. Nanostructure and Magnetic properties of electrodeposited CoPtP alloy. *H. Park*[1], K. Lee[2], G. Kim[1] and W. Jeung[1] *1. Materials Science and Technology Division, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of Materials Science and Engineering, Johns Hopkins University, Baltimore, MD, USA*

EU-03. A new method of preparing anisotropic Nd-Fe-B thick film magnets by PLD. M. Nakano[1], *S. Sato*[1], H. Fukunaga[1] and F. Yamashita[2] *1. Nagasaki University, Nagasaki, Japan; 2. Matsushita Electric Industrial Co, Osaka, Japan*

EU-04. NdFeB thick films with perpendicular magnetic anisotropy. *K. Yamasawa*[1], X. Liu[1] and A. Morisako[1] *1. Shinshu University, Nagano, Japan*

EU-05. Anisotropic polymer bonded hard-magnetic films for MEMS applications. *J.J. Romero*[1], R. Cuadrado[1], E. Pina[1], A. de Hoyos[1], F. Pigazo[2], F.J. Palomares[2], A. Hernando[1], R. Sastre[3] and J.M. Gonzalez[1,2] *1. Universidad Complutense de Madrid, Instituto de Magnetismo Aplicado, Las Rozas (Madrid), Madrid, Spain; 2. Instituto de Ciencia de Materiales de Madrid, C.S.I.C., Madrid, Madrid, Spain; 3. Centro de Quimica Organica L. Mora Tamayo, C.S.I.C., Madrid, Madrid, Spain*

EU-06. Thin Film SmCo Magnets for Use in Electromagnetic Microactuators. *T. Budde*[1] and H.H. Gatzen[1] *1. Institute for Microtechnology, Hanover University, Garbsen, Germany*

EU-07. Nanocrystalline Co-ferrite Thin Films with High Coercivity Prepared by PLD. *J. Yin*[1,2], J. Ding[1], B. Liu[1], J. Chen[2] and X. Miao[2] *1. Department of materials science and engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

WEDNESDAY MORNING 8:00 IMPERIAL

Session EV
ULTRATHIN FILMS (POSTER SESSION)
Amanda Petford-Long, Chair

EV-01. Spin-spiral structures in free-standing Fe(110) monolayers. *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*

EV-02. Ferromagnetic resonance studies of polycrystalline Co ultrathin films. *J.L. Beaujour*[1], W. Chen[1], A.D. Kent[1] and J.Z. Sun[2] *1. Department of Physics, New York University, New York, NY, USA; 2. IBM T. J. Watson Research Center, Yorktown Heights, NY, USA*

EV-03. Spin-reorientation and interlayer exchange coupling in bi- and tri-layer structures of Fe-Ni ultra-thin films. C. Andersson[1], J. Hunter Dunn[2,1], A. Rosso[1,2], O. Karis[1] and *D. Arvanitis*[1] *1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. MAX-lab, Lund, Sweden*

EV-04. The Effect of Very Thin Cr Films on the Magnetic Behavior of Epitaxial Co. *T.M. Reith*[1], J.M. Shaw[1] and C.M. Falco[1] *1. Optical Sciences, University of Arizona, Tucson, AZ, USA*

EV-05. Local magnetic field generation by the use of a scanning tunnelling microscope. *T. Michlmayr*[1], N. Saratz[1], U. Ramsperger[1], A. Vaterlaus[1] and D. Pescia[1] *1. Laboratorium fuer Festkoerperphysik, Swiss Federal Institute of Technology, Zurich, Switzerland*

EV-06. Suppression of superparamagnetism in ultrathin magnetite films. M. Zajac[1], K. Friendl[2], N. Spiridis[2], M. Slezak[1], W. Karas[1], *D. Aernout*[1], T. Slezak[1,2] and J. Korecki[1,2] *1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 2. Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland*

EV-07. Structural and magnetic properties of f.c.c. (111) Mn alloy film. *Z. Zhou*[1], Q. Li[1] and D. Venus[1] *1. Department of Physics and Astronomy, McMaster University, Hamilton, ON, Canada*

EV-08. Ferromagnetism stabilization of ultrathin $SrRuO_3$ films probed by *in-situ* photoemission spectroscopy. *D. Toyota*[1], I. Ohkubo[1], H. Kumigashira[1], M. Oshima[1], T. Ohnishi[3], M. Lippmaa[3], M. Takizawa[2], A. Fujimori[2], K. Ono[4], M. Kawasaki[5] and H. Koinuma[6] *1. Department of Applied Chemistry, The University of Tokyo, Tokyo, Japan; 2. Department of Physics and Department of Complexity Science and Engineering, The University of Tokyo, Kashiwa, Japan; 3. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 4. Institute of Materials Structure Science, KEK, Tsukuba, Japan; 5. Institute for Materials Research, Tohoku University, Sendai, Japan; 6. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan*

EV-09. Fabrication of ultra thin Ni-Zn ferrite films using ECR sputtering method. *T. Tanaka*[1], K. Oshiro[1], H. Fujimori[1], H. Kurisu[1], Y. Shimosato[2], S. Okada[2], M. Matsuura[1] and S. Yamamoto[1] *1. Faculty of Engineering, Yamaguchi University, Ube, Yamaguchi, Japan; 2. Shimadzu Corporation, Hadano, Kanagawa, Japan*

EV-10. Measurement of spin waves and activation volumes in superparamagnetic Fe films on GaAs. G. Carlotti[1], G. Gubbiotti[2], M. Madami[3], A. Stollo[3], S. Tacchi[3] and *R. Stamps*[4] *1. INFM-S3, Dipartimento di Fisica, Universita di Perugia, Perugia, Italy; 2. INFM CRS-SOFT, Universita di Perugia, Perugia, Italy; 3. INFM, Unita di Perugia and Dipartimento di Fisica, Universita di Perugia, Perugia, Italy; 4. Physics, University of Western Australia, Crawley, WA, Australia*

EV-11. Study of the evolution of γ-Fe ultrathin films by FeMn buffer layers. *C. Kuo*[1] and M. Lin[2,3] *1. Department of Physics, National Sun-Yat Sen University, Kaohsiung, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan; 3. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan*

EV-12. Magnetization reorientation in Au/Co: in-situ prepared ultra-thin films. *C. Andersson*[1], T. Konishi[2], E. Holub Krappe[3], O. Karis[1], H. Maletta[3] and D. Arvanitis[1] *1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. Department of Chemistry, Chiba Universitty, Chiba, Japan; 3. Department of Magnetism, Hahn-Meitner-Institut, Berlin, Germany*

EV-13. In-plane anisotropy and magnetostriction of epitaxial Fe on lattice-matched GaInAs. *N.A. Morley*[1], M.R. Gibbs[1], E. Ahmad[2], I.G. Will[2] and Y. Xu[2] *1. Engineering Materials, Sheffield University, Sheffield, United Kingdom; 2. Electronics, University of York, York, United Kingdom*

EV-14. Remanence and Interdiffusion in Ultrathin Antiferromagnetic EuTe Epilayers. *W. Soellinger*[1], R. Kirchschlager[1], G. Springholz[1], K. Rumpf[2], P. Granitzer[2], H. Krenn[2] and W. Heiss[1] *1. Institute of Semiconductor and Solid State Physics, University of Linz, A-4040 Linz, Austria; 2. Institute of Experimental Physics, University of Graz, A-8010 Graz, Austria*

WEDNESDAY MORNING 8:00 — **IMPERIAL**

Session EW
MAGNETIC NANOPARTICLES AND SYNTHESIS (POSTER SESSION)

Timothy Reith, Co-chair
Richard Kodama, Co-chair

EW-01. Sintering Behavior of Spin-coated FePt and FePtAu Nanoparticles. *S. Kang*[1], Z. Jia[1], I. Zoto[1], D. Reed[1], D.E. Nikles[1], J.W. Harrell[1], G. Thompson[1] and G. Mankey[1] *1. MINT Center, The University of Alabama, Tuscaloosa, AL, USA*

EW-02. Effect of Sintered Grain Growth on Chemical Ordering in Binary FePt/Cu Nanoparticle Arrays. *S. Shi*[1], S. Kang[1], Z. Jia[1], D. Nikles[1], M. Shamusozzohu[1] and J. Harrell[1] *1. Physics Department, the University of Alabama, Tuscaloosa, AL, USA*

EW-03. Low-Temperature Chemical Ordering in FePt Nanoparticles by Sb Doping. Q. Yan[1], T. Kim[1], A. Purkayastha[1], Y. Xu[2], M. Shima[1], R.J. Gambino[3] and *G. Ramanath*[1] *1. Matierials Science, Rensselaer Polytechnic Institute, Troy, NY, USA; 2. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA; 3. Materials Science and Engineering Department, Stony Brook University, stony Brook, NY, USA*

EW-04. Use of Silicate Shells to Prevent Sintering During Thermally Induced Chemical Ordering of FePt Nanoparticles. *D.F. Reed*[1,4], J.A. Lawson[1,2], D.E. Nikles[1,4], J. Harrell[1,2] and M. Shamsuzzoha[3] *1. Center for Materials for Information Technology (MINT), University of Alabama, Tuscaloosa, AL, USA; 2. Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 3. Central Analytical Facility, University of Alabama, Tuscaloosa, AL, USA; 4. Department of Chemistry, University of Alabama, Tuscaloosa, AL, USA*

EW-05. Fabrication of oriented $L1_0$-FeCuPd and bcc-Fe/ $L1_0$-FeCuPd nanocomposite isolated particles: alloy composition dependence of magnetic properties. *H. Naganuma*[1], K. Sato[1] and Y. Hirotsu[1] *1. The Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Osaka, Japan*

EW-06. Thermal treatments of nanocomposites based on cobalt ferrite dispersed in a macroporous styrene-divinylbenzene copolymer template. D. Rabelo[1], M.L. Silva[1], F.Q. Soares[1], E.C. Alcantara[1], *P.C. Morais*[2], V.K. Garg[2] and A.C. Oliveira[2] *1. Instituto de Quimica, Universidade Federal de Goias, Goiania, GO, Brazil; 2. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil*

EW-07. Magnetic properties of nanosize copper chromite prepared by the combustion method. *C. Lin*[1] *1. Department of Mechanical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan*

EW-08. Synthesis of core/shell type of hybrid cobalt ferrite nanocomposite by using polyionic copolymer with extra magnetic field. I. Chen[1] and *C. Wang*[1] *1. Chemical Engineering, Southern Taiwan University of Technology, Tainan County, Taiwan*

EW-09. Synthesis and magnetic behavior of silica-coated cobalt ferrite hollow spheres. *C. Lin*[1], C. Wang[2] and I. Chen[2] *1. Department of Mechanical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan; 2. Department of Chemical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan*

EW-10. Effects of dipolar interactions on the magnetic properties of nanocrystalline γ–Fe_2O_3 in the blocked state. W.C. Nunes[1], D. Zanchet[2], F. Cebollada[1] and *M. Knobel*[1] *1. IFGW, UNICAMP, Campinas, SP, Brazil; 2. Laboratorio Nacional de Luz Sincrotron (LNLS), Campinas, SP, Brazil*

EW-11. Magnetic properties of monodispersive magnetite nanoparticles. *C. Lin*[1], J. Wang[2], T. Sung[2] and R. Chiang[3] *1. Mechanical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan; 2. Mechanical Engineering, Far East College, Tainan, Taiwan; 3. Chemical Engineering, Far East College, Tainan, Taiwan*

EW-12. Magnetic and Mossbauer Study of Iron Oxide Aerogels. *E.E. Carpenter*[1], J.W. Long[2], D.R. Rolison[2], M.S. Logan[2], K. Pettigrew[2], R.M. Stroud[2], L.T. Kuhn[4], B.R. Hansen[3] and S. Morup[3] *1. Chemistry, Virginia Commonwealth University, Richmond, VA, USA; 2. Surface Chemistry Division, Naval Research Laboratory, Washington, DC, USA; 3. Physics, Technical University of Denmark, Lyngby, Denmark; 4. Materials Research Department, Riso National Laboratory, Roskilde, Denmark*

EW-13. Ion beam synthesis of Fe nanoparticles in MgO and Y:ZrO_2. *K. Potzger*[1], H. Reuther[1], S. Zhou[1], A. Muecklich[1], R. Groetzschel[1], F. Eichhorn[1], M. Liedke[1,2] and J. Fassbender[1] *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Germany; 2. Department of Physics, University of Kaiserslautern, Kaiserslautern, Germany*

EW-14. Magnetic Property of $SmCo_5$ Alloy Nanoparticles Prepared by a Polyol Process. *T. Matsushita*[1], T. Iwamoto[2], Y. Shiraishi[1], M. Inokuchi[1] and N. Toshima[1] *1. Department of Materials Science and Environmental Engineering, Tokyo University of Science, Yamaguchi, Sanyoonoda, Japan; 2. Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Japan*

EW-15. Effect of surfactants on the size and shape of cobalt nanoparticles synthesized by thermal decomposition. H. Shao[1], Y. Huang[1], C. Kim[1], H. Lee[2] and *Y. Suh*[2] *1. Department of materials engineering, ChangNam National University, Daejeon, South Korea; 2. Korea Institute of Geoscience & Mineral Resources, Daejeon, South Korea*

EW-16. Shape-controlled Synthesis of Co Nanoparticles through Hydrogen Reduction. *Y. Sui*[1], Y. Zhao[1], S.S. Jaswal[1], X. Li[1] and D.J. Sellmyer[1] *1. Department of Physics and Astronomy and CMRA, University of Nebraska-Lincoln, Lincoln, NE, USA*

EW-17. Spontaneous magnetization and ferromagnetism in PbSe nanoparticles. *W. Jian*[1], W. Lu[2], J. Fang[2], S. Chiang[3] and M. Lan[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. Department of Physics, National Chung Hsing University, Taichung, Taiwan*

EW-18. Magnetic and transport properties of MnBi/Bi nanocomposites. K. Kang[1], *L.H. Lewis*[1], Y. Hu[1], Q. Li[1], A.R. Moodenbaugh[1] and Y. Choi[2] *1. Materials Science Department, Brookhaven National Laboratory, Upton, NY, USA; 2. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY, USA*

WEDNESDAY AFTERNOON 2:00 **REGENCY I**

Session FA
SPIN TRANSFER TORQUE II: SWITCHING
Fred Mancoff, Chair

2:00

FA-01. Manipulation of the magnetic state of a small ferromagnetic particle by means of non-local spin-injection techniques. ***(Invited)*** *Y. Otani*[1,2] and T. Kimura[1,2] *1. ISSP, Univeristy of Tokyo, Kashiwa, Chiba, Japan; 2. FRS, Institute of Physical and Chemical Research, Wako, Saitama, Japan*

2:36

FA-02. Dynamics of thin-film spin-flip transistors with perpendicular source- drain magnetizations. *X. Wang*[1], G.E. Bauer[1] and A. Hoffmann[2] *1. Kavli Institute of Nanoscience Delft, Delft University of Technology, Delft, Netherlands; 2. Materials Science Division and Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL, USA*

2:48

FA-03. Noncollinear Spin-Transport in Magnetic Multilayers. *S. Urazhdin*[1], R. Loloee[2] and W.P. Pratt Jr.[2] *1. Physics & Astronomy, Johns Hopkins University, Baltimore, MD, USA; 2. Physics ans Astronomy, Michigan State University, East Lansing, MI, USA*

3:00

FA-04. Spin-dependent scattering in perpendicular spin valves. Coherent *vs* incoherent mechanisms. *A. Kovalev*[1], G. Bauer[1] and A. Brataas[2] *1. Kavli Institute of Nanoscience Delft, TU Delft, Delft, Netherlands; 2. Department of Physics, Norwegian University of Science and Technology, Trondheim, Norway*

3:12

FA-05. Zero field magnetization precession by spin transfer. *O. Boulle*[1,2], M. Munoz[1], L. Pereira[1], J. Grollier[1], V. Cros[1], C. Deranlot[1], F. Petroff[1], G. Faini[2] and A. Fert[1] *1. Unite Mixte de Physique, CNRS/Thales and Universite Paris-Sud, ORSAY, France; 2. Laboratoire de Photonique et de Nanostructures, LPN-CNRS, MARCOUSSIS, France*

3:24

FA-06. Spin Transfer Switching of a Nanomagnet by Nonuniform Current Injection Through a Nanoconstriction. *O. Ozatay*[1], N.C. Emley[1], P.M. Braganca[1], G.D. Fuchs[1], I.N. Krivorotov[1], R.A. Buhrman[1] and D.C. Ralph[2] *1. Applied Physics, Cornell University, Ithaca, NY, USA; 2. Physics, Cornell University, Ithaca, NY, USA*

3:36

FA-07. Comparison of GMR and Spin Torque in Py/Al/Py and Py/Cu/Py Spin Valve Nanopillars. *A.G. Garcia*[1], I.N. Krivorotov[1], P.M. Braganca[1], D.C. Ralph[1] and R.A. Buhrman[1] *1. Cornell University, Ithaca, NY, USA*

3:48

FA-08. Specific Resistance and Scattering Anisotropy at 4.2K of Py/Al Interfaces. *N. Theodoropoulou*[1], A. Sharma[1], R. Loloee[1], W.P. Pratt Jr[1], A. Fert[2], H. Jaffres[2] and J. Bass[1] *1. Physics, Michigan State University, East Lansing, MI, USA; 2. University of Paris-Sud and Unite Mixte de Physique, CNRS/THALES, Orsay, France*

4:00

FA-09. Interpretation of the correlation between switching current asymmetry, average switching current and GMR amplitude. *A.M. Deac*[1,3], Y. Liu[2], O. Redon[1,3], M. Li[2], P. Wang[2], J. Nozieres[1] and B. Dieny[1] *1. Spintec, CEA/CNRS, Grenoble, France; 2. Headway Technologies, Milpitas, CA, USA; 3. Leti, CEA, Grenoble, France*

4:12

FA-10. Spin Transfer in Magnetic Nano Devices with Perpendicular Anisotropy. *H. Meng*[1] and J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN, USA*

4:24

FA-11. Spin Transfer Induced Magnetization Switching in Bilayer Nanopillars as a Function of Free Layer Thickness. *W. Chen*[1], A.D. Kent[1], M.J. Rooks[2], N. Ruiz[2] and J.Z. Sun[2] *1. Department of Physics, New York University, New York, NY, USA; 2. IBM T.J. Watson Research Center, Yorktown Heights, NY, USA*

4:36

FA-12. Single-interface spin torques in ballistic and diffusive transport regimes. I.K. Yanson[1], Y.G. Naidyuk[1], D.L. Bashlakov[1], V.V. Fisun[1], O.P. Balkashin[1], *V. Korenivski*[2] and R.I. Shekhter[3] *1. Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine; 2. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden; 3. Department of Applied Physics, Chalmers University of Technology, Goteborg, Sweden*

4:48

FA-13. Current-induced magnetic switching of single-crystalline Fe nanopillars. *H. Dassow*[1], R. Lehndorff[1], D.E. Buergler[1], M. Buchmeier[1], P. Gruenberg[1] and C.M. Schneider[1] *1. Institut fuer Festkoerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany*

WEDNESDAY AFTERNOON 2:00

REGENCY II

Session FB
MAGNETIC MEMORY AND ELEMENTS
William Gallagher, Chair

2:00

FB-01. Analysis of 60 Nanometer Diameter SDT Memory Cells with Thermally Assisted Writng. *A.V. Pohm*[1], J.M. Daughton[2] and J.G. Deak[2] *1. RD, NVE Inc., Ames, IA, IA, USA; 2. R&D, NVE Corp, Eden Prairie,, MN, USA*

2:12

FB-02. Pseudo-spin-valve ring devices for storage and logic applications. *F.J. Castano*[1], D. Morecroft[1], C.A. Ross[1], T.A. Moore[2], T.J. Hayward[2] and J.A. Bland[2] *1. Depart. of Material Science and Engineering, MIT, Cambridge, MA, USA; 2. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

2:24

FB-03. Bias field effects on the orthogonal shape/intrinsic toggle mode MRAM. *S. Wang*[1,2], M. Sun[1,3] and H. Fujiwara[1,2] *1. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 2. Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 3. Department of Mathmatics, University of Alabama, Tuscaloosa, AL, USA*

2:36

FB-04. Magnetic Memory Devices: Minimum Feature and Memory Hierarchy Discussion. *(Invited)* *R.E. Fontana*[1] and S.R. Hetzler[2] *1. San Jose Research Center, Hitachi GST, San Jose, CA, USA; 2. IBM Almaden Research Center, IBM Research Division, San Jose, CA, USA*

3:12

FB-05. Thermally activated switching in spin-flop tunnel junctions. *V. Korenivski*[1,2] and D.C. Worledge[2] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden; 2. IBM T. J. Watson Research Center, Yorktown Heights, NY, USA*

3:24

FB-06. Double barrier magnetic tunnel junctions with GeSbTe thermal barriers for improved thermally assisted MRAM cells. *S. Cardoso*[1,2], F. Silva[1], P.P. Freitas[1,2], M. Kerekes[3], R.C. Sousa[3], L. Prejbeanu[3] and O. Redon[3,4] *1. INESC-MN, Lisbon, Portugal; 2. IST, Lisbon, Portugal; 3. SPINTEC, CEA, Grenoble, France; 4. DRT/Leti, CEA, Grenoble, France*

3:36

FB-07. Enhancement of writing margin for low switching toggle MRAMs using multilayer synthetic antiferromagnetic structures. *Y. Fukumoto*[1], T. Suzuki[1], K. Mori[1], H. Honjo[1], C. Igarashi[1], N. Ohshima[1], S. Miura[1], Y. Asao[2], N. Ishiwata[1], H. Yoda[2] and S. Tahara[1] *1. System Devices Reseach Laboratories, NEC Corporation, Sagamihara, Japan; 2. Corporate R&D Center, Toshiba Corporation, Kawasaki, Japan*

3:48

FB-08. Tunnel junction heating dependence on area and pulse width. *R. Sousa*[1], M. Kerekes[1], I.L. Prejbeanu[1] and O. Redon[1] *1. Spintec, CEA / CNRS, Grenoble, France*

4:00

FB-09. Two-axis Kerr mapping of toggle-write MRAM junctions. *P.L. Trouilloud*[1] *1. IBM Research Division, Yorktown Heights, NY, USA*

4:12

FB-10. Optimized materials and device for 180 nm node 16 Mbit Toggle MRAM. *D. Worledge*[1], D. Abraham[1], S. Assefa[1], S. Brown[1], M.C. Gaidis[1], E. Galligan[1], J. Hummel[1], S. Kanakasabapathy[1], Y. Lu[1], J. Nowak[1], E. O'Sullivan[1], P. Trouilloud[1], G. Wright[1] and W.J. Gallagher[1] *1. TJ Watson Research Center, IBM, Yorktown Heights, NY, USA*

4:24

FB-11. A New Memory Cell Structure for Magnetic Random Access Memory with Low Writing Threshold. *H. Meng*[1] and J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN, USA*

WEDNESDAY AFTERNOON 2:00

CLUB REGENT

Session FC
MAGNETOELECTRONIC DEVICES II
Russell Cowburn, Chair

2:00

FC-01. A proposal of a room-temperature semiconductor-based spin transistor. *H. Dery*[1], L. Cywinski[1] and L.J. Sham[1] *1. Physics, University of California San Diego, La Jolla, CA, USA*

2:12

FC-02. Towards a fuller understanding of the physical processes which limit spin detection at the ferromagnet/semiconductor interface. *S.J. Steinmuller*[1], T. Trypiniotis[1], W.S. Cho[1], C.M. Guertler[1], G. Wastlbauer[1], W.S. Lew[1], C.F. Vaz[1] and J.C. Bland[1] *1. Department of Physics, Cavendish Laboratory, Cambridge, United Kingdom*

2:24

FC-03. Scalability of magnetic domain wall logic in the sub-100 nm range. *D. Petit*[1], D.A. Allwood[2], G. Xiong[1], C.C. Faulkner[1], D. Read[1] and R.P. Cowburn[1] *1. Department of Physics, Imperial College London, London, United Kingdom; 2. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

2:36

FC-04. Electrodeposited p-type Magnetic Metal Base Transistor. ***(Invited)*** R.G. Delatorre[1], M.L. Munford[2,1], M.S. Meruvia[2], I.A. Hummelgen[2], W. Schwarzacher[3] and *A.A. Pasa*[1] *1. Departamento de Fisica, Universidade Federal de Santa Catarina, Florianopolis, Santa Catarina, Brazil; 2. Departamento de Fisica, Universidade Federal do Parana, Curitiba, Parana, Brazil; 3. H. H. Wills Physics Laboratory, Bristol University, Bristol, United Kingdom*

3:12

FC-05. Low-Power MRAM Switching with Enhanced Permeability Dielectric (EPD) Films. *S.V. Pietambaram*[1], N.D. Rizzo[1], R.W. Dave[1], J. Goggin[1], K. Smith[1], J.M. Slaughter[1] and S. Tehrani[1] *1. Technology Solutions Organization, Freescale Semiconductor, Inc., Chandler, AZ, USA*

3:24

FC-06. A Novel MRAM Design with Fabrication Tolerance Capable of 50 Gbits/in^2 Storage Density and Beyond. J. Zhu[1] and *X. Zhu*[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

3:36

FC-07. Magnetostrictive TMR pressure sensor based on magnetic-MEMS fabrication. *M.T. Bootsmann*[1], M. Loehndorf[1], S. Dokupil[1], E. Quandt[1], M. Ruehrig[2] and J. Wecker[2] *1. Micro- and Nanostructures, Research Center caesar, Bonn, Germany; 2. Corporate Technology, Siemens AG, Erlangen, Germany*

3:48

FC-08. Exchange Coupling between Ferromagnetic and Antiferromagnetic Layers via Ru and Application for a Linear Mangetic Field Sensor. *D. Wang*[1], J.M. Daughton[1], C. Nordman[1], P. Eames[1] and J. Fink[1] *1. Ad Tech, NVE Corp, Eden Prairie, MN, USA*

4:00

FC-09. Voltage-induced control of magnetoresistance using a combination of ferromagnetic and piezoelectric materials. *H. Boukari*[1], W. Eyckmans[1], L. Lagae[1], G. Borghs[1], T. Dimopoulos[2] and J. Wecker[2] *1. IMEC, leuven, Belgium; 2. CT/MM, Siemens, 91052 Erlangen, Germany*

4:12

FC-10. Peltier cooling in small CPP metallic junctions. *A. Fukushima*[1], H. Kubota[1], A. Yamamoto[1], Y. Suzuki[2] and S. Yuasa[1] *1. AIST, Tsukuba, Japan; 2. Osaka Univ., Osaka, Japan*

4:24

FC-11. RED SHIFT IN ORGANIC LIGHT EMITTING DIODES WITH SPIN POLARIZED MANGANITE ELECTRODE. *V. Dediu*[1], I. Bergenti[1], A. Riminucci[1], M. Murgia[1] and C. Taliani[1] *1. ISMN-CNR, Bologna, BO, Italy*

4:36

FC-12. Magneto-optical Features of Nanostructured Composite Media and Extraordinary Transmission Through Perforated Metal Films Filled with Liquid Crystals. *Y.M. Strelniker*[1], D. Stroud[2] and A.O. Voznesenskaya[3] *1. Dept. of Physics, Bar-Ilan University, Ramat Gan, Israel; 2. Dept. of Physics, The Ohio State University, Columbus, OH, USA; 3. St. Petersburg State University of Information Technologies, Mechanics*

and Optics, St. Petersburg, Russian Federation

4:48

FC-13. Complete Spin Polarization of Electrons in Semiconductor Layers and Quantum Dots. *V. Osipov*[1,2], A. Petukhov[3] and V. Smelyanskiy[1] *1. NASA Ames Research Center, Moffett Field, CA, USA; 2. New Physics Devices LLC, El Segundo, CA, USA; 3. Physics, South Dakota School of Mines and Technology, Rapid City, SD, USA*

WEDNESDAY AFTERNOON 2:00

CRYSTAL

Session FD
BIOSENSORS AND BEAD MANIPULATION
Hugo Ferreira, Chair

2:00

FD-01. Detection of Magnetically Labeled DNA using AlGaAs/InGaAs Heterostructure Micro-Hall Sensors. *K. Togawa*[1], H. Sanbonsugi[2], A. Sandhu[3,1], M. Abe[2], H. Narimatsu[4], K. Nishio[4] and. Handa[4] *1. Electrical Engineering and Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 3. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Tokyo, Japan; 4. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Tokyo, Japan*

2:12

FD-02. InAs quantum well micro-Hall devices for magnetic biosensing applications. *G. Mihajlovic*[1], P. Xiong[1], S. von Molnar[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*

2:24

FD-03. Magnetoresistive DNA-Chips based on AC Field Focusing of Magnetic Labels. *H.A. Ferreira*[1,2], F.A. Cardoso[1,2], R.A. Ferreira[1,2], S. Cardoso[1,2] and P.P. Freitas[1,2] *1. INESC - Microsystems and Nanotechnologies, Lisboa, Portugal; 2. Physics Department, Instituto Superior Tecnico, Lisboa, Portugal*

2:36

FD-04. Inductive Detection of Magnetic Beads in a Microfluidic Channel. *P. Dhagat*[1] and A. Jander[1] *1. EECS, Oregon State University, Corvallis, OR, USA*

2:48

FD-05. A computational approach to predict the motion of magnetic particles manipulated by on-chip generated magnetic forces. *R. Wirix-Speetjens*[1,2], W. Fyen[1], J. De Boeck[1] and G. Borghs[1] *1. MCP-ART, IMEC, Heverlee-Leuven, Belgium; 2. Department of Electrical Engineering (ESAT), KULeuven, Leuven, Belgium*

3:00

FD-06. Manipulation of superparamagnetic beads using on-chip strip lines placed on a ferrite magnet. *Z. Wang*[1], W. Lew[1] and J. Bland[1] *1. Cavendish Laboratory, University of Cambridge, Camabridge, United Kingdom*

3:12

FD-07. Spin valve biosensors: signal dependence on nanoparticle position. *G. Li*[1,2], S. Sun[3] and S.X. Wang[2] *1. Western Digital Corporation, Fremont, CA, USA; 2. Department of Materials Science and Engineering, Stanford University, Stanford, CA, USA; 3. Department of Chemistry, Brown University, Providence, RI, USA*

3:24

FD-08. Use of Ferrofluid Patterns as Diffusion Masks. *D. Halverson*[1], B. Yellen[2], S. Kalghatgi[1] and G. Friedman[1] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA; 2. Mechanical Engineering and Materials Science Department, Duke University, Durham, NC, USA*

3:36

FD-09. Magnetic micro- and nanoparticles detection using the giant magneto-impedance (GMI) effect. *H. Chiriac*[1], M. Anca-Eugenia[1], T. Mihai[1], H. Dumitru-Daniel[1] and G. Carmen[1] *1. National Institute of Research &Development for Technical Physics, Iasi, Romania*

3:48

FD-10. Electroplated Permalloy Microarrays Embedded Into Polymer Substrate for Diposable Lab-on-a-Chips. *J. Do*[1], M.J. Rust[1] and C.H. Ahn[1] *1. Electrical & Computer Engineering and Computer Science, Microsystems and BioMEMS Laboratory, University of Cincinnati, Cincinnati, OH, USA*

4:00

FD-11. Microfluidic magnetic separator using an array of soft magnetic elements. *K. Smistrup*[1], T. Lund-Olesen[1], P.T. Tang[2] and M.F. Hansen[1] *1. MIC - Department of Micro and Nanotechnology, Technical University of Denmark (DTU), Kongens Lyngby, Denmark; 2. Department of Manufacturing Engineering and Management, Technical University of Denmark (DTU), Kgs. Lyngby, Denmark*

4:12

FD-12. Investigation of superparamagnetic Fe_3O_4 magnetic nanoparticles by fluxgate magnetorelaxometry for use in magnetic relaxation immunoassays. *F. Ludwig*[1], E. Heim[1] and M. Schilling[1] *1. Institut fuer Elektrische Messtechnik und Grundlagen der Elektrotechnik, TU Braunschweig, Braunschweig, Germany*

WEDNESDAY AFTERNOON 2:00

GOLD

Session FE
MAGNETIC SEMICONDUCTORS, MULTIFERROICS, AND OTHER NEW MAGNETIC MATERIALS

K.V. RAO, Chair

2:00

FE-01. Observation of Spin Polarisation in a Diluted System: Co-doped $La_{0.5}Sr_{0.5}TiO_3$ Magnetic Oxide. *G. Herranz*[1], R. Ranchal[2], E. Tafra[3], M. Basletic[3], K. Bouzehouane[1], M. Bibes[4], S. Guyard[1], A. Hamzic[3], C. Pascanut[5], P. Berthet[5], N. Dragoe[5], E. Jacquet[1], J. Maurice[1], A. Barthelemy[1], J. Contour[1] and A. Fert[1] *1. UMP CNRS/Thales, Palaiseau, France; 2. Depto. Fisica de Materiales (UCM), Ciudad Universitaria s/n Madrid 28040, Spain, Madrid, Spain; 3. Dep. of Physics, Fac. of Science (U. of Zagreb), Zagreb, Croatia; 4. IEF, Univ. Paris-Sud, Orsay, France; 5. Lab. de Physico-Chimie de l Etat Solide, Univ. Paris-Sud, Orsay, France*

2:12

FE-02. Room Temperature Chemical Co-precipitation Route to Synthesize Highly Oriented Ferromagnetic Laser Deposited Thin films of Mn:ZnO. K. Rao[1], *R. Upadhyay*[2], H. Cao[1], A. Praneet[3], A. Gupta[1] and C. Sudakar[1] *1. Materials Science-Tmfy-MSE, Royal Institute of Technology, Stockholm, Sweden; 2. Department of Physics, Center for Excellence for Nanotechnology of Nanomagnetic Particles (GUJCOST) Bhavnagar University, Bhavnagar, India; 3. Department of Metallurgical Engineering, Banaras Hindu University, Varanasi, India*

2:24

FE-03. Magnetic Properties of ε-Fe_3N-CrN Nanocomposites. *N.S. Gajbhiye*[1,2] and S. Bhattacharyya[1] *1. Chemistry, Indian Institute of Technology, Kanpur, Kanpur, U. P., India; 2. Institute of Nanotechnology, Forschungszentrum, Karlsruhe, Germany*

2:36

FE-04. Exchange bias between magnetoelectric $YMnO_3$ and ferromagnetic $SrRuO_3$ epitaxial films. X.R. Marti[1], F.B. Sanchez[1], *J.G. Fontcuberta*[1], M. Garcia-Cuenca[2], C.M. Ferrater[2] and M. Varela[2] *1. Magnetic Materials and Superconductors, Institut de Ciencia de Materials de Barcelona ICMAB-CSIC, Bellaterra, Barcelona, Spain; 2. Fisica Aplicada i Optica, Universitat de Barcelona, Barcelona, Barcelona, Spain*

2:48

FE-05. Cobalt doping effect on the structures, magnetic properties, valences by X-ray edge absorption, and spin states in multiferroic HoMnO3 perovskite. *X. Wang*[1], M. Farhudi[1], R. Liu[2], S. Dou[1] and M. James[3] *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Department of Chemistry, National Taiwan University, Taipei, Taiwan; 3. Bragg Institute, ANSTO, Mendi, NSW, Australia*

3:00

FE-06. Synthesis and properties of the nanoparticles of Multiferroic $TbMnO_3$. *S. Kharrazi*[1], S.W. Gosavi[1], S.K. Kulkarni[1], D. Kundaliya[2], S.B. Ogale[2] and J. Urban[3] *1. Department of Physics,, University of Pune, Pune, India; 2. Department of Physics, University of Maryland,, College park, MD, USA; 3. Department of Inorganic Chemistry, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Faradayweg 4-6, D-14195 Berlin (Dahlem), Germany*

3:12

FE-07. Microscopic magnetism of the multiferroic spinel $CdCr_2S_4$. *M. Lafkioti*[1], S. Gold[1], J. Hemberger[2], J. Deisenhofer[2], V. Tsurkan[2], A. Loidl[2], G. Schuetz[1] and E.J. Goering[1] *1. Schuetz, Max-Planck-Institute for Metalresearch, Stuttgart, Germany; 2. Centre for Electronic Correlations and Magnetism, University of Augsburg, Augsburg, Germany*

3:24

FE-08. Magnetic and Transport Properties of Epitaxial Sr_2FeMoO_6 Double Perovskite Thin Films. *D.E. Brown*[1], S. Totapally[1], Y. Yoo[1], S. Kolesnik[1], J. Mais[1], O. Chmaissem[1], M. Haji-Sheikh[2], J. Churilla[1], B. Dabrowski[1] and C. Kimball[1] *1. Physics, Northern Illinois University, DeKalb, IL, USA; 2. electrical engineering, Northern Illinois University, DeKalb, IL, USA*

3:36

FE-09. Magnetic Contributions to the Thermal Expansion in Antiperovskite Mn_3GaC. D.O. Welch[1], *L.H. Lewis*[1], M.J. Kramer[2], N. Yang[2] and A.R. Moodenbaugh[1] *1. Materials Science Department, Brookhaven National Laboratory, Upton, NY, USA; 2. Ames Laboratory and Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA*

3:48

FE-10. Theoretical Calculation of Magnetic Structure Variation in $Pr_5Ni_2Si_3$ Compounds. S. Song[1,2], J. Snyder[1,2] and *D. Jiles*[1,2] *1. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA, USA; 2. Materials Science and Engineering, Iowa State university, Ames, IA, USA*

4:00

FE-11. Effect of Al on the Magnetic Properties of $Pr_3(Fe_{1-x}Al_x)_{27.5}Ti_{1.5}$ [x = 0.1, 0.2, 0.3]. S. Venkatesh[1] and *G. Markandeyulu*[1] *1. Physics, Indian Institute of Technology Madras, CHENNAI, Tamil Nadu, India*

4:12

FE-12. Magnetic and Transport Properties of Nd_2Ni_2Pb. *V. Goruganti*[1], Y. Li[1], J.H. Ross[1] and Y. Oner[2] *1. Physics, Texas A&M University, College Station, TX, USA; 2. Physics, Istanbul Technical University, 34469 Maslak Istanbul, Turkey*

4:24

FE-13. Room-temperature magnetoresistance and electron transport studies of one-dimensional magnetite nanostructures. *D. Zhang*[1], B. Lei[1], C. Li[1], S. Han[1] and C. Zhou[1] *1. Electrical Engineering, University of Souther California, Los Angeles, CA, USA*

4:36

FE-14. Hollow iron oxide nanoclusters: synthesis and magnetic properties. *Y. Qiang*[1], J. Antony[1], A. Sharma[1], J. Nutting[1], D. Meyer[1] and Z. Billey[1] *1. Physics, University of Idaho, Moscow, ID, USA*

4:48

FE-15. Anomalous Magnetic Behavior of Thiol Self Assembled Monolayer on Gold Thinfilms. *S.G. Rao*[1], S.N. Ahmad[2] and S.A. Shaheen[2] *1. Physics and Center for Material Research and Technology, Florida State University, Tallahassee, FL, USA; 2. Physics, Center for Material Research and Technology, and Center for Nanomagnetics and Biotechnology, Florida State University, Tallahassee, FL, USA*

WEDNESDAY AFTERNOON 2:00

ATHERTON

Session FF
NEW APPLICATIONS, LEVITATION, SHIELDING & MICROWAVE DEVICES I

Gereon Meyer, Co-chair
Thomas Thomson, Co-chair

2:00

FF-01. Magnetic logic with spin waves. *B. Leven*[1], M.P. Kostylev[1], A.A. Serga[1], T. Schneider[1] and B. Hillebrands[1] *1. Fachbereich Physik und Forschungsschwerpunkt MINAS, Technische Universitaet Kaiserslautern, Kaiserslautern, Germany*

2:12

FF-02. Wave Front Reversal of Non-Reciprocal Surface Dipolar Spin Waves. G.A. Melkov[1], V.I. Vasyuchka[1], A.V. Chumak[1], V. Tiberkevich[2] and *A. Slavin*[2] *1. Faculty of Radiophysics, National Taras Shevchenko University of Kiev, Kiev, Ukraine; 2. Department of Physics, Oakland University, Rochester Hills, MI, USA*

2:24

FF-03. Generation of Period Tunable Spin Wave Envelope Soliton Trains through Induced Modulational Instability. *M. Wu*[1], B.A. Kalinikos[1,2] and C.E. Patton[1] *1. Department of Physics, Colorado State University, Fort Collins, CO, USA; 2. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation*

2:36

FF-04. Suppression of Insertion Loss by Slit-Patterning of a Magnetic Film on a CoFeB/Polyimide Hybrid Thin-Film Coplanar-Line for a RF Impedance Matching Device. *H. Nakayama*[1,2], T. Yamamoto[1], Y. Mizoguchi[1], T. Sato[1], K. Yamasawa[1], Y. Miura[1], Y. Miyake[3], M. Akie[3], Y. Uehara[3], M. Munakata[4] and M. Yagi[4] *1. Faculty of Engineering, Shinshu University, Nagano, Japan; 2. Nagano National College of Technology, Nagano, Japan; 3. Fujitsu Limited, Nagano, Japan; 4. Energy Electronics Laboratory, Sojo University, Kumamoto, Japan*

2:48

FF-05. Electromagnetic Study of Self-Biased Y-Junction Circulators using Polycrystalline Hexaferrite. *A. Guennou*[1], P. Queffelec[1], P. Gelin[1] and J. MATTEI[1] *1. LEST-UMR CNRS 6165, BREST CEDEX, France*

3:00

FF-06. Possible magnetic switch at microwave frequency. *R. Cao*[1], X. Zhang[1], R. Wu[2], M. Golt[3], S. Yarlaggada[3] and J.Q. Xiao[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Electronic Sciences and Engineering, Nanjing University, Nanjing, Jiangsu Province, China; 3. Center for Composite Materials, University of Delaware, Newark, DE, USA*

3:12

FF-07. Micromachined Matrix Resonators for Microwave Signal Processing. *R. Marcelli*[1] and T. Koike[2] *1. Microwave Microsystems Group, Institute for Microelectronics and Microsystems, Roma, RM, Italy; 2. Tamagawa University, Tamagawa, Japan*

3:24

FF-08. Theoretical Calculations for Microscopic Notch Filters with Hexagonal Ferrites. *T.J. Fal*[1] and R.E. Camley[1] *1. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA*

3:36

FF-09. 3D MODELING FOR MAGNETIC FIELD SHIELDING IN A HIGH ELECTRIC POWER PROCESS. *M. Zucca*[1], G. Crotti[1], O. Bottauscio[1], X. Li[2], M. Di Pardo[2] and M. Chiampi[3] *1. Applied Electromagnetics, IEN Galileo Ferraris, Torino, Italy; 2. Centro Ricerche FIAT, Orbassano, Torino, Italy; 3. Ingegneria Elettrica, Politecnico di Torino, Torino, Italy*

3:48

FF-10. Experimental and Anyalytical Study of Passive Damping in Terfenol-D composites. *K.K. Ho*[1,2], D. Lee[2], C. Kerrigan[2] and G.P. Carman[2] *1. Fortis Technologies, Los Angeles, CA, USA; 2. Mechanical Engineering, University of California Los Angeles, Los Angeles, CA, USA*

4:00

FF-11. Manipulation of Non-Magnetic Materials in Ferrofluid Containing Media. *D. Halverson*[1], B. Yellen[2] and G. Friedman[1] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA; 2. Mechanical Engineering and Materials Science Department, Duke University, Durham, NC, USA*

4:12

FF-12. A low mass, brushless permanent magnet linear actuator for the ISIS target accelerator. *N. Schofield*[1] and C. Booth[2] *1. Electrical and Electronic Engineering, University of Manchester, Manchester, United Kingdom; 2. Physics, University of Sheffield, Sheffield, United Kingdom*

4:24

FF-13. Temperature Rise for 3-D magnetic components. *F. Farahmand*[1], F.P. Dawson[1] and J.D. Lavers[1] *1. The Edward S. Rogers Sr. Department of Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada*

4:36

FF-14. Design Aspects and Performance Analysis of a Magnetically Suspended Microrobot. S. Shameli[1], D.G. Craig[1] and *M. Khamesee*[1] *1. Mechanical Engineering, University of Waterloo, Waterloo, ON, Canada*

WEDNESDAY AFTERNOON 2:00 — SACRAMENTO

Session FG
STRONGLY CORRELATED SYSTEMS/NUCLEAR SPINS IN SEMICONDUCTORS
Oleg Tchernyshyov, Chair

2:00

FG-01. Controlled multiple quantum coherences of nuclear spins in a nanometre-scale device. ***(Invited)*** *G. Yusa*[1,2], K. Muraki[1], K. Takashina[1], K. Hashimoto[2] and Y. Hirayama[1,2] *1. NTT Basic Research Laboratories, NTT Corporation, Atsugi, Japan; 2. SORST Program, Japan Science and Technology Agency (JST), Atsugi, Japan*

2:36

FG-02. Induced Nuclear Magnetism in Semiconductors via Electrical Injection of Spin-Polarized Electrons. *A. Petukhov*[1], V. Osipov[2,3] and V. Smelyanskiy[2] *1. Physics, South Dakota School of Mines and Technology, Rapid City, SD, USA; 2. NASA Ames Research Center, Moffett Field, CA, USA; 3. New Physics Devices LLC, El Segundo, CA, USA*

2:48

FG-03. Two Kondo Impurity Spin Interactions in Quantum Dots. *T. Ong*[1,2] and B. Jones[2,1] *1. Stanford University, Stanford, CA, USA; 2. IBM Almaden Research Center, San Jose, CA, USA*

3:00

FG-04. Electronic structure and magnetism of correlated systems. *A.I. Lichtenstein*[1] *1. Physics, University of Hamburg, Hamburg, Germany*

3:12

FG-05. Observation of a new magnetic anomaly below the ferromagnetic Curie temperature in $Yb_{14}MnSb_{11}$. *S. Sanyadanam*[1], S. Hariharan[1], B.C. Sales[2] and D. Mandrus[2] *1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. Condensed Matter Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA*

3:24

FG-06. Evolution of the magnetic properties and magnetic structures along the R_mMIn_{3m+2} (R = Ce, Nd, Gd, Tb; M = Rh, Ir and m=1,2) series of intermetallic compounds. *P.G. Pagliuso*[1], D. Garcia[1], E. Miranda[1], E. Granado[1,2], R. Lora Serrano[1], C. Giles[1], J. Duque[1], R. Urbano[1], C. Rettori[1], J. Thompson[3], M. Hundley[3] and J. Sarrao[3] *1. DEQ, IFGW - Unicamp, Campinas, Sao Paulo, Brazil; 2. Los Alamos National Laboratory, Los Alamos, NM, USA; 3. Laboratorio Nacional de Luz Sincrotron, Campinas, Sao Paulo, Brazil*

3:36

FG-07. Moment and Volume Collapse under Pressure in MnO : Theory vs Experiment. *D. Kasinathan*[1] and W.E. Pickett[1] *1. Physics, University of California, Davis, Davis, CA, USA*

3:48

FG-08. Magnetic Structures in UCuSn. *S.T. El-Khatib*[1], H. Nakotte[1], S.H. Lee [2], J.W. Lynn [2], A. Purwanto [3] and R.A. Robinson [3] *1. Physics, New Mexico State University, Las Cruces, NM, USA; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA; 3. LANSCE-12, Los Alamos, NM, USA*

4:00

FG-09. The anisotropy of the Eu^{2+} ESR g-value shows tetragonal symmetry in the metallic phase of the cubic hexaborides $Ca_{1-x}Eu_xB_6$ ($0.15 \le x \le 1.00$). R.R. Urbano[1], P.G. Pagliuso[1], *C. Rettori*[1], P. Schlottmann[2,3], Z. Fisk[4] and S.B. Oseroff[5] *1. DEQ, IFGW, Campinas, SP, Brazil; 2. Department of Physics, Florida State University, Tallahassee, FL, USA; 3. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, USA; 4. Physics Department, UC Davis, Davis, CA, USA; 5. San Diego State University, San Diego, CA, USA*

4:12

FG-10. Disproportionation Followed by Metal-Insulator Transition at Critical Interaction Strength in Na_xCoO_2. *K. Lee*[1] and W.E. Pickett[1] *1. Physics, Univeristy of California, Davis, CA, USA*

WEDNESDAY AFTERNOON 2:00 **PIEDMONT**

Session FH
FUNDAMENTAL MAGNETISM
Jim Rhyne, Chair

2:00

FH-01. Determination of the Spin Polarization of Gd and Dy by Point Contact Andreev Reflection. *J. Valentine*[1] and C. Chien[1] *1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

2:12

FH-02. Temperature dependence of the magnetic moment of antiferromagnetic particles. *K. Gilmore*[1], M. Allen[2] and Y.U. Idzerda[1] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Chemistry, Montana State University, Bozeman, MT, USA*

2:24

FH-03. Magnetic Ordering in Pd/Mn-Oxide Nanocomposites. *L.H. Lewis*[1], E. Baumberger[2] and R.J. Gambino[2] *1. Materials Science Department, Brookhaven National Laboratory, Upton, NY, USA; 2. Materials Science and Engineering Department, Stony Brook University, Stony Brook, NY, USA; 3. Materials Science and Engineering Department, Stony Brook University, Stony Brook, NY, USA*

2:36

FH-04. Magnetic properties of CoFe encapsulated in SiC matrix. *J. Guo*[1], D. Shin[2], J. Soderstrom[1], S. Kashtanov[1], E. Arenholz[1] and S. Wang[2] *1. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 2. Department of Materials Science and Engineering, Stanford University, Stanford, CA, USA*

2:48

FH-05. Magnetism and Electronic Structure of Binuclear Manganese Complexes in Ortho-Quinone Ligand and Polymer Environments. S. Arrington[1], *R. Rakhimov*[1], A.I. Prokof'ev[2], I.A. Alexandrov[3] and A.I. Aleksandrov[3] *1. Center for Materials Research, Norfolk State University, Norfolk, VA, USA; 2. Institute of Organoelement Compounds, Moscow, Russian Federation; 3. Institute of Synthetic Polymer Materials, Moscow, Russian Federation*

3:00

FH-06. Static ionic displacements in Fe-Ni alloys from first-principles. F. Liot[1], S.I. Simak[1] and *I.A. Abrikosov*[1] *1. Department of Physics and Measurement Technology (IFM), Linkoping University, Linkoping, Sweden*

3:12

FH-07. Investigation of the Linear and Angular Momentum Dynamics of Hot Electrons in Metals by Femtosecond Ellipsometry. *V.V. Kruglyak*[1] and R.J. Hicken[1] *1. School of Physics, University of Exeter, Exeter, United Kingdom*

3:24

FH-08. Spin-dependent electron dynamics and surface magnetization - probed via image-potential surface states. *M. Donath*[1], M. Pickel[1], A.B. Schmidt[2] and M. Weinelt[2] *1. Physikalisches Institut, Westfaelische Wilhelms-Universitaet, Muenster, Germany; 2. Max-Born-Institut and Freie Universitaet, Berlin, Germany*

3:36

FH-09. Concentration vs. Magnetic Field Tuned Scaling Results Near a Quantum Phase Transition in the Magnetic Semiconductor a-GdSi. *E.B. Helgren*[1], L. Zeng[1], F. Hellman[1] and D. Basov[2] *1. Physics, University of California Berkeley, Berkeley, CA, CA, USA; 2. Physics, UCSD, La Jolla, CA, USA*

3:48

FH-10. Hopping Percolation Transition in Two-dimensional Granular Ferromagnets. *Y.M. Strelniker*[1], A. Frydman[1], R. Berkovits[1] and S. Havlin[1] *1. Physics, Bar-Ilan University, Ramat Gan, Israel*

4:00

FH-11. Experimental Evidence for a Dynamic Phase Transition in Ultra-thin Magnetic Films. *D.T. Robb*[1], Y.H. Xu[2,3], O. Hellwig[2], A. Berger[2], M.A. Novotny[4,5] and P.A. Rikvold[1,6] *1. School of Computational Science, Florida State University, Tallahassee, FL, USA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 3. Department of Physics and Astronomy, University of Minnesota, Minneapolis, MN, USA; 4. ERC Center for Computational Sciences, Mississippi State University, Mississippi State, MS, USA; 5. Department of Physics and Astronomy, Mississippi State University, Mississippi State, MS, USA; 6. Department of Physics, Florida State University, Tallahassee, FL, USA*

4:12

FH-12. Bose-Einstein condensation of spins in the organic quantum magnet $NiCl_2$-4SC$(NH_2)_2$. *V. Zapf*[1], D. Zocco[1], M. Jaime[1], N. Harrison[1], T. Murphy[2], C. Batista[3], A. Lacerda[1] and A. Paduan-Filho[4] *1. National High Magnetic Field Lab, Los Alamos National Lab, Los Alamos, NM, USA; 2. National High Magnetic Field Laboratory, Tallahassee, FL, USA; 3. Condensed Matter and Statistical Physics, Los Alamos National Lab, Los Alamos, NM, USA; 4. Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo, Brazil*

4:24

FH-13. On the magnetization temperature dependence of Co and Co-based alloys. *T. Ambrose*[1], X. Wu[1], O. Mryasov[1] and R. van de Veerdonk[1] *1. Seagate Research, Pittsburgh, PA, USA*

WEDNESDAY AFTERNOON 1:00 — IMPERIAL

Session FP
MAGNETIC REFRIGERANT MATERIALS (POSTER SESSION)
K.G. Suresh, Chair

FP-01. Large magnetic entropy change in $Pr_{1-x}Pb_xMnO_3$ ($0.1 \leq x \leq 0.5$) perovskites. *H.M. Phan*[1], H. Peng[1], S. Yu[2], N. Tho[3], D. Hanh[3] and N. Chau[3] *1. Department of Aerospace Engineering, Bristol University, Bristol, BS8 1TR, United Kingdom; 2. Department of Physics, Chungbuk National University, Cheongju, 361-763, South Korea; 3. Center for Materials Science, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam*

FP-02. Effect of hydrogen on the structural, magnetic and magnetocaloric properties of Gd5Ge2Si2Hx system. *F.C. Nascimento*[1], A.G. Carvalho[1], C.C. Alves, M.A. Bolanho, C.C. Colluci, A.A. Coelho[1], S. Gama[1] and L.P. Cardoso[1] *1. DFA, Unicamp, Campinas, Sao Paulo, Brazil; 2. UEM, Maringa, Parana, Brazil*

FP-03. Structural and magneto-thermal properties of the $Gd_5Sb_xGe_{4-x}$ system. *A.S. Chernyshov*[1,2], Y.S. Mudryk[1], V.K. Pecharsky[1,2] and K.A. Gschneidner, Jr.[1,2] *1. Ames Laboratory, Materials Science and Engineering Physics Program, Iowa State University, Ames, IA, USA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA*

FP-04. Magneto-caloric effect in Gd5Si2Ge2/Gd composite materials. *M. Yue*[1], J. Zhang[1], H. Zeng[1] and H. Chen[1] *1. The Key Laboratory of Advanced Functional Materials, Ministry of Education, Beijing University of Technology, Beijing, China*

FP-05. Magnetocaloric effect in $Gd_{5-x}Dy_xSi_4$ compounds. *H. Ido*[1] and S. Shimotomai[1] *1. Applied Physics, Tohoku Gakuin University, Tagajo, Miyagi, Japan*

FP-06. Magnetocaloric Effect in $Mn_5Ge_{3-x}Si_x$ Pseudobinary Compounds. *X. Liu*[1] and Z. Altounian[1] *1. physics department, McGill University, Montreal, QC, Canada*

FP-07. Unusual behavior of the magnetocaloric effect in the Gd_5Ge_4 compound. *A.M. Carvalho*[1], C.S. Alves[2], A.A. Coelho[1] and S. Gama[1] *1. Applied Physics Department, Universidade Estadual de Campinas, Campinas, Sao Paulo, Brazil; 2. Mechanical Engineering Department, Universidade Estadual de Maringa, Maringa, Parana, Brazil*

FP-08. Magnetocaloric effect on $U(Ga,M)_2$ with M=Al, Ni, Pt, Ge and Co. L.M. da Silva[1], A.O. dos Santos[1], L.P. Cardoso[1] and *F.G. Gandra*[1] *1. Physics Institute, University of Campinas, Campinas, Sao Paulo, Brazil*

FP-09. Monte Carlo Calculations Of The Magnetocaloric Effect In RAl2 And RNi2 Compounds (R=Er,Dy). E.P. Nobrega[1], P.J. von Ranke[2], N.A. de Oliveira[2] and *A. Troper*[1,2] *1. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil; 2. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil*

FP-10. Anomalous Magnetocaloric Properties of RE2Al3Si2 and CeAlSi. *A. Lima*[1], S. Bobev[2] and J.L. Sarrao[1] *1. MST-10 K764, Los Alamos National Laboratory, Los Alamos, NM, USA; 2. Dept. Chemistry, University of Delaware, Newark, DE, USA*

FP-11. Magnetocaloric effect in dysprosium oxide passivated Dy nanoparticles. *I. Skorvanek*[1], J. Kovac[1], P. Si[2], M. Zhang[2], X. Zhao[2] and Z. Zhang[2] *1. Institute of Experimental Physics, Slovak Acad. Sci., Kosice, Slovakia; 2. Shenyang National Laboratory for Materials Science, Institute of Metal Research and International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*

FP-12. Magnetocaloric effect in MnFe(P,Si,Ge) compounds. *D. Cam Thanh*[1], E. Bruck[1], O. Tegus[1], J. Klaasse[1], T. Gortenmulder[1] and K. Buschow[1] *1. Van der Waals-Zeeman Instituut, Universiteit van Amsterdam, Valckenierstraat 65, 1018 XE Amsterdam, Netherlands*

FP-13. Magnetic properties and magnetic-entropy change of $MnFeP_{0.5}As_{0.5-x}Si_x$ (x = 0 – 0.3) compounds. *W. Dagula*[1,2], O. Tegus[1,2], E. Bruck[1], X. Li[2], L. Song[1,2], D. Cam Thanh[1], F. de Boer[1] and K. Buschow[1] *1. Van der Waals-Zeeman Instituut, Universiteit van Amsterdam, Amsterdam, Netherlands; 2. Key lab of magnetic materials, Inner Mongolia Normal University, Hohhot, China*

FP-14. Magnetocaloric effect of $Ni_2Mn_{1-x}M_xGa$ M=(Cu,Co). *A.M. Gomes*[1], M. Khan[2], S. Stadler[2], N. Ali[2], I. Dubenko[3], A. Takeuchi[3] and A.P. Guimaraes[3] *1. Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil; 2. Dept. of Physics, Southern Illinois University, Carbondale, IL, USA; 3. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, RJ, Brazil*

WEDNESDAY AFTERNOON 1:00 **IMPERIAL**

Session FQ
OXIDE MAGNETIC SEMICONDUCTORS II (POSTER SESSION)

George Kioseoglou, Co-chair
Paul Crowell, Co-chair

FQ-01. Nature of Magnetism in Co and Mn substituted ZnO prepared by Sol-Gel Technique. *A. Manivannan*[1], P. Dutta[1], G. Glaspell[1] and M.S. Seehra[1] *1. Physics, West Virginia University, Morgantown, WV, USA*

FQ-02. Investigation of the phase separations and the local electronic structures of $Zn_{1-x}T_xO$ (T=Mn, Fe, Co) magnetic semiconductors using synchrotron radiation. *S. Lee*[1], G. Kim[1], S. Wi[1], J. Kang[1,2], S. Han[2], K. Ahn[3], Y. Lee[3], S. Kwon[4], M. Jung[5], H. Song[6] and H. Shin[6] *1. Physics, The Catholic university of Korea, Puchon, South Korea; 2. CSCMR, Seoul National University, Seoul, South Korea; 3. Korea Research Institutes of Chemical Technology, Daejon, South Korea; 4. Materials Science and Engineering, POSTECH, Pohang, South Korea; 5. Korea Basic Science Institute, Daejon, South Korea; 6. Pohang Accelerator Laboratory (PAL), Pohang, South Korea*

FQ-03. Colloidal Diluted Magnetic Semiconductor Quantum Dots. *N.S. Norberg*[1], G.L. Parks[1], K.R. Kittilstved[1] and D.R. Gamelin[1] *1. Department of Chemistry, University of Washington, Seattle, WA, USA*

FQ-04. Room Temperature Ferromagnetism and Magnetotransport in Cobalt-doped ZnO. M. Luebbe[1], K. Nielsen[1], J. Simon[2], W. Mader[2], *M. Opel*[1] and R. Gross[1] *1. Walther Meissner Institute, Bavarian Academy of Sciences, Garching, Germany; 2. Institute for Anorganic Chemistry, University of Bonn, Bonn, Germany*

FQ-05. Ferromagnetism and structure of Mn-doped ZnO thin films. *J. Zhang*[1,3], X. Li[3], L. Yue[1,3], K.K. Mendu[2,3], Y. Lu[2,3] and D.J. Sellmyer[1,3] *1. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE, USA; 2. Department of Electrical Engineering, University of Nebraska, Lincoln, NE, USA; 3. Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

FQ-06. Characterizations of phosphorus-doped MnZnO films grown on ZnO buffers by pulsed laser deposition. H. Quang[1], *Y. Song*[1], Y. Yoo[2], J. Zidanic[1], T. Phan[1] and S. Yu[1] *1. Applied Physics Laboratory, Department of Physics, Chungbuk National University, 361-763 Cheongju, South Korea; 2. Information Storage Device Team, Electronics & Telecommunications Research Institute, Daejeon 305-350, South Korea*

FQ-07. Ferromagnetism in 200 MeV Ag^{+15} ions irradiated Co-implanted ZnO thin films. *J. Song*[1], J. Lee[1], S. Shin[1], W. Choi[2], B. Angadi[2], R. Kuma[3], M. Khan[4] and J. Srivastava[4] *1. Advanced Analysis Center, Korea Institute of Science and Technology, Seoul, South Korea; 2. Thin films Materials Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 3. Materials Science Division, Nuclear Science Centre, New Delhi, India; 4. Department of Physics, Aligarh Muslim, Aligarh, India*

FQ-08. Absence of magnetism in hafnium oxide. *D.W. Abraham*[1], M.M. Frank[1] and S. Guha[1] *1. IBM TJ Watson Research Center, Yorktown Heights, NY, USA*

FQ-09. Structural, Electronic, and Magnetic Properties of MBE Grown Ti-doped Fe_2O_3 hematite. *T.C. Droubay*[1], S.M. Heald[1], D.E. McCready[2], K.M. Rosso[1], C. Wang[2] and S.A. Chambers[1] *1. Fundamental Science Directorate, Pacific Northwest National Laboratory, Richland, WA, USA; 2. EMSL, Pacific Northwest National Lab, Richland, WA, USA*

FQ-10. Electron Paramagnetic Resonance of Co^{2+} Ions in Nanoparticles of SnO_2 Processed at Different Temperatures (350° C, 600° C). *S.K. Misra*[1], S.I. Andronenko[1], K.M. Reddy[2], J. Hays[2] and A. Punnoose[2] *1. Department of Physics, Concordia University, Montreal, QC, Canada; 2. Department of Physics, Boise State University, Boise, ID, USA*

FQ-11. Ferromagnetic resonance studies in oxide-based dilute ferromagnetic Semiconductors. *B.A. Lasley-Hunter*[1], D. Hunter[1], J.B. Dadson[1], K. Zhang[1], K. Lord[1], T.M. Williams[1], A.K. Pradhan[1] and R.R. Rakhimov[1] *1. Center for Materials Research, Norfolk State University, Norfolk, VA, USA*

FQ-12. Ferromagnetism in Ni-doped TiO_2 thin films detected by optical magnetic circular dichroism. *D. Kim*[1], Y. Joh[1], J. Cho[1] and E. Kim[1] *1. Physics, Yeungnam University, Gyeongsan, South Korea*

FQ-13. Ferromagnetic Properties of Anatase Ti1-xFexO2-δ Thin Films. *K. Kim*[1], Y. Park[1], G. Ahn[2], C. Kim[2] and J. Park[3] *1. Physics, Konkuk University, Seoul, South Korea; 2. Physics, Kookmin University, Seoul, South Korea; 3. Material Science and Engineering, University of Incheon, Incheon, South Korea*

FQ-14. The structure and magnetic properties of Cr/Fe-doped SnO_2 thin films. *W. Wang*[1], M. Yu[2], Z. Wang[1], Y. Hong[1] and J. Tang[1] *1. Department of Physics, University of New Orleans, New Orleans, LA, USA; 2. Advance Materials Research Institute, University of New Orleans, New orleans, LA, USA*

FQ-15. Effect of preparation conditions on the Fe incorporation and ferromagnetism of $Sn_{1-x}Fe_xO_2$: A Raman spectroscopic investigation. *X. Mathew*[1], C. Mejia-Garcia[3], G. Contreras-Puente[3], J. Hays[2] and A. Punnoose[2] *1. Centro de Investigacion en Energia, UNAM, Temixco, Morelos, Mexico; 2. Physics, Boise State University, Boise, ID, USA; 3. Escuela Superior de Fisica y Matematicas, IPN, U. P. Zacatenco, Mexico D.F., Mexico*

WEDNESDAY AFTERNOON 1:00 **IMPERIAL**

Session FR
PERPENDICULAR MEDIA II (POSTER SESSION)
Noel Abarra, Chair

FR-01. Novel intermediate layers for perpendicular recording medium. *S. Piramanayagam*[1], H. Zhao[1], C. Mah[1] and J. Shi[1] *1. Data Storage Institute, Singapore, Singapore*

FR-02. Enhancement of perpendicular recording media properties using NiCr/Pd dual seedlayer. *K. Yamanaka*[1], M. Shibamoto[1], D.D. Djayaprawira[1] and N. Watanabe[1] *1. Electron Device Equipment, Anelva Corporation, Fuchu, Tokyo, Japan*

FR-03. Intermediate Layer Control in CoCrPt-SiO2 Perpendicular Media Recorded with Shielded Pole Head. *H. Oh*[1], H. Lee[1], C. Choi[1], Y. Im[1], C. Lim[1], Y. Kim[1], J. Lee[2] and N. Park[1] *1. HDD program team, Samsung Advanced Institute of Technology, Yongin-City, South Korea; 2. Hanyang University, Seoul, South Korea*

FR-04. Influence of in-plane magnetic field on perpendicular media. *H. Endo*[1], Y. Uesaka[1], N. Kodama[2], Y. Nakatani[3], N. Hayashi[4] and H. Fukushima[5] *1. Engineering, Nihon University, Kohriyama, Fukushima, Japan; 2. HItachi GST, San Jose, CA, USA; 3. University of Electro-communications, Chofu, Tokyo, Japan; 4. independent, Mitaka, Tokyo, Japan; 5. independent, Chiba, Chiba, Japan*

FR-05. High magnetic perpendicular anisotropy in sputtered Co/Pt multilayers with ultrathin Pt layer. *R. Shan*[1], T. Gao[1], S. Zhou[1] and X. Wu[2] *1. Surface Physics Laboratory(National Key Laboratory), Fudan university, Shanghai, China; 2. National Laboratory of Solid State Microstructures, Nanjing university, Nanjing, China*

FR-06. Magnetocrystalline anisotropy and *c*-axis orientation in $L1_0$-type Fe-Pt bulk single crystals. *H. Shima*[1], K. Inoue[2], K. Oikawa[1], A. Fujita[1], K. Fukamichi[2] and K. Ishida[1,3] *1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 3. Core Research for Evolutional Science and Technology, Japan Science and Technology Agency, Japan*

FR-07. Effects of top Ru deposition pressure on magnetic and microstructural properties of CoCrPt-SiO_2 media in two-step Ru layer. *S. Park*[1], S. Kim[1], D. Hong[2] and T. Lee[1] *1. Dept. of Materals Science and Engineering, Korea Advaced Institute of Science and Technology, Daejeon, South Korea; 2. Korea Institute of Science and Technology, Seoul, South Korea*

FR-08. Reduction of grain size and intergrain interaction in FePt/Pt/Cr trilayer thin films for perpendicular magnetic recording. *A. Sun*[1], P. Kuo[1,2], J. Hsu[1,3] and H. Huang[1,3] *1. Center for Nanostorage, National Taiwan University, Taipei, Taiwan; 2. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 3. Department of physics, National Taiwan University, Taipei, Taiwan*

FR-09. Effect of oxide addition to Co-Pt films for high density perpendicular magnetic recording media. *J. Ariake*[1], T. Chiba[1], S. Watanabe[1] and N. Honda[1] *1. Akita Research Institute of Advanced Technology, Akita, Japan*

FR-10. Switching behavior of Fe/FePt exchange-spring bilayer. *K.K. Pandey*[1,2] *1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Spintronics, Media and Interface, Data Storage Institute, Singapore, Singapore*

FR-11. Influences of the magnetoelastic effect for pole erasure occurrence in perpendicular recording heads. *K. Hirata*[1], A. Yamaguchi[1], M. Ohtsuki[1], T. Roppongi[1] and K. Noguchi[1] *1. Head Business Group, TDK Corporation, Saku, Japan*

WEDNESDAY AFTERNOON 1:00 IMPERIAL

Session FS
RECORDING HEAD MATERIALS AND DOMAINS II (POSTER SESSION)
Tom Ambrose, Chair

FS-01. A study on the softness of FeCoN magnetic thin film deposited on different seed layers. *H. Jiang*[1], K. Sin[1] and Y. Chen[1] *1. Western Digital Corp., Fremont, CA, USA*

FS-02. Tailoring the magnetic properties of CoFeNi alloys with variations in copper contents. *J. Lee*[1], H. Kim[1] and W. Jeung[1] *1. Materials Research Division, Korea Institute of Science and Technology, SEOUL, South Korea; 2. Materials Research Division, Korea Institute of Science and Technology, SEOUL, South Korea; 3. Materials Research Division, Korea Institute of Science and Technology, SEOUL, South Korea*

FS-03. Field-evolution of vortex and cross-tie states in elliptical permalloy thin films. *Z. Wei*[1], M. Lai[1], C. Chang[1], J. Wu[2] and W. Hsieh[2] *1. Physics, Department of Physics, National Taiwan University, Taipei, Taiwan; 2. Department of Physics and Taiwan SPIN Research Center,, National Changhua University of Education, Changhua, Taiwan*

FS-04. Magnetic Reversal in NiFe Patterned thin films. *W.J. Geerts*[1], C. Garrett[1], G. Spencer[1], C. Gutierrez[1], J. Hendrix[1], C. Doppe[2], L. Abelmann[2], H. Ten Brinke[2] and N. White[1] *1. Physics, Texas State University at San Marcos, San Marcos, TX, USA; 2. Electrical Engineering, University of Twente, Ensched, Netherlands*

FS-05. Investigations of permalloy network structure using magnetic force microscope. *Y. Chang*[1], C. Chang[1], I. Chang[1], J. Wu[1], Z. Wei[2], M. Lai[2] and C. Chang[2] *1. National Changhua University of Education, Changhua, Taiwan; 2. National Taiwan University, Taipei, Taiwan*

FS-06. Stripe Domain Reversal in Permalloy Films with Perpendicular Anisotropy. *P.G. Eames*[1] and E. Dahlberg[1] *1. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, USA*

FS-07. Thermally activated magnetization switching in necked NiFe nanowires. *S. Lepadatu*[1], C. Bunce[1], J. Wu[1] and Y. Xu[2] *1. Physics Department, University of York, York, United Kingdom; 2. Electronics Department, University of York, York, United Kingdom*

FS-08. High Frequency Susceptibility of Closure Domain Structures. *A. Kaya*[1,2] and J.A. Bain[1,3] *1. Data Storage Center Systems, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Physics Department, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

FS-09. Influence of domain structure on magneto-transport in magnetic dots. *C. Ting-Yi*[1] and S.Y. Hu [1] *1. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan*

FS-10. Domain Wall Pinning by Step-Like Thickness Change in Magnetic Thin Film. *M. Takezawa*[1], K. Ejiri[1], J. Yamasaki[1], H. Asada[2] and T. Koyanagi[2] *1. Dept. of Appl. Sci. for Integ. Syst. Engin., Kyushu Institute of Technology, Kitakyushu, Japan; 2. Dept. of Symbiotic Environmental Syst. Engin., Yamaguchi University, Ube, Japan*

FS-11. Analysis of Barkhausen effect signals in surface-modified magnetic materials using a hysteretic-stochastic model. *C. Lo*[1], E. Kinser[1], T. Barsic[1] and D. Jiles[1] *1. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA*

FS-12. Investigation of tip-induced magnetic ripples on $La_{0.7}Sr_{0.3}MnO_3$. H. Wu[1], J. Chen[1], *Y. Ma*[1], Y. Liou[2] and Y. Yao[2] *1. Physics, National Dong Hwa University, Hualien, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

WEDNESDAY AFTERNOON 1:00 IMPERIAL

Session FT
MAGNETIC MICROSCOPY AND IMAGING (POSTER SESSION)
Fabio da Silva, Chair

FT-01. Scanning Magnetoresistance Microscopy with Spin-Valve Sensor. *T. Takezaki*[1], D. Yagisawa[1] and K. Sueoka[1] *1. Graduate School of Information Science and Technology, Hokkaido Univ., Sapporo, Japan*

FT-02. Scanning Hall probe microscopy using focused ion beam modified atomic force microscope tips. *D. Petit*[1], S. Johnstone[2], D. Wood[2], A. Cluett[2] and R.P. Cowburn[1] *1. Department of Physics, Imperial College London, London, United Kingdom; 2. School of Engineering, University of Durham, Durham, United Kingdom*

FT-03. Quantitative surface field imaging of magnetic domains in NdFeB. *J. McCord*[1], M. Dede[2], O. Gutfleisch[1], K. Khlopkov[1], A. Oral[2], R. Schaefer[1] and L. Schultz[1] *1. Institute for Metallic Materials, IFW Dresden, Dresden, Germany; 2. Department of Physics, Bilkent University, Ankara, Turkey*

FT-04. Near Field Imaging of High Frequency Magnetic Fields with Calorimetric Cantilever Probes. S. Lee[2,1], Y. Lee[2], *T.M. Wallis*[1], J. Moreland[1] and P. Kabos[1] *1. N. I. S. T., Boulder, CO, USA; 2. Mechanical Engineering, University of Colorado, Boulder, CO, USA*

FT-05. Effect of varying sputtering parameters on the observation of magnetic domains using high resolution bitter microscopy technique. P. Shah[1] and *A. Gavrin*[1] *1. Physics, Indiana Univ. Purdue Univ. at Indianapolis, Indianapolis 46202, IN, USA*

FT-06. Direct time-resolved observation of domain dynamics in CoCr-based alloy films with in-plane magnetic anisotropy. *M. Im*[1], D. Kim[2] and S. Shin[1] *1. Pysics, Korea Advanced Institute of Science and Technology, Taejon, Taejon, South Korea; 2. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley CA, CA, USA*

FT-07. Asymmetric magnetization reversal of perpendicular exchange biased (Pt/Co) multilayers. *F. Romanens*[1], S. Pizzini[1], F. Yokaichiya[1], M. Bonfim[1], Y. Pennec[1], J. Camarero[2], J. Vogel[1], J. Sort[3], F. Garcia[3], B. Rodmacq[3] and B. Dieny[3] *1. Laboratoire Louis Neel (CNRS), Grenoble, France; 2. Departamento de Fisica de la Materia Condensada, Madrid, Spain; 3. SPINTEC, Grenoble, France*

FT-08. Imaging domain walls in nanostructures with constrictions. A. Gentils[1], S. McVitie[1] and *J. Chapman*[1] *1. Department of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

FT-09. Anisotropic magnetostatic interaction in arrays of Fe micro- and nanoelements for storage applications. M. Bolte[1], R. Eiselt[1], D. Kim [2], P. Fischer[2] and *G.D. Meier*[1] *1. Insitute of Applied Physics, University of Hamburg, Hamburg, Hamburg, Germany; 2. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA, USA*

FT-10. Picosecond magnetization reversal dynamics in patterned structures imaged with X-ray photoemission electron microscopy. *X. Han*[1], D. Keavney[1], R. Divan[1], L. Ocola[1], Y. Ji[2], A. Hoffmann[2], D. Arena[3], E. Vescovo[3] and W. Bailey[4] *1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 3. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 4. Department of Applied Physics, Columbia University, New York, NY, USA*

FT-11. Tuning the circular X-ray polarization in magnetic full-field soft X-ray transmission microscopy. B. Kang[1,2], *P. Fischer*[1], D. Kim[1], E. Anderson[1] and G. Cho[2] *1. CXRO, LBNL, Berkeley, CA, USA; 2. KAIST 373-1, Daejeon, South Korea*

FT-12. Evolution of Co/Pt-covered nanolines under magnetic field using coherent soft x-ray resonant magnetic scattering. G. Beutier[1], F. Livet[2], A. Marty[1], G. van der Laan[3], S. Stanescu[4], V. Chamard[2], V. Baltz[5] and *P. Warin*[1] *1. DRFMC, CEA-Grenoble, Grenoble, France; 2. LTPCM, CNRS, Grenoble, France; 3. Magnetic Spectroscopy Group, Daresbury Laboratory, Warrington, United Kingdom; 4. ESRF, Grenoble, France; 5. DRFMC-SPINTEC, CEA, Grenoble, France*

FT-13. Characterization of Bi:$Y_3Fe_5O_{12}$ thin films by using Low Temperature Magneto-optical Microscope. *T. Ishibashi*[1], S. Yufune[1], T. Kawata[1], M. Oda[1], T. Tani[1], Y. Iimura[1], Y. Konishi[2], K. Akahane[2] and K. Sato[1] *1. Tokyo Univ. of Agriculture & Technology, Tokyo, Japan; 2. Neoark Corporation, Tokyo, Japan*

FT-14. Magnetic structure of vortex and antivortex states in patterned Co elements 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 Center for Nanoscience and Technology, Rice University, Houston, TX, USA*

WEDNESDAY AFTERNOON 1:00

IMPERIAL

Session FU
COMPLEX OXIDES I: MOSTLY FILMS & INTERFACES (POSTER SESSION)

Jeff Parker, Co-chair
Peng Xiong, Co-chair

FU-01. Strain Effect and very high Tc on La0.8Ba0.2MnO3 thin films by off-axis sputtering on SrTiO3 (100) substrates. *H. Chou*[1,2], S. Hsu[1,2] and C. Wu[1,2] *1. Physics, National Sun Yat-Sen University, Kaohsiung, Taiwan; 2. Center for Nanoscience and Nanotechnology, National Sun Yat-sen University, Kaohsiung, Taiwan*

FU-02. Electrical and magnetotransport properties of manganite nanoparticles. *C. Krishnamoorthy*[1], K. Sethupathi[1], V. Sankaranarayanan[1], R. Nirmala[2] and S. Malik[2] *1. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 2. Tata Institute of Fundamental Research, Mumbai, India*

FU-03. Metalorganic chemical vapor deposition of magnetoresistive manganite films exhibiting electric-pulse-induced resistance change effect. *T. Nakamura*[1], R. Tai[1] and K. Tachibana[1] *1. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan*

FU-04. Electron magnetic resonance study on the surface states of La0.7Sr0.3MnO3 nanoparticles. *J. Wu*[1] and J. Lin[1,2] *1. National Taiwan University Center for Condensed Matter Sciences, Taipei, Taiwan; 2. National Taiwan University Center for Center Nanostorage Research, Taipei, Taiwan*

FU-05. Magneto-optical and Optical Spectroscopic Ellipsometry of LSMO Thin Films. *J. Mistrik*[1], M. Veis[2], E. Liskova[2], S. Visnovsky[2], T. Yamaguchi[1], M. Koubaa[3], A.M. Haghiri-Gosnet[3], J.P. Renard[3], P. Lecoeur[4], W. Prellier[4] and B. Mercey[4] *1. Research Institute of Electronics, Shizuoka University, Hamamatsu, Japan; 2. Institute of Physics, Charles University, Prague, Czech Republic; 3. Institut d'Electronique Fondamental, Universite Paris Sud, Orsay, France; 4. Laboratoire de Cristallographie et Siences des Materiuax, CRISMAT-ISMRA, CNRS UMR 6508, Caen, France*

FU-06. Preparation of Doped Manganites Thin Films Using Discrete Deposition Techniques. A. Tovstolitkin[1], A. Pogorily[1], A. Matvienko[1], *A. Vovk*[2], L. Malkinski[2], Z. Wang[3] and J. Tang[3] *1. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; 2. AMRI-University of New Orleans, New Orleans, LA, USA; 3. Department of Physics University of New Orleans, New Orleans, LA, USA*

FU-07. Self-assembled nanocrystalline epitaxial manganite films on SrTiO3 and SrTiO3/Si heterostructures. *D.D. Hunter*[1], J.B. Dadson[1], K. Zhang[1], B.A. Lasley-Hunter[1], K. Lord[1], T.M. Williams[1], R.R. Rakhimov[1], A.K. Pradhan[1], J. Zhang[2] and D.J. Sellmyer[2] *1. Center for Materials Research, Norfolk State University, Norfolk, VA, USA; 2. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska, Lincoln, NE, USA*

FU-08. Response of transport properties to static-electric-field and magnetic field in $La_{0.7}Ca_{0.3}MnO_3$ epitaxial thin films. *F. Hu*[1,2] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, China; 2. Department of Physics, Capital Normal University, Beijing, Beijing, China*

FU-09. Synchrotron radiation spectroscopy study of electron - and hole - doped CMR double perovskites: $A_{2-x}B_xFeMoO_6$ (A=Sr, Ba; B = La, K). *G. Kim*[1], S. Lee[1], S. Wi[1], J. Kang[1,2], S. Han[2], J. Kim[3], B. Lee[3], J. Kim[4], B. Park[5], J. Park[5] and B. Min[5] *1. Department of physics, The Catholic University of Korea, Puchon, South Korea; 2. CSCMR, Seoul National University, Seoul, South Korea; 3. Department of physics, Hankuk University of Foreign Studies, Yongin, South Korea; 4. Pohang Accelerator Laboratory(PAL), Pohang, South Korea; 5. Department of physics, POSTECH, Pohang, South Korea*

FU-10. Electronic structure of LaSrMnO4: XPS and XES studies. *K. Kuepper*[1,2], R. Klingeler[3], P. Reutler[3], B. Buechner[3] and M. Neumann[1] *1. Physics, University of Osnabrueck, D-49069 Osnabrueck, Germany; 2. Inst. Ionenphys. & Mat. Forsch., Forschungszentrum Rossendorf e. V., D-01328 Dresden, Germany; 3. Institute for Solid State Research, IFW Dresden, D-01171 Dresden, Germany*

FU-11. Magnetic properties of $Nd_{1-x}Li_xMnO_3$ solid solutions. *R. Valenzuela*[1], C. Roman[2], M. Castellanos[2], A. Derory[3] and G. Pourroy[3] *1. Materials Science, National University of Mexico, Mexico D.F., Mexico; 2. Faculty of Chemistry, National University of Mexico, Mexico D.F., Mexico; 3. Inorganic Materials, Instituto of Physics and Chemistry of Materials, Strasbourg, France*

FU-12. Mössbauer studies of Fe-doped $HoMnO_3$. *S. Kim*[1], S. Kim[1], J. Park[2], S. Cheong[3] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, South Korea; 2. Department of Physics, SungKyunKwan University, Suwon, South Korea; 3. Department of Physics & Astronomy, Rutgers University, Piscataway, NJ, USA*

FU-13. Infrared Absorption from Charge Density Waves in La(0.67-x)PrxCa0.33MnO3 (x=0.00, 0.18, 0.36). Z. Lu[1], J. Sun[2], S. Li[1], H. Liu[1], X. Xu[1] and *Y. Li*[1] *1. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China; 2. Institute of Physics and Center for Condensed Matter Physics, Chinese Academy of Sciences, Beijing, China*

FU-14. Similarities of manganese pnictides and rare earth manganites - are they due to double exchange? *K. Baerner*[1], V. Morchshakov[1], M. Annaorasov[3] and M. Boshta[2] *1. Physics Department, Universitaet Goettingen, Goettingen, Germany; 2. Physics Division, National Research Center, Giza, Egypt; 3. Institute of Advanced Technologies Research and Development, Eastern Mediterranean University, Famagusta, North Cyprus, Turkey*

FU-15. FMR studies on colossal magnetoresistance films. Effect of homogeneity and light illumination. *R. Bah*[1], D. Bitok[1], R.R. Rakhimov[1], A. Pradhan[1] and N. Noginova[1] *1. NSU, Norfolk, VA, USA*

FU-16. Oxygen contents of $La_{1-x}Sr_xMnO_z$ thin films and its relation to electric-magnetic properties. *J. Sakai*[1] and S. Imai[1] *1. School of Materials Science, Japan Advanced Institute of Science and Technology, Ishikawa, Japan*

FU-17. Magnetic properties of crystalline $La_{0.9}Ca_{0.1}MnO_3$ in bulk and nano-sized samples. E. Rosenberg[1], *G. Jung*[1], G. Gorodetsky[1], I. Felner[3], M. Auslender[2], E. Sominski[4], A. Gedankin[4] and Y.M. Mukovskii[5] *1. Physics, Ben Gurion University, Beer Sheva, Israel; 2. Electrical and Computer Engineering, Ben Gurion University, Beer Sheva, Israel; 3. Racach Institute of Physics, The Hebrew University, Jerusalem, Israel; 4. Chemistry, Bar-Ilan University, Ramat Gan, Israel; 5. Moscow Institute of Steel and Alloys, Moscow, Russian Federation*

FU-18. Stress effects on chemical and magnetic properties of thin film $La_XSr_{(1-X)}CoO_3$. *J.S. Holroyd*[1], M. Liberati[1], Y. Idzerda[1], E. Arenholz[2] and S. Stadler[3] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA, USA; 3. Physics, Southern Illinois University, Carbondale, IL, USA*

WEDNESDAY AFTERNOON 1:00 IMPERIAL

Session FV
MAGNETIC NANOWIRES AND NANOSTRUCTURES (POSTER SESSION)

Kirill Belaschenko, Co-chair
Igor Roshchin, Co-chair

FV-01. Large-scale growth and magnetic properties of Fe and Fe_2O_3/Fe_3O_4 nanowires. *J. Yang*[1], C. Wang[2], X. Zhou[1], W. James[1] and W. Yelon[1] *1. Materials Research Center, University of Missouri-Rolla, Rolla, MO, USA; 2. School of Physics, Peking Univeresity, Beijing, China*

FV-02. Study of Magnetic Interaction of Ni Nanowires Array within NCA Template. *I.Z. Rahman*[1], K.M. Razeeb[1,2], A. Boboc[1,3] and M.A. Rahman[4] *1. Physics, University of Limerick, Limerick, xxx, Ireland; 2. Microelectronics Packaging Division, Tyndall Institute, Cork, xxx, Ireland; 3. UKEA, Culham Science Centre, Abingdon, Oxfordshire, United Kingdom; 4. Department of E & CE, Materials & Surface Science Institute, University of Limerick, Limerick, xxx, Ireland*

FV-03. Magnetic properties of Ni nanoparticles embedded in double-welled SiO2 nanotube. *H. Kim*[1], Y. Jo[1], S. Lee[1], M. Jung[1] and J. Jung[2] *1. Quantum Material Research Team, Korea Basic Science Institute, Daejeon, South Korea; 2. Nano Material Team, Korea Basic Science Institute, Daejeon, South Korea*

FV-04. Microstructural and magnetic properties of electrodeposited Co nanowire array formed on amorphous substrate. *J. Min*[1], J. Cho[1] and Y. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, South Korea*

FV-05. Effect of Interparticle Interaction on the Magnetic Relaxation in NiO Nanorods. *H. Shim*[1], A. Manivannan[1], M.S. Seehra[1], K.M. Reddy[2] and A. Punnoose[2] *1. Physics Department, West Virginia University, Morgantown, WV, USA; 2. Physics, Boise State University, Boise, ID, USA*

FV-06. Strain and magnetic anisotropy of epitaxial Ni/Cu(001) nanostructures. S. Lee[1], S. Shin[1], J. Jang[1], H. Hwang[1], H. Jang[1], J. Lee[2], J. Song[3], J. Choi [4], H. Lee[4] and *J. Lee*[1] *1. Institute of Physics and Applied Physics, Yonsei University, Seoul, South Korea; 2. Dept. of Materials Science and Engineering, Korea University, Seoul, South Korea; 3. Advanced Analysis Center, Korea Institute of Science and Technology, Seoul, South Korea; 4. Beamline Division, Pohang Accelerator Laboratory, Pohang, South Korea*

FV-07. Magnetic properties of lateral self-organized Fe/Ag nanostripes. B. Borca[1], *C. Meyer*[1] and O. Fruchart[1] *1. Laboratoire Louis Neel, CNRS, Grenoble, France*

FV-08. Nanostructure and magnetic properties of electrodeposited Co(x)Pt(1-x) alloy nanowire arrays. *J. Zhang*[1] and T.H. Shen[1] *1. Joule Physics Lab, IMR, University of Salford, Salford, Greater Manchester, United Kingdom*

FV-09. Transverse susceptibility of nanoparticle systems: The effect of interaction, dispersion and texture. *R. Matarranz*[1], G. Pan[2], J.F. Calleja[1], A. Alija[1], B. Presa[1], J.A. Corrales[3] and M. Contreras[1] *1. Fisica, Universidad de Oviedo, Oviedo, Asturias, Spain; 2. School of Computing Communications and Electronics, Faculty of Technology, University of Plymouth, Plymouth, Devon, PLA 8AA, United Kingdom; 3. Departamento de Informatica, Universidad de Oviedo, Gijon, Asturias, Spain*

FV-10. Magnetoresistance of transverse and vortex domain walls in permalloy submicron wires. *C. Yu*[1], S. Lee[1], E. Huang[1], Y. Liou[1], D. Chen[2], K. Cheng[1], Y. Yao[1] and C. Chang[3] *1. physics, Academia Sinica, Taipei, Taiwan; 2. Materials Science & Engineering, National Chiao Tung University, Hsinchu, Taiwan; 3. physics, National Taiwan University, Taipei, Taiwan*

FV-11. Detection of anisotropy by transverse susceptibility in (110) oriented cubic systems. *B. Presa*[1], R. Matarranz[1], J. Calleja[1], A. Alija[1] and M. Contreras[1] *1. Departamento de Fisica, Universidad de Oviedo, 33007 Oviedo, Spain*

FV-12. Oxide Encapsulated Magnetic Nanoparticles and Nanoparticle Structures. *A. Eggeman*[1], D. Forrest[1] and A.K. Petford-Long[1] *1. Materials, Oxford university, Oxford, United Kingdom*

FV-13. Magnetic fine particles of Fe, Fe-Co and Fe-Ni encapsulated by graphite carbon. *H. Tokoro*[1] and S. Fujii[1] *1. Hitachi Metals, Kumagaya, Japan*

FV-14. Magnetization reversal of individual permalloy particles by coherent rotation. *J. Stahl*[1], W. Wegscheider[1] and D. Weiss[1] *1. Institute for Experimental and Applied Physics, University of Regensburg, Regensburg, Germany*

FV-15. Temperature Dependence of Magnetic Properties in Submicron-sized Single Crystal Co Particles. *Y. Kageyama*[1] and T. Suzuki[1] *1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan*

FV-16. Domain Size Relevance in Exchange Biased Nanostructures. *Z. Li*[1], R. Morales[1,2], O. Petracic[1,3] and I.K. Schuller[1] *1. Physics Department, UC San Diego, La Jolla, CA, USA; 2. Departamento de Fisica, Universidad de Oviedo, Oviedo, Spain; 3. Angewandte Physik, Universitat Duisburg-Essen, Duisburg, Germany*

FV-17. Topological defects in flat nanoparticles. *G. Chern*[1], K. Merit[1] and O. Tchernyshyov[1] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

FV-18. Soft x-ray spectromicroscopy of magnetic single nanocrystals. *F. Nolting*[1], A. Fraile Rodriguez[1] and J. Bansmann[2] *1. Swiss Light Source, Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. Institute of Physics, University of Rostock, Rostock, Germany*

FV-19. Magnetic properties of self-assembled ferritin-core arrays. *H. Nakotte*[1], Z. Yuan[2], P. Atanassov[2], A. Alsmadi[3], S. te Velthuis[3] and R. Hjelm[4] *1. Department of Physics, New Mexico State University, Las Cruces, NM, USA; 2. Chemical and Nuclear Engineering, University of New Mexico, Albuquerque, NM, USA; 3. IPNS, Argonne National Laboratory, Argonne, IL, USA; 4. LANSCE-12, Los Alamos National Laboratory, Los Alamos, NM, USA*

FV-20. Size Dependence of the Magnetic Properties of Cobalt Oxide Nanoparticles Mineralized In Protein Cages. *D. Resnick*[1,4], M.T. Klem[2,4], K. Gilmore[1,4], M. Allen[2,4], M. Young[3,4], T. Douglas[2,4] and Y.U. Idzerda[1,4] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Chemistry and Biochemistry, Montana State University, Bozeman, MT, USA; 3. Plant Sciences, Montana State University, Bozeman, MT, USA; 4. Center for Bioinspired Nanomaterials, Montana State University, Bozeman, MT, USA*

FV-21. Synthesis of All-Oxide Exchange Bias Nanoparticles Encapsulated within Spherical Protein Cages. *M.T. Klem*[1,2], D. Resnick[3,2], K. Gilmore[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 Science, Montana State University, Bozeman, MT, USA*

FV-22. Protein Encapsulated Iron Oxide Nanoparticle EMR Line Broadening: Temperature Dependence and Effect of Anisotropy. *H. Li*[1,4], K. Gilmore[1,4], M.T. Klem[2,4], R.J. Usselman[2,4], M. Young[3,4], T. Douglas[2,4], D.J. Singel[2,4] and Y.U. Idzerda[1,4] *1. Physics, Montana State University, Bozeman, MT, USA; 2. Chemistry and Biochemistry, Montana State University, Bozeman, MT, USA; 3. Plant Sciences, Montana State University, Bozeman, MT, USA; 4. Center for Bioinspired Nanomaterials, Montana State University, Bozeman, MT, USA*

FV-23. In-Plane Anisotropy of Coercive Field and Magnetoresistance in Permalloy Ring Arrays. A. Goncharov[1], *A. Zhukov*[1], G. Bordignon[2], H. Fangohr[2], V. Metlushko[3] and P. de Groot[1] *1. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 2. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 3. Department of Electrical and Computer Engineering, University of Illinois at Chicago, Chicago, IL, USA*

THURSDAY MORNING 9:00 — REGENCY I

Session GA
SYMPOSIUM ON THE THEORY OF SPIN TRANSFER EFFECTS

Mark Stiles, Chair

9:00

GA-01. Modelling of Spin Transfer Torque and its Effects. ***(Invited)*** *J. Xiao*[1] *1. School of Physics, Georgia Tech, Atlanta, GA, USA*

9:36

GA-02. Domain wall dynamics and magnetization instability driven by spin torques. ***(Invited)*** *Z. Li*[1], J. He[1] and S. Zhang[1] *1. Physics and Astronomy, University of Missouri, Columbia, MO, USA*

10:12

GA-03. Magnetization dynamics induced by a spin-polarized current: micromagnetic simulations study. ***(Invited)*** *D.V. Berkov[1] 1. Magnetic and Optical Systems, Innovent Technology Development, Jena, Germany*

10:48

GA-04. Excitations and Switching in Pillars owing to Micromagnetics. ***(Invited)*** *J.E. Miltat[1] 1. Lab. Physique des Solides, Univ. Paris-Sud & CNRS, ORSAY, France*

11:24

GA-05. Modeling of spin-torque effects in CPP-GMR sensors for magnetic recording heads. ***(Invited)*** *N. Smith[1] 1. Hitachi Global Storage Technologies, San Jose, CA, USA*

THURSDAY MORNING 9:00

REGENCY II

Session GB
OXIDE MAGNETIC SEMICONDUCTORS III

Frank Tsui, Chair

9:00

GB-01. Chemical Manipulation of Polar High-Tc Magnetic Ordering in Diluted Magnetic Semiconductors. ***(Invited)*** *D.R. Gamelin[1]*, K.R. Kittilstved[1], N.S. Norberg[1], W.K. Liu[1] and P.I. Archer[1] *1. Chemistry, University of Washington, Seattle, WA, USA*

9:36

GB-02. Fabrication of Mn doped ZnO diluted magnetic semiconductor nanostructures by chemical vapor deposition. J. Liu[1], M. Yu[1] and *W. Zhou[1] 1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA*

9:48

GB-03. Synthesis and Magnetic Properties of Transition Metal-Doped ZnO Nanowires. *J. Cui[1]*, Q. Zeng[1] and U. Gibson[1] *1. Dartmouth College, Hanover, NH, USA*

10:00

GB-04. Mn+2 in ZnO: correlation of structural, magnetic and optical properties. *E. Chikoidze[1]*, Y. Dumont[1], J. Gleize [2], J.H. von Bardeleben [3], F. Jomard [1], E. Rzepka[1], O. Pages [2] and O. Gorochov[1] *1. Laboratoire de Physique des Solides et de Cristallogese (LPSC), CNRS, Meudon, Meudon, France; 2. 2 Laboratoire de Physique des Milieux Denses, Universite de Metz, Metz, France; 3. Institut des Nanosciences de Paris (INSP), CNRS,140, rue de Lourmel, Paris, France*

10:12

GB-05. Electronic and geometric structure of (Zn,Co)O room temperature ferromagnets. *O. Karis[1]*, S. Valizadeh[2], A. Surpi[2], J. Hunter Dunn[4,1], P. Svedlindh[2], V. Stanciu[2], P. Warnicke[2], A. Sandell[1], J. Richter[1], L. Nyholm[3], B. Sanyal[1] and O. Eriksson[1] *1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden; 3. Department of Materials Chemistry, Uppsala University, Uppsala, Sweden; 4. MAX-lab, Lund, Sweden*

10:24

GB-06. Development and Processing Temperature Dependence of Ferromagnetism in $Zn_{0.98}Co_{0.02}O$. *J. Hays[1]*, A. Thurber[1], M.H. Engelhard[2], K.M. Reddy[1] and A. Punnoose[1] *1. Physics, Boise State University, Boise, ID, USA; 2. Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, Richland, WA, USA*

10:36

GB-07. Thermal Activation and Deactivation of High-T_C Ferromagnetism in a New Diluted Magnetic Semiconductor: Ni^{2+}-Doped SnO_2. *P. Archer[1]* and D.R. Gamelin[1] *1. Chemistry, University of Washington, Seattle, WA, USA*

10:48

GB-08. Pure paramagnetic behavior in Mn doped ZnO semiconductors. J. Alaria[1], P. Turek[2], M. Bernard[2], M. Bouloudenine[1], A. Berbadj[3], N. Brihi[3], G. Schmerber[1], *S. Colis[1]* and A. Dinia[1] *1. IPCMS, Strasbourg, France; 2. ICS, Strasbourg, France; 3. LEM, Jijel, Algeria*

11:00

GB-09. Fe doped ZnO – a diluted magnetic semiconductor? *K. Potzger[1]*, S. Zhou[1], H. Reuther[1], A. Muecklich[1], F. Eichhorn[1], G. Talut[1], J. Fassbender[1], T. Herrmannsdoerfer[2] and A. Bianchi[2] *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Germany; 2. Dresden High Magnetic Field Laboratory, Forschungszentrum Rossendorf, Dresden, Germany*

11:12

GB-10. Impedance spectra of room temperature ferromagnetic Co-doped ZnO. *C. Fu*[1,2], M. Yang[1], T. Lin[1], H. Lin[3] and C. Chen[3] *1. Physics Department, National Kaoshiung Normal University, Kaoshiung, Taiwan; 2. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 3. National Synchrotron Radiation Research Center, Shinchu, Taiwan*

11:24

GB-11. Room temperature microwave and ferrimagnetic properties of Fe doped ZnO thin films. *S. Yoon*[1], A. Yang[1,2], Y. Chen[1], N. Sun[1,2], D. Heiman[3], C. Vittoria[1,2] and V.G. Harris[1,2] *1. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA, USA; 2. ECE, Northeastern University, Boston, MA, USA; 3. Physics, Northeastern University, Boston, MA, USA*

11:36

GB-12. Activation of High-T_C Ferromagnetism in Mn^{2+}:ZnO versus Co^{2+}:ZnO. *K.R. Kittilstved*[1], N.S. Norberg[1] and D.R. Gamelin[1] *1. Department of Chemistry, University of Washington, Seattle, WA, USA*

11:48

GB-13. Determination of Antiferromagnetic Interactions in Zn(Mn)O, Zn(Co)O and Zn(Mn)Te by Inealstic Neutron Scattering. S. Kolesnik[1], *Z.Q. Wiren*[2], H. Kepa[2,5], C.M. Brown[3], J. Leao[3], J.K. Furdyna[4] and T.M. Giebultowicz[2] *1. Physics, Northern Illinois University, DeKalb, IL, USA; 2. Physics, Oregon State University, Corvallis, OR, USA; 3. Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA; 4. Physics, University of Notre Dame, Notre Dame, IN, USA; 5. Physics, Warsaw University, Warsaw, Poland*

THURSDAY MORNING 9:00 — CLUB REGENT

Session GC
NOVEL PERPENDICULAR MEDIA AND SOFT UNDERLAYERS

Dean Palmer, Chair

9:00

GC-01. Exchange Coupled Composite Media for Perpendicular Magnetic Recording. *X. Shen*[1] and R.H. Victora[1] *1. Electrical engineering, University of Minnesota, Minneapolis, MN, USA*

9:12

GC-02. Characterisation and genetic optimisation of exchange spring media. *D. Suess*[1], L. Mueller[1], F. Dorfbauer[1], M. Kirschner[1], T. Schrefl[2] and J. Fidler[1] *1. Institut of Solid State Physics, Wien, Austria; 2. University of Sheffield, Sheffield, United Kingdom*

9:24

GC-03. Simplified Analysis of Magnetization Processes in Composite Media Grains. *H.J. Richter*[1] and A.Y. Dobin[1] *1. Seagate Technology, Fremont, CA, USA*

9:36

GC-04. Atomic Spin Dynamics during reversal in composite media. *S. Mukherjee*[1] and L. Berger[2] *1. Seagate Research, Pittsburgh, PA, USA; 2. Physics, Carnegie Mellon, Pittsburgh, PA, USA*

9:48

GC-05. Control of Ferromagnetic Coupling in Exchange Coupled Composite Media for Perpendicular Magnetic Recording. *W. Shen*[1] and J. Wang[1] *1. ECE, U of Minnesota, Minneapolis, MN, USA*

10:00

GC-06. Exchange Coupling Effects in Perpendicular Composite Materials. K.C. Schuermann[1], J.D. Dutson[1], S.Z. Wu[2], S.D. Harkness[2], B. Valcu[2], H.J. Richter[2], R.W. Chantrell[1] and *K. O'Grady*[1] *1. Dept. of Physics, University of York, York, United Kingdom; 2. Seagate Media Research, Seagate, Fremont, CA, USA*

10:12

GC-07. Fine tuning inter-granular exchange in perpendicular media. *B. Lu*[1], G. Ju[1], A. Sunder[1], D. Weller[1], X. Wu[1], R. van der Veerdonk[1], H. Zhou[1] and R. Chantrell[1] *1. Seagate Research, Pittsburgh, PA, USA*

10:24

GC-08. Cu doping and Au under layer effect on FePt grains prepared by RTA on SiO2 substrate and wall structure in TbFeCo/FePt CGC-like films. *A. Itoh*[1], Y. Itoh[2], K. Nanba[1], y. Adachi[1], M. Motohashi[1] and A. Tsukamoto[1] *1. Electronics and Computer Science, Nihon University, Funabashi, Japan; 2. Fujitsu Lab. (now), Atsugi, Japan*

10:36

GC-09. FeCoB/NiFe/Si trilayer with large in-plane anisotropy field on glass disk substrates. S. Ito[1] and *S. Nakagawa*[1] *1. Physical Electronics, Tokyo Institute of Technology, O-okayama Meguro Ward, Tokyo, Japan*

10:48

GC-10. Novel proposal of SUL utilizing soft magnetic material with negative uniaxial magnetocrystalline anisotropy-For suppression of both WATE and spike noise. *A. Hashimoto*[1], S. Saito[1] and M. Takahashi[2] *1. Electrics enginnering, Tohoku University, Sendai, Japan; 2. New Indusry Creation Hatchery center, Tohoku University, Sendai, Japan*

11:00

GC-11. Magnetic Domain-free Hard Magnet-biased Soft Magnetic Underlayers for Perpendicular Media. *H.S. Jung*[1], E. Velu[1], M. Avenell[1], S. Malhotra[1] and G. Bertero[1] *1. Komag Inc., San Jose, CA, USA*

11:12

GC-12. A Novel Perpendicular Medium Microstructure for Ultra-High Area Recording Density. *Y. Tang*[1] and J. Zhu[1] *1. Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

11:24

GC-13. Drive Integration in Perpendicular Recording. ***(Invited)*** *D. Guarisco*[1], B.E. Higgins[1], Z. Li[1], Y. Wu[1], K. Saito[1] and A. LeFebvre[1] *1. Advanced Technology, Maxtor Corp., Milpitas, CA, USA*

THURSDAY MORNING 9:00

CRYSTAL

Session GD
HALF-METALLICS II
Igor Shvets, Chair

9:00

GD-01. Co_2FeSi: A half metallic full Heusler compound with high Curie-Temperature. *S. Wurmehl*[1], G.H. Fecher[1], K. Vadim[1], H.C. Kandpal[1], C. Frederick[1], F. Claudia[1] and H. Lin[2] *1. Institut fuer Anorganische und Analytische Chemie, Johannes Gutenberg-University, Mainz, Germany; 2. NSRRC, Hsinchu, Taiwan*

9:12

GD-02. Study of disorder effect on the local magnetism in Heusler alloys. G.A. Cabrera-Pasca[2], R.N. Saxena[1], *A.W. Carbonari*[1], M.N. Rao[2], J.R. Oliveira[2] and M.A. Rizzutto[2] *1. CRPq, IPEN, Sao Paulo, Sao Paulo, Brazil; 2. Nuclear Physics Department, USP, Sao Paulo, Sao Paulo, Brazil*

9:24

GD-03. The structure of sputter deposited Co2MnSi Heusler thin films on GaAs (001). *A. Kohn*[1], A.K. Petford-Long[1], Y. Miyoshi[2], Y. Bugoslavsky[2], L.F. Cohen[2], L.J. Singh[3] and Z.H. Barber[3] *1. Department of Materials, University of Oxford, Oxford, United Kingdom; 2. Department of Physics, Blackett Laboratory, Imperial College, London, United Kingdom; 3. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom*

9:36

GD-04. Structural and magnetic properties of epitaxially grown full-Heusler alloy Co_2MnGe thin films deposited using magnetron sputtering. *T. Ishikawa*[1], T. Marukame[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

9:48

GD-05. Band structure calculations of off-stochiometric Heusler alloys. *M.J. Carey*[1], S. Maat[1], T. Block[1,2], B.A. Gurney[1] and J.R. Childress[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Current address: Heraeus Quartz America LLC, San Jose, CA, USA*

10:00

GD-06. Ab initio study on stabilities of half-metallic Co-based full-Heusler alloys. *Y. Miura*[1], K. Nagao[1] and M. Shirai[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

10:12

GD-07. Absorption spectroscopy and XMCD at the Verwey transition of Fe_3O_4. *E.J. Goering*[1], M. Lafkioti[1], S. Gold[1] and G. Schuetz[1] *1. Schuetz, Max-Planck-Institute for Metalresearch, Stuttgart, BW, Germany*

10:24

GD-08. Effects of substrate pre-deposition annealing on the magnetoresistance of epitaxial magnetite films grown on vicinal MgO (100) substrate. *R.S. Sofin*[1], S.K. Arora[1] and I.V. Shvets[1] *1. SFI Nanoscience Laboratories,Physics Department, Trinity College, Dublin, Ireland*

10:36

GD-09. Large room temperature spin-dependent tunneling magnetroresistance in a Fe_3O_4-polymer composite system. *W. Wang*[1], M. Yu[2] and J. Tang[1] *1. Department of Physics, University of New Orleans, New Orleans, LA, USA; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA*

10:48

GD-10. The properties of ultrathin Fe_3O_4 granular films grown on MgO substrate. *Y. Zhou*[1], C. McEvoy[1], R. Ramos[1] and I.V. Shvets[1] *1. Dept. of Physics, SFI Nanoscience Lab., Trinity College, Dublin, Ireland*

11:00

GD-11. SPIN POLARIZED CHALCOGENIDE THIN FILMS OF $CuCr_2Se_4$. *J. Bettinger*[1], R.V. Chopdekar[1,2], M. Liberati[3], J.R. Neulinger[4], L. Alldredge[1,2], E. Arenholz[5], W. Butler[6], Y. Idzerda[3], A.M. Stacy[4] and Y. Suzuki[1] *1. Department of Materials Science and Engineering, University of California - Berkeley, Berkeley, CA, USA; 2. School of Applied Physics, Cornell University, Ithaca, NY, USA; 3. Department of Physics, Montana State University, Bozeman, MT, USA; 4. Department of Chemistry, University of California - Berkeley, Berkeley, CA, USA; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 6. Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA*

11:12

GD-12. XMCD study of the 'non-magnetic' 5*d* site in ferrimagnetic double perovskites. S. Gepraegs[1], P. Majewski[1], O. Sanganas[1], M. Opel[1], R. Gross[1], G. Vaitheeswaran[2], V. Kanchana[2], A. Delin[2], F. Wilhelm[3], A. Rogalev[3] and *L. Alff*[4] *1. Walther-Meissner-Institut, Bavarian Academy of Sciences, Garching, Germany; 2. Department of Materials Science and Engineering, Institute of Technology (KTH), Stockholm, Sweden; 3. European Synchrotron Radiation Facility (ESRF), Grenoble, France; 4. Material Science Institute, TU Darmstadt, Darmstadt, Germany*

11:24

GD-13. Enhanced low field magnetoresistance of Sr_2FeMoO_6-glass composites. X. Wang[1], X. Zhang[1], Y. Sui[1,3], J. Cheng[1], Z. Liu[1], J. Miao[1], X. Huang[1], Z. Lu[1], Z. Qian[1], W. Su[1,3] and *J. Tang*[2] *1. Depart of Applied Physics, Harbin Institute of Technology, Harbin 150001, Heilongjiang, China; 2. Department of Physics, University of New Orleans, New Orleans, LA, USA; 3. International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang 110016, Liaoning, China*

11:36

GD-14. Electronic and Magnetic Structures of CrO_2, RuO_2 and CrO_2-RuO_2 Interfaces. *H. Sims*[2], Z. Lu[1], G. Miao[3], A. Gupta[1] and W.H. Butler[1] *1. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 2. Department of Physics, Tulane University, New Orleans, LA, USA; 3. Department of Physics, Brown University, University, RI, USA*

11:48

GD-15. Determination of spin polarization of the Mn5Ge3 single crystal. *T. Chen*[1], J. Valentine[1], C. Chien[1] and C. Petrovic[2] *1. Physics and Astronomy, the Johns Hopkins University, Baltimore, MD, USA; 2. Department of Physics, Brookhaven National Laboratory, Upton, NY, USA*

THURSDAY MORNING 9:00 **GOLD**

Session GE
MAGNETO-ELASTIC MATERIALS
Mike McElfresh, Chair

9:00

GE-01. Observation of Magnetoelectric Coupling in Epitaxial Multiferroic Nanostructures. *F. Zavaliche*[1,2], H. Zheng[1,2], L. Mohaddes-Ardabili[1], S. Yang[1], M. Cruz[3], P. Shafer[1], D. Schlom[4] and R. Ramesh[1,2] *1. Department of Materials Science and Engineering, University of California, Berkeley, CA, USA; 2. Department of Physics, University of California, Berkeley, CA, USA; 3. CCMC-UNAM, Ensenada, B.C., Mexico; 4. Department of Materials Science and Engineering, Pennsylvania State University, University Park, PA, USA*

9:12

GE-02. Temperature dependence of field-induced strain in ferromagnetic shape memory alloys. *R.C. O'Handley*[1], D.I. Paul[1], S.M. Allen[1], M. Richard[1], J. Feuchtwanger[1], B. Peterson[1], R. Techapiesancharoenkij[1], M. Barandiaran[2] and P. Lazpita[2] *1. MIT, Cambridge, MA, USA; 2. Universidad del Pais Vasco/EHU, Bilbao, Spain*

9:24

GE-03. Quantification of the effect of thermal cycling on ferromagnetic shape memory alloy/ polymer composites by VSM measurements. *J. Feuchtwanger*[1], M.L. Richard[1], S.M. Allen[1], R.C. O'Handley[1] and A.E. Berkowitz[2] *1. Materials science end engineering, Massachestts Institute of Technology, Cambridge, MA, USA; 2. Physics, University of California San Diego, La Joya, CA, USA*

9:36

GE-04. Variation of Magnetostriction With Temperature in $Tb_5Si_{2.2}Ge_{1.8}$ Single Crystal. A.P. Ring[1], H.L. Ziegler[1], T. Lograsso[1], D. Schlagel[1], *J.E. Snyder*[1,2] and D.C. Jiles[1,2] *1. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA, USA; 2. Materials Science and Engineering Department, Iowa State University, Ames, IA, USA*

9:48

GE-05. Molecular beam epitaxy of $YMnO_3$ on GaN (0001). *Y. Chye*[1], T. Liu[1], T.H. Myers[1] and D. Lederman[1] *1. Department of Physics, West Virginia University, Morgantown, WV, USA*

10:00

GE-06. Evidence for strong spin-lattice coupling in multiferroic RMn_2O_5(R=Tb,Dy,Ho) via thermal expansion anomalies. ***C.R. dela Cruz***[1], B. Lorenz[1], S. Cheong[2], S. Park[2], M. Gospodinov[3], W. Ratcliff[4], J. Lynn[4] and C. Chu[1,5] *1. Texas Center for Superconductivity and Department of Physics,University of Houston, Houston, TX, USA; 2. Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, USA; 3. Institute of Solid State Physics, Bulgarian Academy of Sciences, 1784 Sofia, Bulgaria; 4. NIST Center for Neutron Research, Gaithersburg, MD, USA; 5. Lawrence Berkeley National Laboratory, 1 Cyclotron Road, Berkley, CA, USA*

10:12

GE-07. Temperature Dependence of Magnetic Anisotropy in Mn-Substituted Cobalt Ferrite. *Y. Melikhov*[1], A. Ring[2], C. Lo[2,3], J. Paulsen[2], J. Snyder[1,3], K. Dennis[3] and D. Jiles[1,2] *1. Materials Science and Engineering Department, Iowa State University, Ames, IA, USA; 2. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA; 3. Materials and Engineering Physics Program, Ames Lab US DoE, Iowa State University, Ames, IA, USA*

10:24

GE-08. Strong magnetic correlation in the interphase of Co/TiNi thin films during the martensitic transition. *M.A. Arranz*[1], J. Andres[1] and J. Riveiro[1] *1. Departamento de Fisica Aplicada, Universidad de Castilla-La Mancha, Ciudad Real, Spain*

10:36

GE-09. Effects of Width on Magnetic Anisotropy of Epitaxial Cu/Ni/Cu Nanolines. *E.S. Lyons*[1], R.C. O'Handley[1] and C.A. Ross[1] *1. Department of Materials Science and Engineering, Massachusetts of Technology, Cambridge, MA, USA*

10:48

GE-10. Lattice and spin dynamics in bcc Fe, 10 at % Be. P. Zhao[1], J. Cullen[1], M. Wuttig[1], J. Lynn[2], T. Lograsso[3] and *O. Moze*[4] *1. Department of Materials and Nuclear Engineering, University of Maryland, College Park, MD, USA; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA; 3. Ames Laboratory, Ames, IA, USA; 4. CNR-INFM S3 National Research Center, Physics Dept, University of Modena and Reggio Emilia, Modena, Italy*

11:00

GE-11. Magnetostriction of Composites of Fe-Ga Particles in a Polymer Matrix. *J. Hong*[1], V.C. Solomon[2], D.J. Smith[2], A.E. Berkowitz[1,3] and E. Summers[4] *1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. Department of Physics and Astronomy, Arizona State University, Tempe, AZ, USA; 3. Department of Physics, University of California-San Diego, La Jolla, CA, USA; 4. Etrema Products, Inc., Ames, IA, USA*

11:12

GE-12. A model for the concentration dependence of the anisotropy of Fe1-xGax alloys. *J. Cullen*[1], P. Zhao[1] and M. Wuttig[1] *1. Materials Sci., University of Marlyand, College Park, College Park, MD, USA*

11:24

GE-13. Fabrication of Thin-Film Galfenol. *R.R. Basantkumar*[1] and B.J. Stadler[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

11:36

GE-14. Tetragonally Induced Magnetic Anisotropy in Stress Annealed Galfenol Alloys. *J.B. Restorff*[1], A.E. Clark[2] and M. Wun-Fogle[1] *1. Code 642, Naval Surface Warfare Center, Carderock Division, West Bethesda, MD, USA; 2. Clark Associates, Adelphi, MD, USA*

THURSDAY MORNING 9:00

ATHERTON

Session GF
FERRITES, GARNET AND MICROWAVE MATERIALS II

Yves Idzerda, Chair

9:00

GF-01. Self-biased Ba-hexaferrite Films for Next Generation Nonreciprocal u-wave and mm-wave Devices. Z. Chen[1], Y. Chen, S. Yoon[1], A. Geiler[1], T. Sakai[1], A. Yang[1], N.X. Sun[1], C. Vittoria[1], *V.G. Harris*[1] and K. Ziemer[2] *1. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 2. Department of Chemical Engineering, Northeastern University, Boston, MA, USA*

9:36

GF-02. Influence of Substrate on Structural and Magnetic Properties of Pulsed Laser Deposited Strontium Ferrite Thin Films. *N. Kumar*[1], M. Bohra[1], D.S. Misra[1], N. Venkataramani[2], A.K. Nigam[3], I. Samajdar[2], S. Prasad[1] and R. Krishnan[4] *1. Department of Physics, Indian Institute of Technology Bombay, Mumbai - 400076, Maharashtra, India; 2. Department of Metallurgical Engineering and Material Science, Indian Institute of Technology Bombay, Mumbai - 400076, Maharashtra, India; 3. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Homi Bhabha Road, Mumbai - 400005, Maharashtra, India; 4. Laboratoire de Magnetisme et d'Optique(LMOV) - CNRS, Versailles, France*

9:48

GF-03. Magnetization induced second-harmonic generation in epitaxial magnetite thin films Fe_3O_4/MgO(100). *A.A. Rzhevsky*[1,2], B.B. Krichevtsov[2], D.A. Rata[1], C. Chang[3], R. Sutarto[3], L.H. Tjeng[3] and C.M. Schneider[1] *1. Forschungszentrum Juelich GmbH, Juelich, Germany; 2. Ioffe Physico-Technical Institute of RAS, St.Petersburg, Russian Federation; 3. Physikalisches Institut II, Universitaet zu Koeln, Koeln, Germany*

10:00

GF-04. Preparation and characterization of ferrite polymer composite at microwave frequencies. S.M. Abbas[1,2], A.K. Dixit[2], *R. Chatterjee*[1] and T.C. Goel[3] *1. Physics, Indian Institute Of Technology Delhi, New Delhi, India; 2. DMSRDE, G. T. Road, Kanpur, India; 3. BITS, Pilani, Goa, India*

10:12

GF-05. $Fe_3O_{4+\delta}$ Films prepared by "One-Liquid" Spin-spray Ferrite Plating for GHz-range Noise Suppressors. *J. Miyasaka*[1], N. Matsushita[2], M. Tada[1] and M. Abe[1] *1. Tokyo Institute of Technology, Tokyo, Japan; 2. Materials and Structures Laboratory, Tokyo institute of Technology, Yokohama, Japan*

10:24

GF-06. Air Plasma Sprayed (APS) Manganese Zinc Ferrite/Permalloy Composites Coating. *S. Liang*[1], S. Sampath[1] and R.J. Gambino[1] *1. Center for Thermal Spray Research, Department of Materials Science and Engineering, Stony Brook University, Stony Brook, NY, USA*

10:36

GF-07. Sintering behavior and magnetic properties of NiZn ferrite nanoparticles interpreted in a microstructural evolution model. R. Swaminathan[1], J. Woods[1], S. Calvin[2], J. Huth[3] and *M.E. McHenry*[1] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Sarah Lawrence College, Bronxville, NY, USA; 3. Magnetics Technology Center (a division of Spang), Pittsburgh, PA, USA*

10:48

GF-08. Magnetic Properties of $NiFe_2O_4$ Nanostructures. *S.P. Crane*[1], H. Zheng[1], F. Zavaliche[1], M. de la Paz[1], Q. Zhan[1], L. Mohaddes-Aribili[1], P. Shafer[1] and R. Ramesh[1,2] *1. Department of Materials Science and Engineering, University of California-Berkeley, Berkeley, CA, USA; 2. Department of Physics, University of California-Berkeley, Berkeley, CA, USA*

11:00

GF-09. Magnetic properties and surface effects in ferrite nanoparticles. *S.K. Sharma*[1], R. Kumar[2], V.V. Siva Kumar[2], A.L. Brandl[3], M. Knobel[3], S.N. Dolia[4], A. Gupta[5], V.R. Reddy[5] and M. Singh[1] *1. Physics, H. P. University, Shimla, Himachal Pradesh, India; 2. Materials Science Division, Nuclear Science Centre, New Delhi, Delhi, India; 3. Instituto de Fisica, UNICAMP, Campinas, SP, Brazil; 4. Physics, University of Rajasthan, Jaipur, Rajasthan, India; 5. IUC-DAEF, Khandwa Road, University campus, Indore, M.P., India*

11:12

GF-10. EFFECT OF ADDITIVES TO Z-TYPE HEXAGONAL FERRITES ON MAGNETIC PROPERTIES. *T. Katoh*[1], S. Noguchi[1] and N. Koyuhara[2] *1. Advanced Electronics Research Laboratory, Hitachi Metals, Kumagaya, Japan; 2. Tottori Works, Hitachi Metals, Tottori, Japan*

11:24

GF-11. Microwave behavior of ASn-substituted (A = Co, Ni, Zn)BaM-hexaferrites. *D. Lisjak*[1], M. Pasquale[2] and S. Perero[2] *1. "Jozef Stefan" Institute, Ljubljana, Slovenia; 2. Materials Dept., IENGF, Torino, Italy*

11:36

GF-12. Effect of Ho ion substitution on the magnetic properties of Fe3O4 magnetic fluid. K. Rao[1], *R. Upadhyay*[1], A. Gupta[1], K. Parekh[2] and R. Mehta[2] *1. Materials Science-Tmfy-MSE, Royal Institute of Technology, Stockholm, Sweden; 2. Department of Physics, Bhavnagar University, Bhavnagar, India*

THURSDAY MORNING 9:00

SACRAMENTO

Session GG
MAGNETIC MOTORS I
Al Hartman, Chair

9:00

GG-01. The design of permanent magnet generators for application in hybrid-electric vehicles. *N. Schofield*[1] *1. Electrical and Electronic Engineering, University of Manchester, Manchester, United Kingdom*

9:12

GG-02. Magnetic Characteristics for VR Machines with Ring Winding. *I.H. Al-Bahadly*[1] *1. Institute of Information Sciences and Technology, Massey University, Palmerston North, New Zealand*

9:24

GG-03. Design of Toroidal Stator, Axial Flux Permanent Magnet Motor. *R.H. Patel*[1] *1. Electrical Engineering, Nirma Institute of Technology, Ahmedabad, Gujarat, India*

9:36

GG-04. An optimum design of the magnetic circuit of a PM linear electrical generator for the exploitation of sea waves. *M. Trapanese*[1] *1. Electrical Engineering Department, University of Palermo, Palermo, Italy*

9:48

GG-05. Containment Can Losses in Permanent-Magnet Pump Drives. *A.C. Smith*[1] and E. Sanchez[1] *1. School of Electrical and Electronic Engineering, University of Manchester, MANCHESTER, United Kingdom*

10:00

GG-06. 2D FEM Simulation of a 4QT Prototype Machine Considering Skewed Slots. *P. Zheng*[1], P. Thelin[2], E. Nordlund[2] and C. Sadarangani[2] *1. Dept. of Electrical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China; 2. Dept. of Electrical Engineering, Royal Institute of Technology, Stockholm, Sweden*

10:12

GG-07. Effect of Skewing the Rotor Teeth on the Performance of Doubly Salient Permanent Magnet Motors. *N.K. Sheth*[1,2], A.R. Sekharbabu[3], 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; 3., L. G. Electronics India Ltd., Greater Noida - 201306, Uttar Pradesh, India*

10:24

GG-08. Design of the phase current of a brushless DC motor to eliminate cogging torque. *G. Jang*[1] and C. Lee[1] *1. PREM Lab., Hanyang University, Seoul, South Korea*

10:36

GG-09. Three-dimensional analysis of tubular permanent magnet machines. J. Chai[1], J. Wang[1] and *D. Howe*[1] *1. Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom*

10:48

GG-10. Torque Improvement of an Interior Permanent Magnet Brushless DC Motor Using Magnet Shifting. *P.R. Upadhyay*[1,2] and K.R. Rajagopal[1] *1. Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi, Delhi, India; 2. Electrical Engineering Department, Institute of Technology, Nirma University of Science and Technology, Ahmedabad, Gujarat, India*

11:00

GG-11. Effect of mutual coupling on torque production in switched reluctance motors. *J.A. Walker*[1], D.G. Dorrell[1] and C. Cossar[1] *1. SPEED Laboratory, Dept. of Electronics & Electrical Engineering, University of Glasgow, Glasgow, Lanarkshire, United Kingdom*

11:12

GG-12. An Effective Method to Measure Back EMFs and Their Harmonics of Permanent Magnet AC Motors. *Q. Jiang*[1], C. BI[1] and S. LIN[1] *1. Mechatronics and Recording Channel, AStar Data Storage Institute, Singapore, Singapore*

11:24

GG-13. Influence of Stator Structure on Rotor Loss in High-Speed PM BLDC Motors. *F. Zhou*[1], J. Shen[2] and R. Lin[3] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, Zhejiang, China; 2. College of Electrical Engineering, Zhejiang University, Hangzhou, Zhejiang, China; 3. College of Electrical Engineering, Zhejiang University, Hangzhou, Zhejiang, China*

THURSDAY MORNING 9:00 — PIEDMONT

Session GH
SUPERCONDUCTIVITY II
Donald Naugle, Chair

9:00

GH-01. Relationship between microstructure and superconducting behaviors of MgB2. *W. Hon*[1] and D. Ng[1] *1. Physics, The Chinese University of Hong Kong, Shatin, Hong Kong*

9:12

GH-02. Magnesium diboride superconductor thin film tunnel junctions for superconductive electronics. *T. Kim*[1,2] and J.S. Moodera[2] *1. Department of Physics, Ewha Womans University, Seoul, South Korea; 2. Francis Bitter Magnet Lab, Massachusetts Institute of Technology, Cambridge, MA, USA*

9:24

GH-03. Effects of pinning force on formation of ordered flux flow. X. Xu[1], L. Zhang[1], S. Ding[1,2], *X. Wang*[2] and H. Shao[1] *1. Department of Physics, Nanjing University, Nanjing, China; 2. University of Wollongong, New South Wals, NSW, Australia*

9:36

GH-04. Magnetism in and near $YBa_2Cu_3O_7$ vortex cores and its field dependence. *C. Boekema*[1], L. Robledo[1], M. Someha[1], J. Thorsen[1], T. Imam[1], D. Ganz[1] and J. Lee[2] *1. Physics, San Jose State University, San Jose, CA, USA; 2. Physics, Uo Illinois at Urbana-Champaign, Urbana, IL, USA*

9:48

GH-05. Spin screening of magnetic moments and the inverse proximity effect in F/S nanostructures. *N.G. Fazleev*[1,3], M.G. Khusainov[2,3], M.M. Khusainov[4] and Y.N. Proshin[2,3] *1. Physics, Univ. of Texas at Arlington, Arlington, TX, USA; 2. Max-Planck-Institute for the Physics of Complex Systems, Dresden, Germany; 3. Physics, Kazan State University, Kazan, Russian Federation; 4. Zavoisky Physical-Technical Institute of RAS, Kazan, Russian Federation*

10:00

GH-06. Magnetization-dependent Tc shift in F/S/F trilayers with a strong ferromagnet. *I.C. Moraru*[1], W.P. Pratt[1] and N.O. Birge[1] *1. Physics and Astronomy, Michigan State University, East Lansing, MI, USA*

10:12

GH-07. Microscopic magnetic structure of cuprate/manganite superlattices. J. Chakhalian[1], *J.W. Freeland*[2], J. Strempfer[1], G. Srajer[2], J. Cezar[3], H. Habermeier[1] and B. Keimer[1] *1. Max Planck Institute for Solid State Research, Stuttgart, Germany; 2. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 3. European Synchrotron Radiation Facility, Grenoble, France*

10:24

GH-08. NMR study of Heavy Fermion Superconductor with No Inversion Symmetry $CePt_3Si$. K. Ueda[1], T. Koyama[1], K. Hamamoto[1], *T. Kohara*[1], G. Motoyama[1] and Y. Oda[1] *1. Dept. of Mater. Sci., Grad. School of Sci., University of Hyogo, Akogun, Hyogo, Japan*

10:36

GH-09. General Susceptibility and Superconductivity in $CeMIn_5$(M=Co,Rh,Ir) and $PuCoGa_5$. 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, Anhui, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Shatin, Hong Kong, China*

10:48

GH-10. Enhanced spin splitting for injection into superconductors. *M. Urech*[1], N. Poli[1], V. Korenivski[1] and D.B. Haviland[1] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

11:00

GH-11. Competition between Kondo effect and superconductivity in magnetic double tunnel junctions. *H. Yang*[1,2], S. Yang[1], C. Kaiser[1] and S. Parkin[1] *1. IBM Almaden Research Center, San Jose, CA, USA; 2. Department of Electrical Engineering, Stanford University, Stanford, CA, USA*

11:12

GH-12. Pinning in $(Bi,Pb)_2Sr_2CaCu_2O_y$ single crystal. L. Zhang[1], X. Xu[1], Y. Sun[2], *S. Ding*[1,3] and X. Wang[3] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Key Laboratory of Materials Physics, Institute of Solid State Physics, Hefei, China; 3. Institute for Superconducting and Electronic Materials, University of Vollongong, Vollongong, NSW, Australia*

11:24

GH-13. Enhancement in Pinning and Critical Current Density in RE-Ba-Cu-O Superconductor with the Nano-particle Addition. *I. Chen*[1], S. Chen[2], Y. Liao[3] and M. Wu[2] *1. Dept. of Materials Science & Eng., National Cheng Kung Univ., Tainan, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Physics and Materials Science Center, National Tsing Hua University, Hsinchu, Taiwan*

11:36

GH-14. Origins of coexisting ferromagnetism and superconductivity in Ni/Bi bilayers. *P.R. LeClair*[2,1] and J.S. Moodera[1] *1. MIT, Cambridge, MA, USA; 2. Center for Materials for Information Technology and Department of Physics, University of Alabama, Tuscaloosa, AL, USA*

THURSDAY MORNING 8:00 IMPERIAL

Session GP
EXCHANGE BIAS II (POSTER SESSION)

Chih-Huang Lai, Co-chair
Bob McMichael, Co-chair

GP-01. Anomalous positive exchange bias in $Ni_{80}Fe_{20}/Ni_xFe_{1-x}O$ thin-film bilayers induced by ion-beam deposition effects. *K. Lin*[1], Y. Tzeng[1], Z. Guo[1] and J. van Lierop[2] *1. Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

GP-02. Domain structure during magnetization reversal of PtMn/CoFe exchange bias micro-patterned lines. M.O. Liedke[1,2], K. Potzger[1], L. Bischoff[1], A.H. Bothmer[1], B. Hillebrands[2], M. Rickart[3], P. Freitas[3] and *J. Fassbender*[1] *1. Institut fuer Ionenstrahlphysik und Materialforschung, Forschungszentrum Rossendorf, Dresden, Germany; 2. Fachbereich Physik, TU Kaiserslautern, Kaiserslautern, Germany; 3. INESC MN, Lisbon, Portugal*

GP-03. Effects of Antiferromagnetic Spin Rotation on Anisotropy of Ferromagnetic/Antiferromagnetic Bilayers. *S. Urazhdin*[1] and C. Chien[1] *1. Physics & Astronomy, Johns Hopkins University, Baltimore, MD, USA*

GP-04. In field imaging of magnetisation reversal in exchange biased Fe/PtMn bilayers. J. Borme[1], P. Bayle-Guillemaud[1], A. Marty[1], C. Beigne[1], *P. Warin*[1], Y. Samson[1] and A. Mougin[2] *1. DRFMC, CEA-Grenoble, Grenoble, France; 2. Laboratoire de Physique des Solides, CNRS, Orsay, France*

GP-05. Magnetization Angle Dependence of Perpendicular Exchange Anisotropy in $[Pd/Co]_n$/FeMn Films. *S. Choi*[1], H. Joo[1], D. Jin[1], M. Lee[1], K. Lee[1], S. Kim[2], S. Lee[2] and D. Hwang[2] *1. Physics, Dankook University, Cheonan, Chungnam, South Korea; 2. Computer and Electronic Physics, Sangji University, Wonju, Gangwon-Do, South Korea*

GP-06. Ferromagnetic Resonance Study of the Exchange Bias Field in NiFe/FeMn/NiFe Trilayers. V.P. Nascimento[3], *F. Pelegrini*[1], L.C. Figueiredo[1], A. Biondo[2], E.C. Passamani[2] and E. Baggio-Saitovitch[3] *1. Instituto de Fisica, Universidade Federal de Goias, Goiania, Goias, Brazil; 2. Departamento de Fisica, Universidade Federal do Espirito Santo, Vitoria, Espirito Santo, Brazil; 3. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Rio de Janeiro, Brazil*

GP-07. Enhancement of the exchange-bias onset temperature in a columnar nanocrystalline $Ni_{80}Fe_{20}/Co_3O_4$ thin-film. *J. van Lierop*[1], K. Lin[2], Z. Guo[2] and B.W. Southern[1] *1. Physics & Astronomy, University of Manitoba, Winnipeg, MB, Canada; 2. Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan*

GP-08. The role of planar and vertical domain walls and uncompensated interface spins in exchange bias. *A. Scholl*[1], M. Liberati[2,1], F. Nolting[3], H. Ohldag[4] and J. Stohr[4] *1. Advanced Light Source, LBNL, Berkeley, CA, USA; 2. Department of Physics, Montana State University, Bozeman, MT, USA; 3. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland; 4. Stanford Synchrotron Radiation Center, SLAC, Stanford, CA, USA*

GP-09. Influence of He-ion-irradiation on thin NiMn/NiFe exchange bias films. *V. Cantelli*[1], J. von Borany[1], J. Grenzer[1], R. Kaltofen[2], J. Schumann[2] and J. Fassbender[1] *1. Institute of Ion Beam and Materials Research, Forschungszentrum Rossendorf, DRESDEN, Germany; 2. Leibniz Institute for Solid State and Materials Research IFW Dresden, Dresden, Germany*

GP-10. Exchange coupling of cobalt clusters with MnPt in the presence of loose spins. *A. Brenac*[1], R. Morel[1], C. Portemont[1] and L. Notin[1] *1. DRFMC, CEA-Grenoble, Grenoble, France*

GP-11. Ultrafast magnetization dynamics in exchange coupled bilayers. *D. Hoffmann*[1], M.C. Weber[1], T. Roth[1], M. Bauer[1], B. Hillebrands[1] and M. Aeschlimann[1] *1. Physics, Technical University of Kaiserslautern, Kaiserslautern, RLP, Germany*

GP-12. Exchange bias in a domain state model with bond-disorder. *B. Beckmann*[1], U. Nowak[2] and K.D. Usadel[1] *1. Theoretische Tieftemperaturphysik, Universität Duisburg-Essen, Campus Duisburg, Duisburg, Germany; 2. Department of Physics, University of York, York, United Kingdom*

GP-13. Positive exchange biasing and its angular dependence in GdFe/FeMn bilayers. J. Du[1], D. Yang[2], X. Wu[1] and *S. Zhou*[2] *1. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiangsu, China; 2. Surface Physics Laboratory (National Key Laboratory) and Department of Physics, Fudan University, Shanghai, China*

GP-14. Orientation of Antiferromagnetic Domains in LaFeO3 thin films. *S. Czekaj*[1,2], F. Nolting[1] and L.J. Heyderman[2] *1. Swiss Light Source, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen PSI, Switzerland*

GP-15. Structure and exchange bias coupling in polar magnetized Fe/antiferromagnetic Mn bilayer on $Cu_3Au(100)$. W.C. Lin[1,2], T. Chen[1,2], L. Lin[1,2], B. Wang[1,2], Y. Liao[1,2], K. Song[2] and *M. Lin*[1,2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Institite of molecular and atomic sciences, Academia Sinica, Taipei, Taiwan*

GP-16. Barrier Induced Exchange Bias in CrO2/Cr2O3/Co Magnetic Tunnel Junctions. *G. Miao*[1,2], A. Gupta[1] and G. Xiao[2] *1. MINT center, University of Alabama, Tuscaloosa, AL, USA; 2. Physics, Brown University, Providence, RI, USA*

GP-17. FORMATION OF $L1_2$-Mn_3Ru PHASE AND ITS EXCHANGE BIASING PROPERTIES IN Mn-Ru/Co-Fe BILAYERS. *M. Tsunoda*[1], K. Imakita[1], M. Naka[1], S. Yoshitaki[1] and M. Takahashi[1,2] *1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan*

GP-18. Enhanced Exchange Bias in FeCo-$FeCoO_x$ Nanoparticles Embedded in Cu Matrix. *Y. Xu*[1], J.H. Judy[1] and J. Wang[1] *1. The Center for Micromagnetics and Information Technologies (MINT), Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

GP-19. Exchange bias training effect in coupled ferromagnetic bilayer structures. *C. Binek*[1], S. Polisetty[1], X. He[1] and A. Berger[2] *1. Physics & Astronomy, University of Nebraska, Lincoln, NE, USA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

THURSDAY MORNING 8:00 IMPERIAL

Session GQ
SPIN VALVES (POSTER SESSION)
Stephen Russek, Chair

GQ-01. Brillouin light scattering of CoFe/IrMn-based top and bottom spin valves. *S. Park*[1], K. Han[1], J. Kim[1], Y. Lee[1], J. Kim[2] and S. Lee[3] *1. Quantum Photonic Science Research Center and Dept. of Physics, Hanyang University, Seoul, South Korea; 2. Dept. of Physics, Hanyang University, Seoul, South Korea; 3. Dept. of Physics, Inha University, Incheon, South Korea*

GQ-02. Dependence of magnetoresistance on sense current density in a NiFe planar point-contact. *Y. Ohsawa*[1,2] *1. CR&D center, Toshiba corp, Kawasaki, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

GQ-03. Calculation of the spin reflectivity at the interface of NiO/Co in NiO based Spin Valves. A. Zhang[1], *X. Wu*[1], H. Cai[1], L. Sun[1], A. Hu[1] and S. Jiang[1] *1. Lab of Solid State Microstructures and Physics department, Nanjing University, Nanjing, 210093, China*

GQ-04. Electrical resistance and magnetoresistance study in Co/Os/Co thin films. *C. Chou*[1], Y. Yao[2,3], P. Kuo[1], K. Wu[3], J. Chou[2,3] and S. Lee[2] *1. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Department of Physics, Fu-Jen Catholic University, Taipei, Taiwan*

GQ-05. Magnetic and Transport Properties of NiMnAl Thin Films. *A. Vovk*[1], M. Yu[1], L. Malkinski[1], C. O'Connor[1], Z. Wang[2], E. Durant[2], J. Tang[2] and V. Golub[3] *1. AMRI-University of New Orleans, New Orleans, LA, USA; 2. Physics Department University of New Orleans, New Orleans, LA, USA; 3. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine*

GQ-06. Spin valves with synthetic exchange bias Co70 Ni10Pt20/Ru/CoFe. *J. Qiu*[1], K. Li[1], Y. Zheng[1], P. Luo[1], Y. Wu[1,2] and J. Li[3] *1. Data Storage Institute, Singapore, Singapore; 2. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Hitachi Global Storage Technologies, San Jose, CA, USA*

GQ-07. Positive magnetoresistance and extraordinary CPP/CIP ratio in spin valves with SiO_2 interface layers. H. Wang[1,2], Z.C. Zhao[2], Y.X. Xia[2], *P.R. LeClair*[1] and J.S. Moodera[1] *1. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA, USA; 2. Department of Physics, Shanghai Jiao Tong University, Shanghai, China*

GQ-08. Studies of Current Driven Switching in Notched Pseudo Spin Valve Strip. *J. Ou*[1], J. Wu[1], L. Hong[1], C. Chou[2] and C. Lee[3] *1. Taiwan SPIN Research Center and Physics Department, Natl. Changhua Univ. of Edu., Changhua, Taiwan; 2. Department of Mathematics, Natl. Changhua Univ. of Edu., Changhua, Taiwan; 3. Department of Electrical Engineering, Chungchou Institute of Technology, Changhua, Taiwan*

GQ-09. Magnetic Structure Variations During GMR Training in Spin Valves with Pico-Scale Antiferromagnetic Layers. *S. Moyerman*[1], J.C. Eckert[1], J.A. Borchers[2], K.L. Perdue[1], M. Doucet[2,3], P.D. Sparks[1] and M.J. Carey[4] *1. Harvey Mudd College, Claremont, CA, USA; 2. NCNR, National Institute of Standards and Technology, Gaithersburg, MD, USA; 3. University of Maryland, College Park, MD, USA; 4. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

GQ-10. Enhancement of Magnetoresistance in [Pd/Co]/Cu/Co/[Pd/Co]/FeMn Spin-valves. *H. Joo*[1], J. An[1], M. Lee[1], J. Choi[1], K. Lee[1], S. Kim[2], S. Lee[3] and D. Hwang[3] *1. Physics, Dankook University, Cheonan, South Korea; 2. Life Science Institute, Sangji University, Wonju, South Korea; 3. Computer and Electronic Physics, Sangji University, Wonju, South Korea*

GQ-11. Induced interfacial diffusive scatterings from different mean free paths between adjacent materials. *S. Chen*[1] and C. Chang[2] *1. Department of Physics, National Thing Hua University, Hsinchu, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan*

GQ-12. Element Specific Magnetisation Reversal in a Spin-valve with an AAF Layer as a Function of Temperature. *M.S. Beal*[1], S.M. Thompson[1], T.P. Hase[2], R.T. Mennicke[1], S. Stanescu[4] and G. Yi[3] *1. Physics, The University of York, York, United Kingdom; 2. Dept of Physics, University of Durham, York, United Kingdom; 3. Seagate Springtown R&D, Seagate Technology, Londonderry, United Kingdom; 4. ID08, ESRF, Grenoble, France*

GQ-13. Inverse magnetoresistance and large saturation field change in doped Co/Cu-typed sandwich. *Z. Zhao*[1], H. Wang[1], S. Xiao[1], D. Huang[1], Y. Xia[1], Q. Jin[2] and C. Zha[2] *1. Physics, Shanghai Jiao Tong University, Shanghai, China; 2. Optical science and engineering, Fudan University, Shanghai, China*

GQ-14. Interplay between the magnetic interactions existent in spin-valve structures. R.L. Rodriguez-Suarez[1], A.B. Oliveira[1], S.M. Rezende[1] and *A. Azevedo*[1] *1. Departamento de Fisica, Universidade Federal de Pernambuco, Recife, PE, Brazil*

GQ-15. Irradiation-controlled GMR of PtMn-based spin valve. *S. Huang*[1], C. Lai[1], C. Chiang[1] and C. Yang[2] *1. Department of Materials Science & Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Materials Science & Engineering, Stanford University, Stanford, CA, USA*

THURSDAY MORNING 8:00 IMPERIAL

Session GR
MAGNETO-RESISTIVE HEADS AND MAGNETIC MEMORY (POSTER SESSION)

Bruce Schardt, Chair

GR-01. Thermal Excitation Effect on Toggle Switching in SAF Free layer. *Y. Lee*[1], C. Hung[1], M. Kao[1] and M. Tsai[1] *1. Electronics Research Service Organization, Industrial Technology Research Institute, Hsinchu, Taiwan*

GR-02. Planar-Hall-Effect MRAM. *Y. Bason*[1], L. Klein[1], C.H. Ahn[2], X. Hong[2] and J.T. Yau[2] *1. Physics, Bar-Ilan University, Ramat Gan, Israel; 2. Applied Physics, Yale University, New Haven, CT, USA*

GR-03. Improvement in Thermal Stability of MRAM with novel MTJ cell. *T. Kai*[1], Y. Shimizu[2], R. Takizawa[2], Y. Ueda[2], N. Shimomura[1], S. Ikegawa[1], Y. Asao[2], K. Tsuchida[2], H. Yoda[1], N. Ishiwata[3], H. Hada[3] and S. Tahara[3] *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Kanagawa, Japan; 2. SoC Research & Development Center, Semiconductor Company, Toshiba Corporation, Kawasaki, Kanagawa, Japan; 3. System Devices Research Laboratories, NEC Corporation, Sagamihara, Kanagawa, Japan*

GR-04. Reduction of switching field distributions by edge oxidization of submicron MTJ cells for high-density MRAMs. *M. Yoshikawa*[1], E. Kitagawa[1], S. Takahashi[1], T. Kai[1], M. Amano[1], N. Shimomura[1], T. Kishi[1], S. Ikegawa[1], Y. Asao[1], H. Yoda[1], K. Nagahara[2], H. Numata[2], H. Hada[2], N. Ishiwata[2] and S. Tahara[2] *1. Corporate Research & Development Center, TOSHIBA Corporation, Kawasaki, Japan; 2. System Devices Research Laboratories, NEC Corporation, Sagamihara, Japan*

GR-05. Tunneling magnetoresistance of MTJ cell measured by conducting atomic force microscopy with ramping DC bias voltage rate. *M. Shu*[1], C. Hsu[1], A. Canizo-Cabrera[1], C. Chen[2],. Wu[2], M. Takahashi[3], C. Yang[4] and T. Wu[1] *1. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Yunlin, Taiwan; 2. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 3. Department of Electronic Engineering, Tohoku University, Aobayama, Sendai, Japan; 4. Department of General Education Center, Overseas Chinese Institute of Technology, Taichung, Taiwan*

GR-06. Magnetic Microscopy of Toggle Magnetic Random Access Memory. M. Qazzaz[3], W.C. Uhlig[4], T. Orlando[1], S.T. Halloran[1], F.C. da Sliva[1], R. Owings[1], S.E. Russek[2], J. Unguris[4], D. Krefft[3] and *D.P. Pappas*[1] *1. Quantum Devices, NIST, Boulder, CO, USA; 2. Magnetics Group, NIST, Boulder, CO, USA; 3. Information Assurance Directorate, NSA, Fort Meade, MD, USA; 4. PElectron and Optical Physics, NIST, Gaithersburg, MD, USA*

GR-07. Withdrawn

GR-08. The dependence of specularity behavior and thermal stability on capping layer thickness in spin valves. *J. Kim*[1] and S. Lee[1] *1. Materials Science and Engineering, Korea University, Seoul, South Korea*

GR-09. CPP and CIP Spin Valve Resistance Thermal Degradation Analysis. *L. Gan*[1], X. Peng[1], E. Granstrom[1], J. Shen[1] and B. Pant[1] *1. Seagate Technology, Bloomington, MN, USA*

GR-10. STRUCTURAL CHARACTERIZATION OF $Co_{1-x}Fe_x$ NANO OXIDE LAYER. *H. Endo*[1], M. Doi[1], N. Hasegawa[2] and M. Sahashi[1] *1. Dept. of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. ALPS Electric Corporation, Nagaoka, Niigata, Japan*

GR-11. Characterization of spin valve sensor films without antiferromagnetic pinning. *G. Rutsch*[1], N. Smith[2] and D. Mauri[1] *1. Sensor Development and Manufacturing, Hitachi GST, San Jose, CA, USA; 2. San Jose Research Center, Hitachi GST, San Jose, CA, USA*

THURSDAY MORNING 8:00 IMPERIAL

Session GS
AMORPHOUS AND NANOCRYSTALLINE SOFT MATERIALS II (POSTER SESSION)
Teruo Bitoh, Chair

GS-01. Effects of Cr and Au additions on the magnetic properties and magneto-impedance behaviors in $Fe_{76.5-x}Cr_xSi_{13.5}B_9Nb_3Au_1$ (x = 1~ 5) alloys. L. Tuan[2], M. Hwang[1], T. Phan[3], S. Yu[3], C. Kim[2] and *H. Lee*[1] *1. Physics Education, Kongju National University, Kongju, South Korea; 2. Materials Engineering, Chungnam National University, Daejeon, South Korea; 3. Physics, Chungbuk National University, Cheongju, South Korea*

GS-02. Effects of the Zn-phosphate coating on magnetic properties of $Fe_{73.5}Cu_1Nb_3Si_{15.5}B_7$ nanocrystalline alloy powder cores. *D. Jang*[1,3], G. Choi[2], Y. Kim[3], T. Noh[1] and K. Kim[3] *1. Materials Science & Engineering, Andong National University, Andong, South Korea; 2. Research Center, Changsung, Incheon, South Korea; 3. Advanced Metals Research Center, Korea Institute of Science & Technology, Seoul, South Korea*

GS-03. Structural, magnetic and magnetostriction behaviors during the nanocrystallization of the amorphous $Ni_5Fe_{68.5}Si_{13.5}B_9Nb_3Cu_1$ alloy. *N. Iturriza*[1], C. Garcia[1], L. Fernandez[1], J.J. del Val[1,2], J. Gonzalez[1], J.M. Blanco[3], G. Vara[4] and A.R. Pierna[4] *1. Fisica de Materiales, Facultad de Quimica, UPV/EHU, San Sebastian, Gipuzkoa, Spain; 2. Unidad de Fisica de Materiales, Centro Mixto CSIC-UPV/EHU, San Sebastian, Gipuzkoa, Spain; 3. Fisica Aplicada I, EUPSS, UPV/EHU, San Sebastian, Gipuzkoa, Spain; 4. Ingenieria Quimica y del Medio Ambiente, EUPSS, UPV/EHU, San Sebastian, Gipuzkoa, Spain*

GS-04. CoFeCrSiB field-annealed amorphous ribbons studied using magneto-optical vector magnetometry. *O. Zivotsky*[1], L. Kraus[2], M. Malatek[3], K. Postava[1] and J. Pistora[1] *1. Department of Physics, VSB-Technical University Ostrava, Ostrava, Czech Republic; 2. Institute of Physics, Academy of Sciences, Prague, Czech Republic; 3. Department of Measurements, Czech Technical University, Prague, Czech Republic*

GS-05. Stress dependence of coercivity in nanocrystalline $Fe_{79}Hf_7B_{12}Si_2$ glass-coated microwires. C. Garcia[1], A. Zhukov[1,2], J. Gonzalez[1], V. Zhukova[3], R. Varga[4], J. del Val[1], V. Larin[5], *A. Chizhik*[1] and J. Blanco[2] *1. Departamento Fisica de Materiales, Facultad de Quimica, UPV, San Sebastian, Spain; 2. Dpto. Fisica Aplicada I, EUPSD, UPV/EHU, San Sebastian, Spain; 3. TAMAG Iberica S.L., Parque Tecnologico de Miramon, San Sebastian, Spain; 4. Inst. Phys., Fac. Sci., UPJS, Kosice, Slovakia; 5. MFTI, Kishinev, Moldova*

GS-06. Vacuum Hot Pressing of Fe-Si-B-Nb Based Amorphous Powder Cores and Their High Frequency Magnetic Properties. E. Kang[1,2], *Y. Kim*[1], K. Kim[1], Y. Chung[1] and H. Baik[2] *1. Advanced Metals Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of Metallurgy-System Engineering, Yonsei University, Seoul, South Korea*

GS-07. RAPID ANNEALING AND SUBSTRATE TEMPERATURE EFFECTS ON MAGNETIC PROPERTIES OF CoFeV FILMS. *H.D. Nguyen*[1,3], L.T. Phan[4], K.E. Lee[1], P. Kollu[1], C. Kim[1] and C. Kim[2] *1. Materials Science and Engineering, Chungnam National University, Daejeon, South Korea; 2. Research Center for Advanced Magnetic Materials, Chungnam National University, Daejeon, South Korea; 3. Research Institute of Technology for Machinery, Ministry of Industry, Hanoi, Viet Nam; 4. Department of Physics, Chungbuk National University, Cheongju, South Korea*

GS-08. Multiple Magnetic Resonances in Permeability Spectra of Thick CoTaZr Films. *D. Lee*[1] and S.X. Wang[1] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA*

GS-09. The effect of grain size on the soft magnetic properties of FeCoV/CoNbZr multilayers. *M. Contreras*[1], J.F. Calleja[1], R. Matarranz[1], A. Alija[1], B. Presa[1] and G. Pan[2] *1. Fisica, Universidad de Oviedo, Oviedo, Asturias, Spain; 2. School of Computing Communications and Electronics, Faculty of Technology, University of Plymouth, Plymouth, Devon, United Kingdom*

GS-10. Structure and magnetic property study of textured Fe(001) films on Si(001). *L. MingDaou*[1], C. Lo[2,4], T. Peng[1], K. You[3], S. Chen[1] and Y. Yao[3,1] *1. Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Nanotechnology Research Center, Industrial Technology Research Institute, Hsinchu, Taiwan*

GS-11. Electrodeposition of Ni nanowires in AAO membrane on silicon wafer substrate. *J. Jung*[1], J. Nam[1], S. Min[2], A. Vovk[3], M. Yu[3] and L. Malkinski[3] *1. Department of Chemistry, Kangnung National University, Kangnung, South Korea; 2. Department of Metal and Material Engeering, Kangnung National University, Kangnung, South Korea; 3. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA*

GS-12. Atypical time-dependent magnetic behaviors of Fe-Bi films. *J. Hsu*[1,2], H. Wang[3], A. Sun[2] and P. Kuo[3,2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Institute of Material Science and Engineering, National Taiwan University, Taipei, Taiwan*

GS-13. Thickness dependence of exchange anisotropy and anisotropic magnetoresistance in NiFe/IrMn bilayers studied by Planar Hall Effect. *T. Nguyen*[1,2], M. Chun[2], C. Kim[1], C. Kim[1] and K. Kim[2] *1. Material Science and Engineering, Chungnam National University, Daejeon, South Korea; 2. Advanced Metals Reserach Center, Korea Institute of Science and Technology, Seoul, South Korea*

THURSDAY MORNING 8:00 IMPERIAL

Session GT
COMPLEX OXIDES II: PHASE SEPARATION (POSTER SESSION)

Omar Chmaissem, Co-chair
Alan Bishop, Co-chair

GT-01. Charge ordering phase transition in solid solutions of La1-yPryMnO3+δ(0 ≤ y ≤ 1, d ≤ 0.1). *F.N. Bukhanko*[1], V.P. Dyakonov[1], N.A. Doroshenko[1], V.I. Kamenev[1] and H.H. Szymczak[2] *1. Electronic properties of metals, Donetsk Phys.&Techn.Institue, NASU, Donetsk, Donetsk, Ukraine; 2. magnetism, Institute of Physics, PAS, Warsav, Warsav, Poland*

GT-02. The role of redox chemistry of Ru and Mn on the magnetic and transport properties of A-site unsubstituted $LaMnO_{3\pm\delta}$. B. Singh[1], *S. Manoharan*[1,2], D. Kundaliya[2], B. Varughese[3], S.B. Ogale[2] and T. Venkatesan[2] *1. Materials Chemistry Laboratory, Indian Institute of Technology, Kanpur, India; 2. Department of Physics, University of Maryland, College Park, MD, USA; 3. Department of Chemistry, University of Maryland, College Park, MD, USA*

GT-03. Superspin glass properties of a non-stoichiometric lanthanum manganite $LaMnO_{3.13}$. *C.R. Sankar*[1] and P.A. Joy[1] *1. Physical and Materials Chemistry, National Chemical Laboratory, Pune, India*

GT-04. Lattice distortions, ferromagnetic clusters and phase separation in $La_{1-x}Pb_xMnO_3$: ESR study. *T. Phan*[1], M. Phan[2], Y. Song[1], N. Chau[3] and S. Yu[1] *1. Deparment of Physics, Chungbuk National University, Cheongju, South Korea; 2. Department of Aerospace Engineering, Bristol University, BS8 1TR, United Kingdom; 3. Center for Materials Science, University of Science, 334 Nguyen Trai, Hanoi, Viet Nam*

GT-05. Current effects in electronically phase-separated $Pr_{0.7}Pb_{0.3}MnO_3$ single crystals. *R. Li*[1], X. Zhou[2], A. Belik[1], K. Miki[3] and B. Shen[4] *1. International Center for Young Scientists, National Institute for Materials Science, Tsukuba, Japan; 2. Max Planck Institute for Polymer Research, Mainz, Germany; 3. Nanomaterials Laboratory, National Institute for Materials Science, Tsukuba, Japan; 4. State Key Laboratory of Magnetism, Institute of Physics and Center for Condensed Matter Physics, Chinese Academy of Sciences, Beijing, China*

GT-06. Theoretical study of CE phase in manganites: a revised charge-ordering model. S. Dong[1], X. Yao[1], K. Wang[1], *G. Zhao*[2,1] and J. Liu[1,3] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics, Sichuan Normal University, Chengdu, Sichuan, China; 3. International Center for Materials physics, Chinese Academy of Sciences, Shenyang, Liaoning, China*

GT-07. Ru-doping of the Mn site in $La_{0.4}Ca_{0.6}MnO_3$ perovskite: EMR study of electronic and magnetic ordering. A. Yakubovsky[1], A. Shames[2], *E. Rozenberg*[2], G. Gorodetsky[2], M. Auslender[3], C. Martin[4] and A. Maignan[4] *1. Research Center Kurchatov Institute, Moscow, Russian Federation; 2. Dept. of Physics, BGU of the Negev, Beer-Sheva, -, Israel; 3. Dept. of Electrical and Computer Engineering, BGU of the Negev, Beer-Sheva, Israel; 4. Laboratoire CRISMAT, ISMRA, Caen, France*

GT-08. Glassy ferromagnetism and frustration in $La_{0.7}Ba_{0.3}Mn_{0.7}Ti_{0.3}O_3$. L. Bau[1,2], *T. Phan*[3], P. Nordblad[4], N. Phuc[1] and S. Yu[3] *1. Institute of Materials Science, Academy of Science and Technology, Hanoi, Viet Nam; 2. Department of Natural Science, Hongduc University, 307 Lelai, Thanhhoa, Viet Nam; 3. Department of Physics, Chungbuk National University, 361-763, Cheongju, South Korea; 4. Department of Materials Science, Uppsala University, Box 534, S-751 21 Uppsala, Sweden*

GT-09. Effect of site disorder on the magnetic and electronic transitions in La and Ca substituted $Eu_{0.5}Sr_{0.5}MnO_3$ manganite. *D.S. Rana*[1] and S.K. Malik[1] *1. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India*

GT-10. Studies on structure and magnetic properties and $(La_{1-y-x}Y_y)_{2/3}Ca_{1/3}MnO_3$ with La-site vacancies. X. Li[1,2], B. You[1], Z. Wang[1], G. Luo[2] and *X. Wu*[1,2] *1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. School Material Science and Engineering, Nanchang University, Nanchang, 330047, China*

GT-11. Crystal growth, transport and magnetic properties of rare earth manganite $Pr_{1-x}Pb_xMnO_3$. *P. Balasubramanian*[1], S. Elizabeth[1], H.L. Bhat[1], S. Roessler[2], K. Doerr[3] and K.H. Mueller[3] *1. Department of Physics, Indian Institute of Science, Bangalore, India; 2. Institut fuer Festkorperphysik, Technische Universitat Dresden, Dresden, Germany; 3. Institut fuer Metallische, Technische Universitat Dresden, Dresden, Germany*

GT-12. Role of double exchange interaction on the magnetic and electrical properties of $Pr_{0.8}Sr_{0.2}MnO_3$ ferromagnetic insulating manganite. N. Rama[1,2], *V. Sankaranarayanan*[2] and M. Rao[1,2] *1. Materials Science Research Centre and Department of Physics, Indian Institute of Technology-Madras, Chennai, India; 2. Dept of Physics, Indian Institute of Technology Madras, Chennai, Tamilnadu, India*

GT-13. The resistivity changed by the Co ion's spin configuration in the $La_{2/3}Ca_{1/3}Mn_{1-x}Co_xO_3$ samples. H. Cai[1], *X. Wu*[1,2], B. You[1], A. Zhang[1], S. Xu[1], S. Jiang[1] and J. Gao[2] *1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics, The University of Hong Kong, Hong Kong, China*

GT-14. Structure, magnetic and transport properties of Zr-substituted $La_{0.7}Sr_{0.3}MnO_3$. *M. Kim*[1,2], J. Yang[1,2], Q. Cai[4], X. Zhou[2], W. James[2,3], W. Yelon[2,3], P. Parris[1] and S. Malik[5] *1. Department of Physics, University of Missouri-Rolla, Rolla, MO, USA; 2. Graduate Center for Materials Research, University of Missouri-Rolla, Rolla, MO, USA; 3. Department of Chemistry, University of Missouri-Rolla, Rolla, MO, USA; 4. Department of Physics, University of Missouri-Columbia, Columbia, MO, USA; 5. Tata Institute of Fundamental Research, Colaba, Mumbai, India*

GT-15. Study of the magnetic behaviour of single crystalline $Nd_{0.5}Sr_{0.5}MnO_3$. *R. Venkatesh*[1], R. Nirmala[2,3], S.K. Malik[2] and G. Rangarajan[1] *1. Department of Physics, Indian Institute of Technology, Chennai, Tamilnadu, India; 2. Tata Institute of fundamental research, Mumbai, Maharastra, India; 3. Solid state Structural Chemistry Unit, Indian Institute of Science, Bangalore, India*

GT-16. High-resolution neutron diffraction study of $La_{1-x}Sr_xCoO_3$. *Y. Yoo*[1], K. Yu[1], J. Kim[1], Y. Lee[1] and K. Hong[2] *1. Quantum Photonic Science Research Center and Department of Physics, Hanyang University, Seoul, South Korea; 2. Korea Atomic Energy Research Institute, Daejeon, South Korea*

GT-17. Relaxation study of magnetization and electrical resistivity in 2D layered manganite system $La_{1.2}Ba_{1.8}Mn_2O_7$. *S. Nori*[1] and K.P. Rajeev[1] *1. Physics Department, Indian Institute of Technology, Kanpur, Uttar Pradesh, India*

THURSDAY MORNING 8:00 IMPERIAL

Session GU
BIOMAGNETIC AND ELECTRONIC DEVICES (POSTER SESSION)

Ben Yellen, Chair

GU-01. Thermotherapy with Metallic Stent Excited by The Magnetic Field. *J. Oya*[1], H. Shoji[1], F. Sato[1], H. Matsuki[1], S. Satomi[2], Y. Nihei[2], Y. Kurokawa[2] and T. Sato[3] *1. Electric and Communication Engineering, Graduate School of Engineering, Tohoku.University, Sendai, Japan; 2. Graduate School of Medicine, Tohoku University, Sendai, Japan; 3. NEC TOKIN Corporation, Sendai, Japan*

GU-02. High Output Heat Element of Magnetic Hyperthermia for Mouse Melanoma. *T. Maruyama*[1], Y. Sawaya[1], F. Sato[1], H. Matsuki[1], S. Aiba[2], Y. Ito[2] and T. Sato[3] *1. Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Medical Sciences, Graduate School of Tohoku University, Tohoku university, sendai, Miyagi, Japan; 3. NEC TOKIN Corp., sendai, Miyagi, Japan*

GU-03. Magnetic Separator Design for Sequestration of Medicated Magnetic Nanospheres from Human Arterial Flow. *H. Chen*[1], T.L. Caviness[1], M.D. Kaminski[3], A.D. Ebner[4], J.A. Ritter[4], X. Liu[1], S.G. Guy[1] 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. Chemical Engineering Division, Argonne National Laboratory, Argonne, IL, USA; 4. Department of Chemical Engineering, University of South Carolina, Columbia, SC, USA*

GU-04. Magnetic cell manipulation utilizing magnetic particles and paramagnetic liquid. *M. Iwasaka*[1], T. Kimura[2,3], F. Kimura[3] and S. Ueno[4] *1. Chiba University, Chiba, Japan; 2. Tokyo Metropolitan University, Hachioji, Japan; 3. NIMS, Tsukuba, Japan; 4. University of Tokyo, Tokyo, Japan*

GU-05. Improvement of Pulse Diagnostic Apparatus with Array Sensor of Magnetic Tunneling Junctions. *S. Lee*[1], S. Kim[2], G. Kim[3], Y. Choi[1], H. Lee[1], D. Park[1] and D. Hwang[1] *1. Computer and Electronic Physics, Sangji University, Wonju, Kangwon-do, South Korea; 2. Life Science Institute, Sangji University, Wonju, Kanagwon-do, South Korea; 3. Korean Medicine, Sangji University, Wonju, Kanagwon-do, South Korea*

GU-06. Improvement of Communication Area for Implantable Signal Transmission System with Ferrite Chip Core. *T. Somekawa*[1], T. Takura[1], F. Sato[1], H. Matsuki[1] and T. Sato[2] *1. Electrical & Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. NEC Tokin Corp., Sendai, Miyagi, Japan*

GU-07. A novel method to obtain uniform magnetic field energy density gardient distribution using discrete pole pieces for a MEMS (Micro-Electro-Mechanical-Systems) based magnetic cell separator. *P. Nath*[1,2], L.R. Moore[1], M. Zborowski[1], S. Roy[1] and A.J. Fleischman[1] *1. Biomedical Engineering, Cleveland Clinic Foundation, Cleveland, OH, USA; 2. Chemical and Biomedical Engineering, Cleveland State University, Cleveland, OH, USA*

GU-08. Magnetizable Mesh Implant for Magnetically Guided Targeted Drug Delivery Across Capillary Vessel Wall. *H. Chen*[1], M.D. Kaminski[3], T.L. Caviness[1], S.G. Guy[1] 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. Chemical Engineering Division, Argonne National Laboratory, Argonne, IL, USA*

GU-09. Magnetic actuator intended for left ventricular assist system. *H. Saotome*[1] and T. Okada[1] *1. Dept. of Electronic & Mechanical Eng., Facuty of Engineering, Chiba University, Chiba, Japan*

GU-10. Miniaturization and efficiency improvement of the transcutaneous energy transmission system utilizing Mn-Zn ferrite core coils. *H. Miura*[1], S. Arai[1], Y. Kakubari[1], F. Sato[1], H. Matsuki[1] and T. Sato[2] *1. Gradate school of engineering, Tohoku university, Sendai, Miyagi, Japan; 2. NEC Tokin, Sendai, Miyagi, Japan*

GU-11. A neural network for pattern recognition based on a ferromagnetic nano-colloid. S. Ban[1] and *V. Korenivski*[1] *1. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden*

GU-12. Magnetic Property Characterization of Patterned Permalloy and Magnetite (Fe3O4) Nanorod Cores for Integrated Solenoid RF Inductors. *J. Kim*[1], W. Ni[1], C. Lee[1], I.D. Hosein[2], Y. Song[2], C. Liddell[2] and E.C. Kan[1] *1. School of Electrical and Computer Engineering, Cornell University, Ithaca, NY, USA; 2. School of Material Science and Engineering, Cornell University, Ithaca, NY, USA*

GU-13. A Novel Non-contact Energy Transferring System for an Electric Vehicle-Charging System Based on Recycled Products-. *Y. Matsuda*[1], H. Sakamoto[1], M. Shigeyuki[1] and S. Hideaki[1] *1. Energy electronics laboratory, Sojo University, Kumamoto, Japan*

GU-14. A Low Power Consumption Focusing Actuator for Mini Video Camera. *H. Yu*[1], T. Lee[2], L. Kuo[1], S. Wang[1], J. Ju[1], D. Huang[1] and S. Lin[2] *1. Opto-Mechanics, Opto-Electronics and Systems Laboratories, Industrial Technology Research Institute, Chutung, Hsinchu, Taiwan; 2. Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan*

THURSDAY MORNING 8:00 IMPERIAL

Session GV
BIOMAGNETISM AND CHEMICAL MAGNETISM (POSTER SESSION)

Diandra Leslie-Pelecky, Chair

GV-01. Magnetoelectronic properties of cytochrome proteins. *J. Gu*[1], D. Li[1], J. Kabulski[2], Z. Liu[1], F.A. Perez[1], P.M. Gannett[2] and D. Lederman[1] *1. Department of Physics, West Virginia University, Morgantown, WV, USA; 2. Basic Pharmaceutical Sciences, West Virginia University, Morgantown, WV, USA*

GV-02. Smart magnetic nanospheres with tumor-specific ability for magnetic resonance molecular targeting. S. Lee[2], B. Jeon[2], *J. Jeong*[1], S. Shin[1], Y. Huh[3], H. Song[3], J. Suh[3] and J. Kim[2] *1. Dept. of Physics, KAIST, Daejeon, South Korea; 2. Dept. of Chemical and Biomolecular Engineering, KAIST, Daejeon, South Korea; 3. Diagnostic Radiology, Yonsei University Medical Center, Seoul, South Korea*

GV-03. Synthesis of LDH-type clay substituted with Fe ion for arsenic removal and its application to magnetic separation. A. Nakahira[1], S. Nishida[2] and *H. Murase*[1] *1. Osaka Prefecture Univ, Sakai, Japan; 2. Kyoto Inst Tech, Kyoto, Japan*

GV-04. Targeting to carcinoma cells in magnetite and polymer coated magnetite for magnetically modulated target—hyperthermia. *D. Kim*[1], S. Lee[1], K. Kim[1], K. Kim[1], I. Shim[2], M. Lee[3] and Y. Lee[1] *1. Brain Korea 21 Project for Medical Science, Department and Research Institute of Dental Biomaterials, Yonsei University College of Dentistry, Seoul, South Korea; 2. Department of Electronic Physics, Kookmin University, Seoul, South Korea; 3. Korea Institute of Ceramics, 233-5 Gasan-dong, Seoul, South Korea*

GV-05. Particle size and compositional effects on temperature dependent magnetisation in NiZn ferrite and magnetite ferrofluids. *A.E. Virden*[1] and K. O'Grady[1] *1. Physics Department, The University of York, York, United Kingdom*

GV-06. Size and concentration effects on the grafting of magnetic nanoparticles by Monte Carlo simulations. L.L. Castro[1], *R. Miotto*[1] and A.F. Bakuzis[2] *1. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil; 2. Instituto de Fisica, Universidade Federal de Goias, Goiania, Go, Brazil*

GV-07. Influence of Culture Conditions on the Magnetic Response of Biogenic Iron Sulphide. *M.S. Marius*[1], A.S. Bahaj[1], P.A. James[1] and D.J. Smallman[1] *1. University of Southampton, Southampton, United Kingdom*

GV-08. Studies of Cell Toxicity and Binding of Biocompatible Magnetics Fluids with Blood Stream Macromolecules. P.P. Macaroff[1], A.R. Simioni[1], E.C. Lima[2], Z.G. Marques Lacava[3], P.C. Morais[4] and *A.C. Tedesco[1]1. Quimica, Universidade de Sao Paulo- Faculdade de Filosofia, Ciencias e Letras de Ribeirao Preto, Ribierao Preto, Sao Paulo, Brazil; 2. Instituto de Quimica, Universidade Federal de Goias, Goiania, Goias, Brazil; 3. Instituto de Ciencias Biologicas, Universidade de Brasilia, Brasilia, Distrito Federal, Brazil; 4. Instituto de Fisica- Nucleo de Fisica Aplicada, Universidade de Brasilia, Brasilia, Distrito Federal, Brazil*

GV-09. Near-infrared measurements of cytochrome oxidase under magnetic fields. *M. Iwasaka*[1] and S. Ueno[2]*1. Faculty of Engineering, Chiba University, Chiba, Japan; 2. University of Tokyo, Tokyo, Japan*

GV-10. Measurement of Biomagnetic Fields Using High Resolution SQUID Magnetometer. *K. Iramina*[1] and S. Ueno[2]*1. Department of Inteligent Systems, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Biomedical Engineering, University of Tokyo, Tokyo, Japan*

GV-11. Combined effects of magnetic fields and temperature jump on ANS (2-aminonaphthalene-6-sulfonic acid) fluorescence in RBC ghost cell membrane. *M. Yaoita*[1], M. Iwasaka[2], T. Iwasawa[1] and S. Ueno[3]*1. Teikyo University of Science & Technology, Uenohara, Japan; 2. Chiba University, Chiba, Japan; 3. University of Tokyo, Tokyo, Japan*

GV-12. PREPARATION OF MAGNETIC UNILAMELLAR VESICLES AND APPLICATION FOR DRUG DELIVERY SYSTEM. *H. Nakagawa*[1], x. Kotani[1], M. Sekino[1] and S. Ueno[1]*1. University of Tokyo, Bunkyo-ku, Tokyo, Japan*

GV-13. A biomagnetic microfluidic cell that can manipulate, sense and sort magnetic microbeads. *Z. Jiang*[1], J. Llandro[1], H. Morgan[2], S. Banu[2], T. Mitrelias[1] and J. Bland[1]*1. Department of Physics, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; 2. School of Electronics and Computer Science, University of Southampton, Southampton, Hampshire, United Kingdom*

GV-14. The Effect of Magnetic Field on the Microgravity Single Droplet Combustion. *J. Ishimoto*[1] and K. Saito[2]*1. Institute of Fluid Science, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Mechanical Engineering, University of Kentucky, Lexington, KY, USA*

GV-15. The High-speed Operation of Single Phase Switched Reluctance Motor. *J. Ahn*[1], S. Lim[1] and J. Lee[1]*1. ELECTRICAL ENGINEERING, HANYANG UNIVERSITY, SEOUL, South Korea*

THURSDAY
MORNING
8:00

IMPERIAL

Session GW
MAGNETIC MOTORS II (POSTER SESSION)

Nigel Schofield, Chair

GW-01. A HIGH-PERFORMANCE AXIAL-FIELD MAGNETIC GEAR. S. Mezani[1], K. Atallah[1] and *D. Howe[1]1. Electronic & Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom*

GW-02. Analysis of the performance of PM stepping motor with trapezoid stator tooth. C. Liu[1], Y. Li[1], K. Liu[1], *K. Wu*[2] and Y. Yao[3]*1. Yuan Ze University, Chungli, Taiwan; 2. Fu-Jen University, Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

GW-03. Reducing the cogging torque of permanent magnet motors by notching the stator teeth. *J. Zou*[1], X. Chen[1] and J. Hu[1]*1. Electrical Engineering, Harbin Instutute of Technology, Harbin, Heiongjiang, China*

GW-04. Design of Permanent Magnets to Chaoize Doubly Salient PM Motors for Electric Compaction. K. Chau[1] and *Z. Wang[1]1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China*

GW-05. Chaos caused by permanent magnets in PM linear machines. *Y. Gao*[1] and K. Chau[1]*1. Department of Electrical & Electronic Engineering, The University of Hong Kong, Hong Kong, China*

GW-06. Prediction and Analysis of Magnetic Forces in Permanent Magnet Brushless dc Motor with Rotor Eccentricity. *Z. Liu*[1], J. Li[1,2] and M. Jabbar[2]*1. Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore*

GW-07. Rotor Position Sensing in Self-Shielding Magnetised PM Brushless AC Motors Using Low Cost Linear Hall Sensors. Z. Zhu[1], Y. Shi[1] and *D. Howe[1]1. University of Sheffield, Sheffield, United Kingdom*

GW-08. Investigation of End-Effect in PM Brushless Machines Having Magnets in the Stator. Y. Pang[1], W. Hua[1,2], Z. Zhu[1], M. Cheng[2] and *D. Howe[1]1. University of Sheffield, Sheffield, United Kingdom; 2. Southeast University, Nanjing, China*

GW-09. Practical Dynamic Modeling of Brushless DC Motor Using the Analytical Back EMF Prediction. S. Jang[1], *H. Cho*[1], J. Choi[1], D. You[1] and S. Sung[2] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea; 2. Korea Orthopedics and Rehabilitation Research Center, Seoul, South Korea*

GW-10. Effect of design variables on Starting Torque of Single Phase Flux-Reversal Machine. *T. Kim*[1], S. Choi[2], W. Oh[3] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seoul, South Korea; 2. Ansan College of Technology, Ansan, South Korea; 3. Yuhan College, Buchon, South Korea*

GW-11. Optimum Multiobjective Design of Axial Flux Permanent Magnet Motor Based on Genetic Algorithm. *Y. Chun*[1], D. Koo[1] and Y. Cho[2] *1. Mechatronics Research Grouup, Korea Electrotechnology Research Institute, Changwon, South Korea; 2. Electrical Engineering, Dong-A University, Busan, South Korea*

GW-12. Optimum Design criteria for a Synchronous Reluctance Motor with Concentrated Winding using Response Surface Methodology. *S. Park*[1], S. Jeon[1] and J. Lee[1] *1. hanbat national university, Deajeon, South Korea*

GW-13. Influence of Design Parameters on the Performance of IPM Synchronous Motors. *C. Hwang*[1], C. Chan[1], M. Wu[1], Y. Wei[2] and K. Weng[2] *1. Electrical Engineering, Feng Chia University, Taichung, Taiwan; 2. Taiwan Hitachi Co., LTD, Taoyuan, Taiwan*

GW-14. Parameter measurement of synchronous reluctance motor using LC resonance. *J. Ahn*[1], S. Kim[1], K. Kim[1], S. Won[1] and J. Lee[1] *1. ELECTRICAL ENGINEERING, HANYANG UNIVERSITY, SEOUL, South Korea*

GW-15. Design of Linear Synchronous Reluctance Motor Focused on Required Thrust. S. Jang[1], *J. Park*[1], D. You[1], J. Choi[1] and H. Cho[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

GW-16. The Characteristic Analysis of Permanent Magnet Linear Synchronous Motor according to Skew. S. Jang[1], *J. Seo*[1], J. Choi[1], H. Cho[1] and D. You[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

GW-17. Design of a linear motor absorber. *C. Chang*[1,2], T. Liu[2], T. Jeng[1], S. Wang[1], J. Ju[1] and H. Huang[3] *1. Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Hsin Chu, Taiwan; 2. Department of Mechanical Engineering, National Chiao Tung University, Hsin Chu, Taiwan; 3. Department of Electrical and Control Engineering, National Chiao Tung University, Hsin Chu, Taiwan*

THURSDAY AFTERNOON 2:00

REGENCY I

Session HA
SPIN TRANSFER TORQUE III: IMAGING, TUNNELING, DOMAIN WALL MOTION

Evgeni Tsymbal, Chair

2:00

HA-01. X-ray imaging of magnetization reversal by spin-transfer. *J. Strachan*[1,2], Y. Acremann[1], V. Chembrolu[1,2], S. Andrews[1,3], J. Katine[4], T. Tyliszczak[5], H. Siegmann [1], B. Clemens[3] and J. Stohr[1] *1. SSRL, Stanford Linear Accelerator Center, Menlo Park, CA, USA; 2. Applied Physics, Stanford University, Stanford, CA, USA; 3. Materials Science, Stanford University, Stanford, CA, USA; 4. Hitachi Global Storage Technologies, San Jose Research Center, San Jose, CA, USA; 5. Chemical Science Division, LBNL, Berkeley, CA, USA*

2:12

HA-02. Magnetic field and pulse width dependence of current-induced magnetization reversal in (Ga,Mn)As magnetic tunnel junctions. *D. Chiba*[1,2], T. Kita[1,2], F. Matsukura[1,2] and H. Ohno[1,2] *1. ERATO Semiconductor Spintronics Project, Japan Science and Technology Agency, Sendai, Japan; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

2:24

HA-03. Current Induced Magnetization Switching in (Ga,Mn)As based tunnel junctions. *M. Elsen*[1], O. Boulle[1], A. Lemaitre[2], J. George[1], H. Jaffres[1], R. Giraud[2], G. Faini[2] and A. Fert[1] *1., Unite Mixte de Physique CNRS/THALES, Orsay, France; 2. Laboratoire de Physique et de Nanostructures, Marcoussis, France*

2:36

HA-04. Spin-Transfer Switching in MgO Magnetic Tunnel Junction Nanostructures. ***(Invited)*** *Y. Huai*[1], M. Pakala[1], Z. Diao[1], D. Apalkov[1], Y. Ding[1], A. Panchula[1] and L. Wang[1] *1. Grandis, Milpitas, CA, USA*

3:12

HA-05. Current-driven magnetization reversal in low-resistance magnetic tunnel junctions with a MgO barrier. *J. Hayakawa*[1,2], S. Ikeda[2], L. Young Min[2], R. Sasaki[2], T. Meguro[2], F. Matsukura[2], H. Takahashi[1,2] and H. Ohno[2] *1. Advanced Research Laboratory, Hitachi Ltd., Kokubunji, Tokyo, Japan; 2. Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku University, Sendai, Miyagi, Japan*

3:24

HA-06. Magnetization switching by spin polarized current through MgO tunnel barrier. *H. Kubota*[1], A. Fukushima[1], S. Yuasa[1,2], K. Ando[1], H. Maehara[3], K. Tsunekawa[3], D.D. Djayaprawira[3], N. Watanabe[3], Y. Ootani[1,5] and Y. Suzuki[4] *1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. PRESTO, Japan Science and Technology Agency (JST), Kawaguchi, Japan; 3. ANELVA Corporation, Fuchu, Japan; 4. Osaka University, Toyonaka, Japan; 5. Tsukuba University, Tsukuba, Japan*

3:36

HA-07. Spin Transfer Switching in MgO Magnetic Tunnel Junctions. *G.D. Fuchs*[1], J.A. Katine[2], S.I. Kiselev[2], D. Mauri[2], D.C. Ralph[1] and R.A. Burhman[1] *1. Cornell University, Ithaca, NY, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA*

3:48

HA-08. Direct observation of spin transfer torque induced domain wall distortion. *W.C. Uhlig*[1] and J. Unguris[1] *1. Electron Physics Group, National Institute of Standards and Technology, Gaithersburg, MD, USA*

4:00

HA-09. Changes Of Domain Wall Structure During Current-Induced Motion. *P. Jubert*[1], M. Klaui[2,1], A. Bischof[1], U. Ruediger[2] and R. Allenspach[1] *1. IBM Research, Zurich Research Laboratory, Ruschlikon, Switzerland; 2. Fachbereich Physik, Universitaet Konstanz, Konstanz, Germany*

4:12

HA-10. Origin of the threshold current for DW motion under spin transfer. *D. Ravelosona*[1], J. Katine[1] and B. Terris[1] *1. Hitachi Global Storage Technologies, San Jose, CA, USA*

4:24

HA-11. Nonlinear regimes of current-induced domain wall motion. *Y. Bazaliy*[1] *1. IBM Almaden Research Center, San Jose, CA, USA*

4:36

HA-12. Field and current-driven domain wall dynamics in magnetic nanowires. *G.S. Beach*[1], C. Knutson[1], C. Nistor[1], F. Liu[1], M. Tsoi[1] and J.L. Erskine[1] *1. Dept. of Physics, University of Texas at Austin, Austin, TX, USA*

4:48

HA-13. Real Time Observation of Domain Wall Motion in Permalloy Nanowires. ***M. Hayashi***[1,2], L. Thomas[2], R. Charles[2], R. Moriya[2], X. Jiang[2] and S. Parkin[2] *1. Stanford University, San Jose, CA, USA; 2. IBM Almaden Research Center, San Jose, CA, USA*

THURSDAY AFTERNOON 2:00 — REGENCY II

Session HB
HEADS AND LONGITUDINAL RECORDING
Mike Mallary, Chair

2:00

HB-01. Small gap CPP spin-valves using ultrathin CoPt pinning layers. *S. Maat*[1], M.J. Carey[1], J.A. Katine[1], J.R. Childress[1] and J. Checkelsky[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

2:12

HB-02. Ultra-narrow CPP GMR read heads with current screen nano-oxide layers. *M. Cyrille*[1], C. Tsang[1], S. Kiselev[1], A. Driskill-Smith[2], M. Carey[1], J. Katine[1], R. Fontana[1], N. Smith[1], J. Childress[1], K. Hoshino[3], H. Hoshiya[3] and K. Nakamoto[3] *1. San Jose Research Center, HITACHI Global Storage Technologies, San Jose, CA, USA; 2. HITACHI Global Storage Technologies, San Jose, CA, USA; 3. Storage Technology Research Center, HITACHI Ltd, Odawara-shi, Kanagawa-ken, Japan*

2:24

HB-03. A strong enhancement of CPP-GMR by using large resistivity magnetic materials. *K. Nagasaka*[1], A. Jogo[1], T. Ibusuki[1], H. Oshima[1], Y. Shimizu[1], T. Uzumaki[1] and A. Tanaka[1] *1. Advanced Magnetic Recording Laboratory, Fujitsu Laboratories Ltd., Atsugi, Kanagawa, Japan*

2:36

HB-04. Formation mechanism of Conductive Channels in Al-Cu NOL for CCP-CPPGMR spin valve. *K. Miyake*[1], J. Soh[2], S. Kawasaki[1], M. Doi[1] and M. Sahashi[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Department of Materials Science and Engineering, Korea University, Seoul, South Korea*

2:48

HB-05. Dual CPP-GMR sensors for magnetic recording heads with reduced sensitivity to spin-torque-induced noise. *J.R. Childress*[1], N. Smith[1], J.A. Katine[1], S. Maat[1] and M.J. Carey[1] *1. Hitachi San Jose Research Center, San Jose, CA, USA*

3:00

HB-06. Multiscale micromagnetic simulation of GMR read heads. O. Ertl[2], *T. Schrefl*[1,2], D. Suess[2], M. Kirschner[2], F. Dorfbauer[2], G. Hrkac[2] and J. Fidler[2] *1. University of Sheffield, Sheffield, United Kingdom; 2. Vienna University of Technology, Vienna, Austria*

3:12

HB-07. Characterization of stochastic resonance in giant magnetoresistive sensors. *A. Prabhakar*[1] *1. Electrical Engineering, Indian Institute of Technology, Chennai, India*

3:24

HB-08. FEM and micromagnetic modeling of writers. *O. Heinonen*[1] and S.P. Bozeman[1] *1. Seagate Technology, Bloomington, MN, USA*

3:36

HB-09. The effect of trailing shield for perpendicular write heads. *P. van der Heijden*[1], K. Carey[1], Q. Le[1], S. MacDonald[2], H. Nguyen[1], L. Nix[1], N. Robertson[2], N. Smith[1], C. Tsang[1] and M. Williams[1] *1. San Jose Research Center, Hitachi Global Storage Technology, San Jose, CA, USA; 2. Head and Media Adtech, Hitachi Global Storage Technology, San Jose, CA, USA*

3:48

HB-10. Dynamics of laminated writers. *O. Heinonen*[1], A. Nazarov[1] and M. Plumer[1] *1. Seagate Technology, Bloomington, MN, USA*

4:00

HB-11. Analysis of bit patterns written by thermally-assisted magnetic recording method. *A. Inomata*[1] and W. Yamagishi[1] *1. Advanced Magnetic Recording Laboratory, Fujitsu Laboratories Ltd., Atsugi, Japan*

4:12

HB-12. TRANSITION PARAMETER EVOLUTION DURING THERMAL DECAY. *B.F. Valcu*[1] and H.J. Richter[1] *1. Seagate Technology, Fremont, CA, USA*

4:24

HB-13. Exchange spring media, a route to high areal density. *N.F. Supper*[1], D.T. Margulies[1], A. Moser[1], A. Berger[1], H. Do[1] and E.E. Fullerton[1] *1. San Jose Research Center, Hitachi GST, San Jose, CA, USA*

4:36

HB-14. Relation between Interface Stress in Seed Layer and Orientation Ratio of Longitudinal Media. *T. Ono*[1], Y. Kawada[1], T. Ataka[2] and K. Soma[2] *1. Device Technology Laboratory, Fuji Electric Advanced Technology Co., Ltd., Matsumoto, Nagano, Japan; 2. Fuji Electric Device Technology Co., Ltd., Matsumoto, Nagano, Japan*

THURSDAY AFTERNOON 2:00 — CLUB REGENT

Session HC

FABRICATION AND CHARACTERIZATION OF MAGNETIC NANOSTRUCTURES AND DEVICES

Giovanni Zangari, Chair

2:00

HC-01. Mesoscopic Thin Film Magnetic Rings. ***(Invited)*** *C.A. Ross*[1], F.J. Castano[1], D. Morecroft[1], W. Jung[1], H.I. Smith[2], T.A. Moore[3], T.J. Hayward[3], J. Bland[3], T.J. Bromwich[4] and A.K. Petford-Long[4] *1. Materials Science and Engineering, MIT, Cambridge, MA, USA; 2. Electrical Engineering and Computer Science, MIT, Cambridge, MA, USA; 3. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom; 4. Department of Materials, Oxford University, Oxford, United Kingdom*

2:36

HC-02. Atom traps using magnetic nanowire domain walls. *D.A. Allwood*[1], T. Schrefl[1], I.G. Hughes[2] and C.S. Adams[2] *1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics, University of Durham, Durham, United Kingdom*

2:48

HC-03. Multi-Mode Switching of Planar Nanowires Initiated by a Transverse Field. M.T. Bryan[1], *D. Atkinson*[2] and D.A. Allwood[1] *1. Department of Engineering Materials, University of Sheffield, Sheffield, S1 3JD, United Kingdom; 2. Department of Physics, University of Durham, Durham, DH1 3LE, United Kingdom*

3:00

HC-04. Magnetic Logic Gates Based on Field-Coupled Nanomagnets. *A. Imre*[1], G. Csaba[2], L. Ji[1], G.H. Bernstein[1], A. Orlov[1] and W. Porod[1] *1. Electrical Engineering, University of Notre Dame, Notre Dame, IN, USA; 2. Institute for nanoelectronics, Technical University of Munich, Munich, Germany*

3:12

HC-05. Self-organization and magnetic domain microstructure of Fe nanowire arrays. *N. Rougemaille*[1], A.K. Schmid[1], K. Thuermer[2] and K.F. McCarty[2] *1. Lawrence Berkeley National Lab, Berkeley, CA, USA; 2. Sandia National Laboratories, Livermore, CA, USA*

3:24

HC-06. Combined MOIF and MFM characterization of patterned magnetic films. *S. Sievers*[1], S. Dreyer[2], M. Albrecht[1], U. Siegner[1] and C. Jooss[2] *1. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 2. Institut fuer Materialphysik, University of Goettingen, Goettingen, Germany*

3:36

HC-07. Experimental and computational analysis of the angular dependence of the hysteresis processes in an antidots array. F. Pigazo[2], F. Garcia Sanchez[2], F. Palomares[2], J.M. Gonzalez[3,2], O. Fesenko-Chubykalo[2], *F. Cebollada*[1], J.M. Torres[4], J. Bartolome[4] and L.M. Garcia Vinuesa[4] *1. Dep. Fisica Aplicada a las T.I., Univ. Politecnica de Madrid, 28031 Madrid, Madrid, Spain; 2. Instituto de Ciencia de Materiales de Madrid, CSIC, 28049 Cantoblanco, Madrid, Spain; 3. Instituto de Magnetismo Aplicado, RENFE-UCM, Las Rozas, Madrid, Spain; 4. Instituto de Ciencia de Materiales de Aragon, CSIC-Univ. de Zaragoza, 50009 Zaragoza, Zaragoza, Spain*

3:48

HC-08. Interlayer Exchange Coupling in Cu (20nm)/Co(20nm)/Cu (t_{cu})/$Ni_{80}Fe_{20}$ (20nm)/Cu(2nm) Nanostructures. *A.O. Adeyeye*[1], D. Tripathy[1] and N. Singh[1,2] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, 11 Science Park Road, Singapore*

4:00

HC-09. Magnetization reversal in ferromagnetic-antiferromagnetic dots: exchange biased vortices. *J. Sort*[1], A. Hoffmann[2], S. Chung[2], K. Buchanan[2], G. Salazar[1], M. Grimsditch[2], D. Baro[1], B. Dieny[3] and J. Nogues[4] *1. Physics Dpt., UAB, Bellaterra, Spain; 2. Materials Science Division and Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL, USA; 3. SPINTEC, CEA-Grenoble, Grenoble, France; 4. Physics Dpt., ICREA/UAB, Bellaterra, Spain*

4:12

HC-10. Size effect on the Curie temperature in epitaxial ferromagnetic sub-micron dot arrays. *R. Meier*[1], F. Bensch[1], W. Kipferl[1], D. Weiss[1] and G. Bayreuther[1] *1. university of regensburg, regensburg, bavaria, Germany*

4:24

HC-11. Characterisation of Nanoscale Ferromagnetic Dot Arrays Fabricated by X-ray Interference Lithography. *L.J. Heyderman*[1], H. Solak[1], C. David[1], F. Nolting[1], D. Atkinson[2] and R. Cowburn[3] *1. Synchrotron Radiation and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland; 2. Department of Physics, University of Durham, Durham, United Kingdom; 3. Department of Physics, Imperial College London, London, United Kingdom*

4:36

HC-12. Magnetization Reversal in Anti-Dot Arrays from Guided Self-Assembly Templates. *A. Zhukov*[1], M. Kiziroglou[2], G. Bordignon[3], V. Novosad[5], G. Karapetrov[5], H. Fangohr[3], K. de Groot[2], P. Bartlett[4] and P. de Groot[1] *1. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 2. School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom; 3. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 4. School of Chemistry, University of Southampton, Southampton, United Kingdom; 5. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA*

4:48

HC-13. Deposition of Magnetic Materials on Organic Self Assembled Monolayers. *S.N. Ahmad*[1], S.G. Rao[2] and S.A. Shaheen[1] *1. Physics, Center for Materials Research and Technology, and Center for Nanomanetics and Biotechnology, Florida State University, Tallahassee, FL, USA; 2. Physics and Center for Materials Research and Technology, Florida State University, Tallahassee, FL, USA*

THURSDAY AFTERNOON 2:00 — CRYSTAL

Session HD
SPIN INJECTION
Ron Jansen, Chair

2:00

HD-01. Spin-tunneling and hot-electron transmission in LSMO-based epitaxial magnetic tunnel transistor. *R. Jansen*[1], F. Postma[1] and J. Lodder[1] *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

2:12

HD-02. Design of ferromagnetic tunnel contacts for all electrical spin injection-detection devices. *P. Van Dorpe*[1], R. Vanheertum[1], H. Boukari[1], W. Van Roy[1] and G. Borghs[1] *1. Imec, Leuven, Vlaams-brabant, Belgium*

2:24

HD-03. Electrical Spin Injection into GaAs from a Perpendicular Magnetic Anisotropy Metal MnGa. *C.H. Li*[1], G. Kioseoglou[1], O.J. van 't Erve[1], A.T. Hanbicki[1], T.J. Zega[1], R.M. Stroud[1] and B.T. Jonker[1] *1. Code 6361, Naval Research Laboratory, Washington, DC, USA*

2:36

HD-04. Electrical Spin Injection from Fe and FeGa into edge-emitting AlGaAs/GaAs spin LEDs. *G. Kioseoglou*[1], O. Erve[1], A. Hanbicki[1], C. Li[1], B. Jonker[1], R. Mallory[2], M. Yasar[2] and A. Petrou[2] *1. Materials Physics Branch, code 6361, Naval Research Laboratory, Washington, DC, DC, USA; 2. Physics Department, SUNY Buffalo, Buffalo, NY, USA*

2:48

HD-05. Spin injection, transport, and accumulation in ferromagnet-semiconductor devices. S.A. Crooker[1], M. Furis[1], X. Lou[2], C. Adelmann[3], D.L. Smith[4], C.J. Palmstrom[3] and *P.A. Crowell*[2] *1. National High Magnetic Field Laboratory, Los Alamos, NM, USA; 2. Physics and Astronomy, Univ. of Minnesota, Minneapolis, MN, USA; 3. Chemical Engineering and Materials Science, Univ. of Minnesota, Minneapolis, MN, USA; 4. Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM, USA*

3:00

HD-06. Spin-dependent transport of hot holes in a magnetic tunnel transistor. *B. Park*[1], T. Banerjee[1], B. Min[1], J. Lodder[1] and R. Jansen[1] *1. MESA+ institute for Nanotechnology, University of Twente, Enschede, Netherlands*

3:12

HD-07. Ferromagnet-Al_2O_3-silicon contacts for electrical spin injection into silicon. *B. Min*[1], K. Motohashi[1], J. Lodder[1] and R. Jansen[1] *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

3:24

HD-08. SCHOTTKY BARRIER FORMATION AND ITS EFFECT ON A SI-BASED SPIN TUNNEL TRANSISTOR. *C. Dennis*[1], C.V. Tiusan[2], R.A. Ferreira[3], E. Hourdakis[1], N. Zimmerman[1], A. Adler[1], A.P. Chen[1], W.E. Egelhoff[1], J.F. Gregg[4], G.J. Ensell[5], S.M. Thompson[6] and P.P. Freitas[3] *1. NIST, Gaithersburg, MD, USA; 2. Faculte des Sciences, Univ H. Poincare, Nancy, France; 3. INESC-MN, Lisbon, Portugal; 4. Department of Physics, Clarendon Laboratory, Oxford; 5. Department of Electronics, University of Southampton, Southampton, United Kingdom; 6. Department of Physics, University of York, York, United Kingdom*

3:36

HD-09. Interface model and spin injection efficiency in Fe/AlGaAs spin-LEDs. *B.T. Jonker*[1], T.J. Zega[1], A.T. Hanbicki[1], R.M. Stroud[1], I. Zutic[1], S.C. Erwin[1], C.H. Li[1], G. Kioseoglou[1] and O. van 't Erve[1] *1. Materials Science & Technology Division, Naval Research Laboratory, Washington, DC, USA*

3:48

HD-10. Interface Magnetization Precession and Switching in Fe/AlGaAs (001). *G. Luepke*[1], H. Zhao[1], D. Talbayev[1], A.T. Hanbicki[2], C.H. Li[2], O.M. van't Erve[2], G. Kioseoglou[2] and B.T. Jonker[2] *1. Applied Science, College of William and Mary, Williamsburg, VA, USA; 2. Naval Research Laboratory, Washington, DC, USA*

4:00

HD-11. [|22|]Separating spin and charge transport in single wall carbon nanotubes. *N. Tombros*[1], S. van der Molen[1] and B. van Wees[1] *1. Physics of Nanodevices, Materials Science Centre, Rijksuniversiteit Groningen, Groningen, Netherlands*

4:12

HD-12. Schottky barriers and Magnetoresistance of self-assembled Ni antidot stripes on Si. M.E. Kiziroglou[1], A.A. Zhukov[2], X. Li[1], D.C. Gonzalez[1], P.N. Bartlett[3], P.A. de Groot[2] and *C.H. de Groot*[1] *1. School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 3. School of Chemistry, University of Southampton, Southampton, United Kingdom*

THURSDAY AFTERNOON 2:00

GOLD

Session HE
COMPLEX MAGNETIC OXIDES
Yuri Suzuki, Chair

2:00

HE-01. High magnetic field phase diagram of multiferroic $DyMn_2O_5$ up to 45 tesla. *J. Kim*[1], T. Kim[1], S. Haam[1], K. Kim[1], N. Hur[2], S. Park[2], S. Cheong[2], Y. Jo[3], J. Park[3] and A. Migliori[4] *1. School of Physics, Seoul National University, Seoul, South Korea; 2. Department of Physics & Astronomy, Rutgers University, Piscataway, NJ, USA; 3. Department of Physics, Sungkyunkwan University, Suwon, South Korea; 4. MST-NHMFL, Los Alamos National Laboratory, Los Alamos, NM, USA*

2:12

HE-02. Control of competing ferroelectric phases through the channel of orthorhombic distortion in $RMnO_3$ crystals. *K. Noda*[1], M. Akaki[1], T. Kikuchi[1], S. Nakamura[1], D. Akahoshi[1] and H. Kuwahara[1] *1. Physics, Sophia University, Tokyo, Japan*

2:24

HE-03. Nanostructue and Magnetic Properties of BiFeO3-CoFe2O4. *H. Zheng*[1], F. Zavaliche[1], L. Mohaddes-Ardabili[1], R. Chopdekar[1], S.P. Crane[1], L.W. Martin[1], Y. Suzuki [1] and R. Ramesh[1] *1. Physics, University of California, Berkeley, Berkeley, CA, USA*

2:36

HE-04. The Evolution of the Properties of (110)-oriented $La_{1.2}Sr_{1.8}Mn_2O_7$ Thin Films with Increasing Film Thickness. *Y. Takamura*[1], R.V. Chopdekar[1,2], J.K. Grepstad[1,3], A.F. Marshall[4], A. Vailionis[4], H. Zheng[5], J.F. Mitchell[5] and Y. Suzuki[1] *1. Department of Materials Science and Engineering, UC-Berkeley, Berkeley, CA, USA; 2. School of Applied and Engineering Physics, Cornell University, Ithaca, NY, USA; 3. Department of Electronics and Telecommunications, Norwegian University of Science and Technology, Trondheim, Norway; 4. Stanford Nanocharacterization Laboratory, Stanford, CA, USA; 5. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA*

2:48

HE-05. MAGNETIC PROPERTIES OF La_0.67Sr_0.33MnO_3 NANOWIRES AND NANODOTS. *M. Mathews*[1], F.M. Postma[1], J.C. Lodder[1], R. Jansen[1], G. Rijnders[1] and D. Blank[1] *1. Faculty of Science and Technology, University of Twente, Enschede, Netherlands*

3:00

HE-06. Influence of substrate strain on LPCMO phase transition. *D.T. Gillaspie*[1,2], J. Ma[2], H. Zhai[2], Z. Ward[1,2], E.W. Plummer[1,2] and J. Shen[2,1] *1. Physics and Astronomy, University of Tennessee, Knoxville, TN, USA; 2. Condensed Matter Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA*

3:12

HE-07. *In-situ* resonant photoemission characterization of $La_{0.6}Sr_{0.4}MnO_3$ layers buried in insulating perovskite oxides. *H. Kumigashira*[1], R. Hashimoto[1], A. Chikamatsu[1], M. Oshima[1], T. Ohnishi[2], M. Lippmaa[2], H. Wadati[3], A. Fujimori[3], K. Ono[4], M. Kawasaki[5] and H. Koinuma[6] *1. Department of Applied Chemistry, The University of Tokyo, Tokyo, Japan; 2. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. Department of Complexity Science and Engineering and Department of Physics, The University of Tokyo, Kashiwa, Japan; 4. Institute of Materials Structure Science, KEK-PF, Tsukuba, Japan; 5. Institute for Materials Research, Tohoku University, Sendai, Japan; 6. National Institute for Materials Science, Tsukuba, Japan*

3:24

HE-08. Magnetization and electrical resistivity in insulating phases of $SrFeO_{(3-\delta)}$ and Ti^{4+} doped $SrFeO_3$. *S. Sanyadanam*[1], M. Matam[2], M.L. Post[2] and S. Hariharan[1] *1. Materials Physics Laboratory, Department of Physics, University of South Florida, Tampa, FL, USA; 2. Institute for Chemical Process and Environmental Tech., National Research Council of Canada, Ottawa, ON, Canada*

3:36

HE-09. Chiral oxygen distortion and absence of praseodymium orbital ordering suggest structurally influenced magnetic domain alignment in PrO_2. *C.H. Webster*[1], D. McMorrow[2], A.T. Boothroyd[3], S. Wilkins[4], C. Detlefs[4], B. Janousova[4] and M.J. McKelvy[5] *1. National Physical Laboratory, Teddington, United Kingdom; 2. University College London, London, United Kingdom; 3. Clarendon Laboratory, Oxford, United Kingdom; 4. European Synchotron Radiation Facility, Grenoble, France; 5. Center for Solid State Science, Tempe, AZ, USA*

3:48

HE-10. Magnetic and Electrical Characterization of La2NiMnO6, a Near Room Temperature Ferromagnetic Semiconductor. *N.S. Rogado*[1], J. Li[2], A.W. Sleight[2] and M.A. Subramanian[1] *1. Central Research and Development, DuPont Experimental Station, Wilmington, DE, USA; 2. Department of Chemistry, Oregon State University, Corvallis, OR, USA*

4:00

HE-11. Magnetoresistance, electrical resistivity and structural studies on Ru doped layered manganite system. *S. Nori*[1], R. Ningthoujam[2], N. Gajbhiye[2] and K. Rajeev[1] *1. Physics Department, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India; 2. Chemistry Department, Indian Institute of Technology, Kanpur, Uttar Pradesh, India*

4:12

HE-12. Preparation of La0.7Ca0.3MnO3 thin films on (001) LSAT, STO, LAO and MgO substrates by metal-organic deposition. *K. Daoudi*[1], T. Tsuchiya[1], I. Yamaguchi[1], T. Manabe[1], S. Mizuta[1] and T. Kumagai[1] *1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan*

4:24

HE-13. Enhancement of metal-insulator transition temperatures by adding Ho atoms into $La_{0.67}Ca_{0.33}MnO_3$thin films. *J. Hsu*[1], S. Hung[1], J. Lin[2] and C. Chen[2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Condense Matter Science, National Taiwan University, Taipei, Taiwan*

THURSDAY AFTERNOON 2:00

ATHERTON

Session HF
FERRITES, GARNETS AND MICROWAVE MATERIALS II

Jeff McCord, Chair

2:00

HF-01. Molecular-Orbital Solution of Magnetic Exchange in Spinel Ferrites. *G.F. Dionne*[1,2] *1. Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA, USA; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

2:12

HF-02. Local atomic structure and magnetism of Mn-ferrite films having large out-of-plane magnetic anisotropy. *A. Yang*[1], D. Arena[2], X. Zuo[3], S. Stadler[4], C. Vittoria[1] and V.G. Harris[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 3. College of Information Technical Science, Nankai University, Tianjin, China; 4. Department of Physics, Southern Illinois University, Carbondale, IL, USA*

2:24

HF-03. Phenomenological theory of permeability in polycrystalline isotropic films: application to spin sprayed NiZn ferrite films. *M. Abe*[1], C. Ewe[1], M. Tada[1], N. Matsushita[2] and Y. Shimada[3] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Materials and Structures Lab., Tokyo Institute of Technology, Yokohama, Japan; 3. Dept. of Elect. & Commun. Engn., Tohoku University, Sendai, Japan*

2:36

HF-04. Link of domain structure and ferromagnetic resonance modes in patterned thin film arrays. *J. McCord*[1], M. Frommberger[2] and E. Quandt[2] *1. Institute for Metallic Materials, IFW Dresden, Dresden, Germany; 2. Research Center CAESAR, Bonn, Germany*

2:48

HF-05. Negative permeability of Py/SiO2 multilayers in microwave region. *R. Cao*[1], X. Zhang[1], R. Wu[2] and J.Q. Xiao[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Electronic Sciences and Engineering, Nanjing University, Nanjing, Jiangsu Province, China*

3:00

HF-06. Cavity perturbation measurement of dielectric and magnetic properties of new ferrite materials in microwave frequency range. *M. Lin*[1], Y. Wang[1] and M.N. Afsar[1] *1. Electrical and Computer Engineering, Tufts University, Medford, MA, USA*

3:12

HF-07. Microwave impedance and tunability of multilayered ferroelectric ($Ba_{0.5}Sr_{0.5}TiO_3$)/ ferrite ($BaFe_{12}O_{19}$) films. *R. Heindl*[1], S. Hariharan[1], S. Balachandran[2], T. Weller[2], A. Kumar[3], P. Gadkari[4] and K. Coffey[4] *1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. Electrical Engineering, University of South Florida, Tampa, FL, USA; 3. Mechanical Engineering, University of South Florida, Tampa, FL, USA; 4. AMPAC, University of Central Florida, Orlando, FL, USA*

3:24

HF-08. Surface Spins Freezing of Ferrite Nanoparticles Evidenced By Magnetization Measurements. *R. Aquino*[1], C.R. Alves[1], T.A. P Cotta[2], M.H. Sousa[2], F.A. Tourinho[2], H.R. Rechenberg[3], G.F. Goya[3] and J. Depeyrot[1] *1. Instituto de Fisica, Universidade de Brasilia, Brasilia, Brazil; 2. Instituto de Quimica, Universidade de Brasilia, Brasilia, Brazil; 3. Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo, Brazil*

3:36

HF-09. High Frequency Properties of Soft Magnetic Laminated Fe Flakes in Polymer Matrix. *X. Zhang*[1], M. Golt[2], R. Wu[3] and J.Q. Xiao[1] *1. Dept. Physics & Astronamoy, University of Delaware, Newark, DE, USA; 2. Center of Composite Material, University of Delaware, Newark, DE, USA; 3. Department of Electrronic Science and Engineering, Nanjing University, Nanjing, JiangSu, China*

3:48

HF-10. Spin-reorientation in orthoferrites does not induce structural transformations. *L. Tsymbal*[1], Y. Bazaliy[1,2], V. Kamenev[1], D. Khara[1] and P. Wigen[3] *1. O. Galkin Donetsk Physics and Technology Institute, Donetsk, Ukraine; 2. IBM Almaden Research Center, San Jose, CA, USA; 3. Department of Physics, Ohio State Unviersity, Columbus, OH, USA*

4:00

HF-11. EXAFS study of ZnxFe3-xO4. Y. Li[1,2], *Q. Li*[1,2], M. Wen[1,2], Y. Zhang[1], Y. Zhai[1], F. Xu[2] and S. Wei[2] *1. Department of Physics, Southeast University, Nanjing, China; 2. National Synchrotron Radiation Laboratory, University of Science and Technology of China, Hefei, Anhui, China*

4:12

HF-12. Mossbauer and magnetic studies of multiferroic $Mg_{0.95}Mn_{0.05}Fe_{2-2x}Ti_{2x}O_4$ system. *S. Kumar*[1], R. Kumar[2], A. Dogra[2], A. Banarjee[3], V.R. Reddy[3] and x. Alimuddin[1] *1. Department of Applied Physics, Aligarh Muslim University, Aligarh-202002, U.P., India; 2. Materials Science Division, Nuclear Science Centre, Aruna Asaf Ali Marg, New Delhi-110067, India; 3. IUC-DAEF, Khandwa Road, University campus, Indore-452001, M.P., India*

4:24

HF-13. Hyperfine Interactions in Lutetium Iron Garnet. *V. Chlan*[1], P. Novak[2], H. Stepankova[1], J. Englich[1], J. Kuriplach[1] and D. Niznansky[3] *1. Faculty of Mathematics and Physics, Charles University, 180 00 Prague 8, Czech Republic; 2. Institute of Physics, Academy of Sciences of the Czech Republic, 162 53 Prague 6, Czech Republic; 3. Faculty of Science, Charles University, 128 40 Prague 2, Czech Republic*

THURSDAY AFTERNOON 2:00 SACRAMENTO

Session HG
EXCHANGE BIAS III
Zbigniew Celinski, Chair

2:00

HG-01. Hysteresis, Exchange Bias Field and Coercivity of NiFe Film on (100) NiO Single-Crystal Substrate Studied by Brillouin Light Scattering. *M.A. Lucena*[1], A. Azevedo[2], F.M. de Aguiar[2], S.M. Rezende[2] and W.F. Egelhoff Jr.[3] *1. Departamento de Fisica, Universidade Catolica de Pernambuco, Recife, Pernambuco, Brazil; 2. Departamento de Fisica, Universidade Federal de Pernambuco, Recife, Pernambuco, Brazil; 3. National Institute of Standards and Technology, Gaithersburg, MD, USA*

2:12

HG-02. Giant exchange-bias and other anomalous properties of a 001 epitaxial CoO-Co bilayer. *I.H. Neumann*[1,2], S. McCall[2,1], M.W. McElfresh[2,1], E.S. Mushailov[6], B.V. Vasiliev[7], D.J. Smith[4,5] and A.E. Berkowitz[3] *1. Physics, University of California Davis, Davis, CA, USA; 2. Chemistry & Materials Science, Lawrence Livermore National Laboratory, Livermore, CA, USA; 3. Center for Magnetic Recording Research, University of California San Diego, La Jolla, CA, USA; 4. Physics and Astronomy, Arizona State University, Tempe, AZ, USA; 5. Center for Solid State Science, Arizona State University, Tempe, AZ, USA; 6. Laboratory of Magnitodynamics, Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 7. Krasnoyarsk State Pedagogical University, Krasnoyarsk, Russian Federation*

2:24

HG-03. Transformation of domain wall structure and anisotropy in NiFe-NiO films. *J. McCord*[1], T. Gemming[2] and R. Kaltofen[1] *1. Institute for Metallic Materials, IFW Dresden, Dresden, Germany; 2. Institute for Solid State Analysis and Structural Research, IFW Dresden, Dresden, Germany*

2:36

HG-04. Element Specific Determination of the Depth Dependence of Induced Magnetic Moment in Exchange Coupled CoO/Permalloy Bilayer System Using Resonant X-ray Magnetic Scattering. *S. Roy*[1], X. Liu[1], S.K. Sinha[1], S. Park[2], M.R. Fitzsimmons[2], T. Leo[3], D.J. Smith[3], Y.J. Tang[4], A.E. Berkowitz[4,1], C. Sanchez-Hanke[5] and C. Kao[5] *1. Department of Physics, University of California San Diego, La Jolla, CA, USA; 2. Manual Lujan Neutron Scattering Center, Los Alamos National Lab, Los Alamos, NM, USA; 3. Department of Physics & Astronomy and Center For Solid State Sciences, Arizona State University, Tempe, AZ, USA; 4. Center for Magnetic Recording Research, University of California San Diego, La Jolla, CA, USA; 5. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA*

2:48

HG-05. The Dependence of Exchange-Bias on Co Thickness in Ni(0.52)Co(0.48)O-Co Bilayers. *A. Berkowitz*[1,2], Y. Tang[2], M.F. Hansen[4] and D.J. Smith[3] *1. Physics Dept., University of California, San Diego, La Jolla, CA, USA; 2. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA, USA; 3. Dept. of Physics and Astronomy and Center for Solid State Science, Arizona State University, Tempe, AZ, USA; 4. MIC - Dept. of Micro and Nanotechnology, Technical University of Denmark, Lyngby, DK2800 Kongens, Denmark*

3:00

HG-06. Observation of uncompensated spins at the CoO/Cu interface in the exchange biased CoO/Cu/Fe system by magnetization-induced second harmonic generation. *V. Valev*[1], M. Gruyters[2], A. Kirilyuk[1] and T. Rasing[1] *1. EVSF2, Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 2. Humboldt-Universitat zu Berlin, Institut fur Physik, Berlin, Germany*

3:12

HG-07. Planar domain walls in Co/NiO and their role in exchange bias. *M. Liberati*[1,2], A. Scholl[2], E. Arenholz[2], H. Ohldag[3], Y. Tang[4], A. Berkowitz[4] and J. Stohr[3] *1. Department of Physics, Montana State University, Bozeman, MT, USA; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Stanford Synchrotron Radiation Laboratory, Stanford, CA, USA; 4. Center for Magnetic Recording Research, University of California, San Diego, CA, USA*

3:24

HG-08. Enhancing Exchange Bias with Diluted Antiferromagnets. *J. Hong*[1], T. Leo[2], D.J. Smith[2] and A.E. Berkowitz[1] *1. Center for Magnetic Recroding Research, University of California-San Diego, La Jolla, CA, USA; 2. Dept. of Physics and Astronomy, Arizona State University, Tempe, AZ, USA*

3:36

HG-09. The exchange bias of Co using a CuMn spin glass. *M. Ali*[1], P. Adie[1], C.H. Marrows[1], D. Greig[1], B.J. Hickey[1] and R. Stamps[2] *1. School of Physics and Astronomy, University Of Leeds, Leeds, United Kingdom; 2. School of Physics, University Of Western Australia, Crawley, WA, Australia*

3:48

HG-10. Angular dependence of Magnetization Reversal In Exchange Biased Multilayers. *A. Paul*[1], E. Kentzinger[1], U. Ruecker[1] and T. Brueckel[1] *1. Institut for Festkorperforschung, Forschungszentrum Juelich, Juelich, Germany*

4:00

HG-11. Angular Dependence of Exchange Anisotropy on Cooling Field in Epitaxial FeF_2/Ni. *J. Olamit*[1], K. Liu[1], Z. Li[2] and I.K. Schuller[2] *1. Physics, UC Davis, Davis, CA, USA; 2. Physics, UC San Diego, La Jolla, CA, USA*

4:12

HG-12. The Rotational Anisotropy in the Fe/KNiF3/FeF2 Structures. S. Widuch[1,3], J. Hu[2], *R. Stamps*[2], D. Skrzypek[3] and Z.J. Celinski[1] *1. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Physics, University of Western Australia, Crawley, WA, Australia; 3. Solid State Physics, University of Silesia, Katowice, 40-007, Poland*

4:24

HG-13. Parallel Versus Antiparallel Interfacial Coupling In Exchange-biased Co/FeF_2. *H. Ohldag*[1], H. Shi[3], E. Arenholz[2], J. Stohr[1] and D. Lederman[3] *1. SSRL, Stanford University, Menlo Park, CA, USA; 2. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Physics, West Virginia University, Morgantown, WV, USA*

4:36

HG-14. Exchange biasing and frozen magnetization in MgF_2/$Fe_xNi_{1-x}F_2$(50 nm)/Co(18 nm)/Pd(5 nm). *Z. Liu*[1], J. Espinosa[1] and D. Lederman[1] *1. Department of Physics, West Virginia University, Morgantown, WV, USA*

4:48

HG-15. Spontaneous Reversal of Heterostructured Ferromagnet. *Z. Li*[1], C.W. Miller[1], J. Eisenmenger[2], I. Roshchin[1] and I.K. Schuller[1] *1. Physics Department, UC San Diego, La Jolla, CA, USA; 2. Abteilung Festkorperphysik, Universitat Ulm, Ulm, Germany*

THURSDAY AFTERNOON **PIEDMONT**
2:00

Session HH
GMR AND SPIN TRANSPORT
Stefan Maat, Chair

2:00

HH-01. CPP spin valves with Co_xFe_{1-x} magnetic layers. *M.J. Carey*[1], S. Maat[1], J.A. Katine[1] and J.R. Childress[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

2:12

HH-02. Perpendicular giant magnetoresistance composed of [Co/Pt] multilayer and CoFe/TbCo. M. Lin[1], *C. Lai*[1], Y. Liao[1], Z. Wu[1], S. Huang[1] and R. Jiang[1] *1. Department of Materials Science & Engineering, National Tsing Hua University, Hsinchu, Taiwan*

2:24

HH-03. Influence of ferromagnetic current screen layer on CPP-GMR. *K. Hoshino*[1] and H. Hoshiya[1] *1. Storage Technology Research Center, Hitachi, Ltd.,, Odawara-shi, Japan*

2:36

HH-04. The importance of spin mixing in perpendicular transport through magnetic multilayers. *J. Ansermet*[1], S. Serrano-Guisan[1] and L. Gravier[1] *1. Physics, EPFL, Lausanne, Switzerland*

2:48

HH-05. Anomalous change of magnetoresistance with half-metal conductivity. S. Tan[1], *M. Jalil*[2], S. Bae[2], T. Liew[1,2] and K. Teo[2] *1. Data Storage Institute, Singapore, Singapore; 2. ECE, National University of Singapore, Singapore, Singapore*

3:00

HH-06. Structural and Magnetic properties of FeCo/Cu/FeCo trilayers with different ordered states. *I. Chu*[1], J. Soh[2], M. Doi[1], Y. Kim[2] and M. Sahashi[1] *1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Material Science and Engineering, Korea University, Seoul, South Korea*

3:12

HH-07. Effect of annealing on magnetotransport and structural properties of Co/Cu multilayers with Ta buffer layer. *S. Mohanan*[1], A. Grob[1,2] and U. Herr[1] *1. Materials Division, University of Ulm, Ulm, Germany; 2. Bosch, Stuttgart, Germany*

3:24

HH-08. Giant magnetoresistance and the application characteristics of amorphous- CoNbZr based pseudo spin-valve. *Q. Wen*[1], H. Zhang[1], X. Jiang[1], X. Tang[1] and J.Q. Xiao[2] *1. School of Microelectronic and Solid-state Electronic, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of physics & Astronomy, Univerity of Delaware, Newark, DE, USA*

3:36

HH-09. The effect of contact configuration on the magnetoresistance of single and multilayer elliptical rings. *D. Morecroft*[1], F.J. Castano[1], W. Jung[1] and C.A. Ross[1] *1. Materials Science and Engineering, MIT, Cambridge, MA, USA*

3:48

HH-10. Remote Two-Dimensional Imaging of Magnetoresistance. *S.M. Stirk*[1], S.M. Thompson[1], A.F. Lee[2] and J.A. Matthew[1] *1. Department of Physics, University of York, York, North Yorkshire, United Kingdom; 2. Department of Chemistry, University of York, York, North Yorkshire, United Kingdom*

4:00

HH-11. Magnetic Moment Softening in Narrow Domain Walls of Atomic-Size Ni Wires. *J.D. Burton*[1,3], R.F. Sabirianov[2,3], S.S. Jaswal[1,3], O.N. Mryasov[4] and E.Y. Tsymbal[1,3] *1. Department of Physics and Astronomy, University of Nebraska Lincoln, Lincoln, NE, USA; 2. Department of Physics, University of Nebraska Omaha, Omaha, NE, USA; 3. Center for Materials Research and Analysis, University of Nebraska Lincoln, Lincoln, NE, USA; 4. Seagate Research, Pittsburgh, PA, USA*

4:12

HH-12. Characterization of Pentacene/Co and Pentacene/AlOx/Co interfaces for spintronics applications. *M. Popinciuc*[1], H. Jonkman[2] and B. van Wees[1] *1. Physics of Nanodevices Group, University of Groningen, Groningen, Netherlands; 2. Molecular Electronics Group, University of Groningen, Groningen, Netherlands*

4:24

HH-13. Non-local spin injection into gold and aluminum. *Y. Ji*[1], A. Hoffmann[1], J. Pearson[1], S. Jiang[1] and S. Bader[1] *1. Materials Science Division and Center for Nanoscale Materials, Argonne National Lab, Argonne, IL, USA*

THURSDAY AFTERNOON 1:00 IMPERIAL

Session HP
INSTRUMENTATION AND MEASUREMENT TECHNIQUES II (POSTER SESSION)

Albrecht Jander, Chair

HP-01. Characterization of Magnetostriction and Magnetomechanical Effect in Thin Films for Sensor Applications. *J.E. Snyder*[1,2], G.A. Vetterick[1] and D. Wang[3] *1. Materials Science & Engineering Department, Iowa State University, Ames, IA, USA; 2. Materials and Engineering Physics Program, Ames Laboratory, USDoE, Ames, IA, USA; 3. NVE Corporation, Eden Prairie, MN, USA*

HP-02. A new method for anhysteretic magnetization and magnetostriction measurement of a thin ferromagnetic films as a function of an applied isotropic stresses. *P. Finkel*[1], E. Garrity[1] and S. Lofland[2] *1. Thomson TWW R&D Center, Lancaster, PA, USA; 2. Rowan University, Glassboro, NJ, USA*

HP-03. Drag Force Measurement - A Novel Means for Determining Hysteresis Loss. *I.J. Garshelis*[1,2], S. Tollens[2], L. Vandenbossche[3], L. Dupre[3] and R.J. Kari[2] *1. Magnova, Inc., Pittsfield, MA, USA; 2. MagCanica Inc., San Diego, CA, USA; 3. Dept. Electrical Energy, Systems and Automation, Ghent University, Gent, Belgium*

HP-04. A Study of Transfer Accuracy and A Method of Image Correction for Vibrating Sample Magnetometers. *B.C. Dodrill*[1], J. Cunningham[1], T. Bapu[1] and J.R. Lindemuth[1] *1. Lake Shore Cryotronics, Westerville, OH, USA*

HP-05. A vector vibrating-sample magnetometer with a permanent magnet variable flux source. *P. Stamenov*[1] and J. Coey[1] *1. Physics Department, Trinity College, Dublin, Dublin, Ireland*

HP-06. Measurements of Large High-Performance Permanent Magnet with Superconducting Magnet. *S. Kato*[1], H. Shinagawa[1] and G. Kido[1] *1. National Institute for Materials Science, Tsukuba, Japan*

HP-07. Calibration of triaxial fluxgate gradiometer. *J. Vcelak*[1] *1. Dept. of Measurement, Czech Technical University in Prague, Prague, Czech Republic*

HP-08. The magnetoelectric effect in pulsed magnetic fields. *D. Bueno-Baques*[1], R. Grossinger[2], V. Corral-Flores[1], M. Schonhart[2], G.V. Duong[2], J.A. Matutes-Aquino[1] and R. Sato[2] *1. Magnetic Materials, Centro de Investigaciones en Materiales Avanzados, S.C., Chihuahua, Chihuahua, Mexico; 2. Institut fur festkorperphysik, Technische Universitat Wien, Wien, Austria*

HP-09. Magnonic Crystals: an Experiment to Prove the Concept. *V.V. Kruglyak*[1] and R.J. Hicken[1] *1. School of Physics, University of Exeter, Exeter, United Kingdom*

HP-10. Evaluation of Nanocrystalline Materials, Amorphous Metal Alloys and Ferrites for Magnetic Pulse Compression Applications. *R.A. Burdt*[1], R.D. Curry[1], K.F. McDonald[1], P. Melcher[2], R. Ness[2] and C. Huang[2] *1. Electrical and Computer Engineering, University of Missouri-Columbia, Columbia, MO, USA; 2. Cymer Inc., San Diego, CA, USA*

HP-11. Methodology of pole piece design in permanent magnets. *M.G. Abele*[1], W. Tsui[2] and H. Rusinek[1] *1. Radiology, New York University, New York, NY, USA; 2. School of Engineering, Cooper Union, New York, NY, USA*

HP-12. A three coil pair system producing uniform magnetic field. I. Sasada[1] and *Y. Nakashima*[1] *1. Kyushu University, Fukuoka, Japan*

HP-13. MAGNETO-OPTICAL METHOD OF CURRENT MEASUREMENTS IN WIRE LINERS OF SOFT X-RAY RADIATION SOURCES. *O.M. Tatsenko*[1], A.V. Volkov[1], P.B. Repin[1], I.M. Narkevtsev[1], A.N. Moiseenko[1], V.D. Selemir[1], A.V. Fillipov[1] and V.V. Platonov[1] *1. Atomic Energy, Russian Federal Nuclear Center - VNIIEF, Sarov, Nizhny Novgorod, Russian Federation*

HP-14. Microwave characterization of magnetic material under compressive stress. *J. Le Gallou*[1] *1. Materials Dpt, CEA, Monts, France*

HP-15. Evaluating material degradation by the inspection of minor loop magnetic behavior using the moving Preisach formalism. *L. Vandenbossche*[1], L. Dupre[1] and J. Melkebeek[1] *1. Electrical Energy, Systems and Automation, Ghent University, GENT, Belgium*

HP-16. Using an Electromagnetic Method to Monitor Incipient Creep Damage of Stainless Steel Boiler Tubes [+]. B. Augustyniak[2], *M.J. Sablik*[1], M. Chmielewski[2], M. Glowacka[2] and L. Piotrowski[2] *1. Sensor Systems and NDE Technology, Southwest Research Institute, San Antonio, TX, USA; 2. Technical Physics, Technical University of Gdansk, Gdansk, Poland*

THURSDAY AFTERNOON 1:00 — IMPERIAL

Session HQ
NEW APPLICATIONS, LEVITATION, SHIELDING & MICROWAVE DEVICES II (POSTER SESSION)

Gary Friedman, Chair

HQ-01. Micropatterned high permeability films with narrow bandwidth resonance loss for the band stop filter. *S. Ikeda*[1], T. Nagae[1], Y. Shimada[1], K. Kim[1] and M. Yamaguchi[1] *1. ECEI, Tohoku Univ., Sendai, Miyagi, Japan*

HQ-02. 10-GHz Bandstop Microstrip Filter Using Excitation of Magnetostatic Surface Waves in a Patterned NiFe Ferromagnetic Film. *M. Vroubel*[1], Y. Zhuang[1], B. Redjaei[1] and J. Burghartz[1] *1. HiTec, DIMES/TU Delft, Delft, Netherlands*

HQ-03. Iron-based micro-strip band-stop filters at higher microwave frequencies: Design optimization using shape anisotropy. *Y. Khivintsev*[1], B. Kuanr[1], I. Harward[1], R.E. Camley[1] and Z.J. Celinski[1] *1. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA*

HQ-04. A cylindrical magnetic shield made of a CFRP/amorphous magnetic tapes/CFRP layered composite with built-in shaking coil. *I. Sasada*[1], T. Kimura[1], T. Takeda[2] and M. Shimada[2] *1. Applied Science for Electronics and Materials, Kyushu University, Kasuga, Japan; 2. Nippon Steel Composite, Himeji, Japan*

HQ-05. A compact magnetic shielding system with a short-length cylinder and C-shaped shells. *K. Tashiro*[1] and I. Sasada[1] *1. Kyushu University, Kasuga, Japan*

HQ-06. Analysis and Optimization of a Maglev System based on the Halbach Magnet Arrays. *C. Ham*[1], W. Ko[1] and Q. Han[1] *1. Florida Space Institute, University of Central Florida, Orlando, FL, USA*

HQ-07. Analysis and design of moving-magnet-type synchronous PM planar motor. *J. Choi*[1], J. Park[2] and Y. Baek[1] *1. Mechanical Engineering, Yonsei University, Seoul, South Korea; 2. Automation Technology Institute, Yonsei University, Seoul, South Korea*

HQ-08. Experimental verification of the performance of the self-tunable loop-current-array shielding module. *K.P. Goleman*[1], T. Yamato[1] and I. Sasada[1] *1. Kyushu University, Fukuoka, Japan*

HQ-09. Permalloy shielding with temperature chamber. *M. Malatek*[1], A. Tipek[2], P. Kaspar[1], P. Ripka[1] and M. Dvorak[1] *1. Dept. of Measurement, FEE, CTU in Prague, Prague, Czech Republic; 2. Tyndall National Institute / MAI, Cork, Ireland*

HQ-10. Magnetic and structural behavior of mechanically ground Ni-Mn-Ga particles produced by Spark-Erosion technique. *H. Yabe*[1,3], T. Nobuki[2], J. Feuchtwanger[3], M.L. Richard[3], T. Kuji[2] and R.C. OHandley[3] *1. Japan Society for the Promotion of Science, Chiyoda-ku, Tokyo, Japan; 2. Department of Materials Science and Technology, Tokai University, Numazu, Shizuoka, Japan; 3. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

HQ-11. RF characteristics of carbon nanotube coated permalloy nanorod array. *K. Kim*[1], T. Fukushima[1], H. ORIKASA[2], T. Kyotani[2] and M. Yamaguchi[1] *1. Electrical and Communication Engineering, Tohoku University, Sendai, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku Univ., Sendai, Japan*

HQ-12. Development of 2phase/4 phase flat-type vibration motor. *S. Won*[1] and J. Lee[1] *1. Electrical Eng., Hanyang University, Seoul, South Korea*

HQ-13. Development of microspeaker with a linear air gap in mobile phones. *S. Hwang*[1], J. Kwon[1], T. Kim[1] and G. Hwang[2] *1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea; 2. Network and Information Engineering, Yongsan University, Yangsan, South Korea*

HQ-14. DESIGN AND FABRICATION OF ELECTROMAGNETIC MICROPOWER GENERATOR USING ELECTROPLATED MICRO-MAGNETS ON SILICON. S. Kulkarni[1], *S. Roy*[1], T. O'Donnell[1], S. Beeby[2] and J. Tudor[2] *1. Energy Processing for ICT, Tyndall National Institute, Cork, Ireland; 2. School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom*

HQ-15. Numerical simulation of targeted drug delivery using superparamagnetic Iron Oxide Nanoparticles in Pulsatile Microciculation under an External Magnetic Field. *M. Kim*[1], S. Lee[2] and M. Amin[2] *1. School of Mechanical and Aerospace Engineering, Seoul National university, Seoul, South Korea; 2. Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, USA*

THURSDAY AFTERNOON 1:00 — IMPERIAL

Session HR
MAGNETIC MOTORS III (POSTER SESSION)
Doug Lavers, Chair

HR-01. Behaviour of Three-Phase Induction Motor with Variable in Stator Coil Winding Pitch. *R.R. Deshmukh*[1], A.J. Moses[1] and F.J. Anayi[1] *1. Engineering, Wolfson Centre for Magnetics Technology, Cardiff, WALES, United Kingdom*

HR-02. Design of Permanent Magnet Synchronous Motors with Asymmetric Air Gap for Electric Vehicles. *K. Chau*[1], W. Cui[2] and J. Jiang[2] *1. EEE, University of Hong Kong, Hong Kong, China; 2. Automation, Shanghai University, Shanghai, China*

HR-03. A Design for Improved Performance of Interior Permanent Magnet Synchronous Motor for Hybrid Electric Vehicle. *S. Lim*[1] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seoul, South Korea*

HR-04. Design of Outer Rotor Type Multipolar SR Motor for Electric Vehicle. *S. Fujishiro*[2], K. Ishikawa[2], S. Kikuchi[2], K. Nakamura[1] and O. Ichinokura[1] *1. Tohoku University, Sendai, Japan; 2. Tohoku Gakuin University, Sendai, Japan*

HR-05. Optimal Design of Permanent Magnet of Outer Rotor Synchronous Motor for Traction Motor of Hybrid Electric Vehicle. *K. Kim*[1], S. Lim[1] and J. Lee[1] *1. Electrical Engineering, Hanyang University, Seoul, South Korea*

HR-06. Analysis and design of an axial flux PM brushless DC motor for direct wheel drive of MAGLEV vehicle. *J. Choi*[1], J. Park[2] and Y. Baek[1] *1. Mechanical Engineering, Yonsei University, Seoul, South Korea; 2. Automation Technology Institute, Yonsei University, Seoul, South Korea*

HR-07. Demagnetization Characteristics Analysis of a Variable Flux Memory Motor Using Coupled Preisach Modeling and FEM. *J. Park*[1], Y. Jang[1] and J. Lee[1] *1. Electrical Engineering, Hanbat National University, Daejeon, South Korea*

HR-08. Optimum design criteria for torque ripple reduction of a Synchronous Reluctance Motor using a coupled FEM & SUMT. *S. Kwon*[1], J. Park[1] and J. Lee[1] *1. Hanbat National University, Daejeon, South Korea*

HR-09. Reduction of vibration and acoustic noise of IPM motor through reductions of the magnetic local force for the radius direction of stator. *S. Hwang*[1], H. Lee[1], J. Kwon[1] and Y. Yang[1] *1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea*

HR-10. The Influence on the Rectifiers of Rotor Losses in High-Speed Permanent Magnet Synchronous Alternator. S. Jang[1], *H. Cho*[1] and Y. Jeong[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

HR-11. Design and Control of Stator Doubly Fed Doubly Salient Wind Power Generators. *Y. Fan*[1] and K. Chau[1] *1. The University of Hong Kong, Hong Kong, China*

HR-12. A study on the improvement of static characteristic in claw poled permanent magnet stepping motor. *S. Lim*[1], S. Won[1], K. Kim[1], J. Ahn [1], D. Jung [1] and J. Lee[1] *1. electrical engineering, Hanyang University, Seoul, South Korea*

HR-13. Dynamic Characteristics analysis of LDM for the electric screen door system. *S. Won*[1], J. Ahn[1] and J. Lee[1] *1. Electrical Eng., Hanyang University, Seoul, South Korea*

HR-14. ELECTROMAGNETIC ANALYSIS AND CONTROL PARAMETER ESTIMATION OF MOVING-COIL LINEAR OSCILLATORY ACTUATOR. S. Jang[1], *J. Choi*[1], J. Park[1] and S. Jeong[2] *1. Chungnam National University, Dae-jeon, South Korea; 2. LG D/A Lab., Seoul, South Korea*

HR-15. Development of a Slim Precise Spindle Motor. *C. Liu*[1], M. Tsai[1], Y. Wang[1] and Y. Chuo[1] *1. Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Tainan, Taiwan*

HR-16. Design and Dynamic Analysis of Permanent Magnet Linear Synchronous Machine for Servo Application. S. Jang[1], *D. You*[1], W. Jang[1] and S. Han[2] *1. electrical engineering, chungnam national univ., daejeon, South Korea; 2. Advanced Technology Center, Korea Power Reserch Institute, Daejeon, South Korea*

HR-17. Development of micro magnetic bearing motors with suppressed magnetic coupling effect for SFFO drives. *C. Wang*[1,2], Y. Yao[1,3] and S. Wang[2] *1. Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Opto-Electronics and Systems Laboratories, ITRI, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

THURSDAY AFTERNOON 1:00 IMPERIAL

Session HS
SPIN DEPENDENT TUNNELING AND TRANSPORT (POSTER SESSION)

Patrick LeClair, Co-chair
Alex Punnoose, Co-chair

HS-01. Real-time Monitoring of Plasma Oxidation Dynamics of sub-nanometer Al_2O_3 Barriers for Magnetic Tunnel Junctions. *C. Fabrie*[1], K. Knechten[1], J. Kohlhepp[1], H. Swagten[1], B. Koopmans[1] and W. de Jonge[1] *1. Applied Physics, TU/e, Eindhoven, Noord-Brabant, Netherlands*

HS-02. Barrier-height and bias-voltage controlled spin-filter effect and tunneling magnetoresistance in full ferromagnetic junctions. D. Jin[1], Y. Ren[1], *Z. Li*[1], M. Xiao[1], G. Jin[1] and A. Hu[1] *1. National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China*

HS-03. Tunnel magnetoresistance for magnetic tunnel junctions with a ferromegnetic tunnel barrier. *R. Goto*[1], N. Tezuka[1,2], S. Sugimoto[1] and K. Inomata[1,2] *1. Department of Materials Science, Tohoku university, Sendai, Japan; 2. CREST-JST, Kawaguchi, Japan*

HS-04. Noise Properties in MgO Tunnel Junctions. *A.F. Md Nor*[1], T. Daibou[1], S. Ahn[1], K. Ono[1], Y. Ando[1], M. Oogane[1] and T. Miyazaki[1] *1. Department of Applied Physics, Graduate School of Engineering,, University of Tohoku, Sendai, Japan*

HS-05. Structural Dependence of the TMR for MTJs with a Full Heusler $Co_2Fe(Al,Si)$ Electrode. *N. Tezuka*[1,3], S. Okamura[1], A. Miyazaki[1], M. Kikuchi[2] and K. Inomata[1,3] *1. Tohoku University, Sendai, Japan; 2. Kojundo Chemical Laboratory, Sakado, Japan; 3. CREST-JST, Saitama, Japan*

HS-06. Structural and magnetic properties of Co/α-Al_2O_3/Fe magnetic tunneling junction system: *Ab initio* investigations. *C. Kim*[1] and Y. Chung[1] *1. Ceramic Engineering, Hanyang University, Seoul, South Korea*

HS-07. Dielectric breakdown of spin-tunnel junctions under constant voltage stress. *T. Kono*[1] and K. Shiiki[1] *1. Department of Applied Physics and Physico-Informatics, Keio university, Yokohama, Japan*

HS-08. Activation Barrier of Submicron MRAM Cell with Single and SAF Free Layer. *I. Hwang*[1], K. Lee[1], W. Park[1], Y. Cho[1] and T. Kim[1] *1. Samsung Advanced Instute of Technology, Youngin-Si, Gyeonggi-Do, South Korea*

HS-09. 3DAP study of the effects of annealing on the morphology of a fully oxidized aluminium oxide barrier in a simple TMR structure. *A. Petford-Long*[1], A. Cerezo[1], P.J. Clifton[3], D.J. Larson[2], S. Pinitsoontorn[1] and E.W. Singleton[2] *1. Materials, University of Oxford, Oxford, United Kingdom; 2. Seagate Technology, Bloomington, MN, USA; 3. Oxford NanoScience, Milton Keynes, United Kingdom*

HS-10. Magnetic Tunnel Junctions with an Amorphous FeZr Layer. S.J. Joo[1,2], K. Shin[1], K. Jun[1], J.H. Lee[1], *K. Rhie*[2,1], T. Kim[3] and B.C. Lee[4] *1. Nano Device Research Center, KIST, Seoul, South Korea; 2. Department of Physics, Korea University, Chochiwon, South Korea; 3. Department of Physics, Seoul National University, Seoul, South Korea; 4. Department of Physics, Inha University, Incheon, South Korea*

HS-11. Spin polarized resonant tunneling in magnetic tunnel junctions with nano dot insertion structure. *K. Yoon*[1], K. Kim[1], J. Koo[1], J. Yang[1], C. Kim[1] and J. Hong[1] *1. Physics, Hanyang University, seoul, Seoul, South Korea*

HS-12. Optically pumped spin polarized carrier transport across Fe wire/GaAs interfaces. E. Wada[1], *T. Taniyama*[2] and Y. Yamazaki[1] *1. Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Japan; 2. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan*

HS-13. SPIN-DEPENDENT TWO-LEVEL RESISTANCE JUMPS IN UNDEROXIDIZED MAGNETIC TUNNEL JUNCTIONS. *J. Ventura*[1], R. Ferreira[2], J. Teixeira[1], Y. Pogorelov[3,1], J.B. Sousa[1] and P.P. Freitas[2] *1. DFFCUP, IFIMUP, Porto, Portugal; 2. IST, INESC-MN, Lisbon, Portugal; 3. DFFCUP, CFP, Porto, Portugal*

HS-14. Surface structures of epitaxial MgO(001) thin layers grown on Fe(001). *M. Mizuguchi*[1,3], Y. Suzuki[1,3], T. Nagahama[2,3] and S. Yuasa[2,3] *1. Osaka University, Osaka, Japan; 2. AIST, Tsukuba, Japan; 3. CREST-JST, Kawaguchi, Japan*

HS-15. *In Situ* Transport Measurements of Plasma Oxidised MgO MTJs During the Annealing Process. *G.I. Anderson*[1], A.T. Hindmarch[1], C.H. Marrows[1] and B.J. Hickey[1] *1. Condensed Matter, University of Leeds, Leeds, West Yorkshire, United Kingdom*

HS-16. Tunneling Magnetoresistance and Coulomb blockade in granular Co-TiO2 thin films. J. Varalda[1], B. Vodungbo[3], W.A. Ortiz[1], *A.J. de Oliveira*[1], D.H. Mosca[2], D. Demaille[3], Y.L. Zheng[3], M. Marangolo[3] and V.H. Etgens[3] *1. Departamento de Fisica, Universidade Federal de Sao Carlos, Sao Carlos, Sao Paulo, Brazil; 2. Departamento de Fisica, Universidade Federal do Parana, Curitiba, Parana, Brazil; 3. Institut des NanoSciences de Paris, Universites Paris 6 et Paris 7, Paris, France*

HS-17. Effect of interface states on spin-dependent tunneling in Fe/MgO/Fe tunnel junctions. *K.D. Belashchenko*[1], J. Velev[1] and E.Y. Tsymbal[1] *1. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA*

HS-18. Change MgO barrier and interface composition in CoFeB/MgO/CoFeB tunnel junction after annealing. *J. Bae*[1], W. Lim[1], H. Kim[1], T. Kim[2] and T. Lee[1] *1. Materials science and engineering, Korea Advanced Institute Science and Technology, Daejeon, South Korea; 2. Device Lab., SAIT, Suwon, South Korea*

HS-19. Comparison of the interfacial structure between MgO and Al-O oxidation layers for perpendicular magnetic tunnel junction. *T. Chen*[1,2], A. Canizo-Cabrera[1], C. Chang[1], K. Liao[1], C. Hou[2] and T. Wu[1] *1. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Douliou, Yunlin, Taiwan, R.O.C, Taiwan; 2. Department of Mechanical Engineering, National Yunlin University of Science and Technology, Douliou, Yunlin, Taiwan, R.O.C, Taiwan*

HS-20. High $V_{1/2}$ in Double Barrier Magnetic Tunnel Junction with Amorphous CoFeB Electrodes. Z.M. Zeng[1], H.X. Wei[1], L.X. Jiang[1], G.X. Du[1], W.S. Zhan[1], *X. Han*[1] and Y.D. Yao[2] *1. State Key Lab of Magnetism, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, CAS, Beijing, China; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

HS-21. Magnetoresistance Effect of Planar-Type Ferromagnetic Tunnel Junctions. *Y. Tomoda*[1], Y. Shibata[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*

HS-22. Magnetoresistance and noise characteristics in CoFeB/MgO/CoFeB based magnetic tunnel junctions. *G. Miao*[1,3], K. Chetry[1], A. Gupta[1], W.H. Butler[1], R. Schad[1], K. Tsunekawa[2], D. Djayaprawira[2] and G. Xiao[3] *1. MINT center, University of Alabama, Tuscaloosa, AL, USA; 2. Anelva Corporation, University of Alabama, Fuchu, Tokyo, Japan; 3. Physics, Brown University, Providence, RI, USA*

HS-23. Tunneling Spectroscopy of CoFeB/MgO/CoFeB Magnetic Tunnel Junctions Showing Giant Tunneling Magnetoresistance Effect. *Y.V. Hamada*[1,2], R. Matsumoto[1], S. Nishioka[1], M. Mizuguchi[1,2], M. Shiraishi[1,2], H. Maehara[3], K. Tsunekawa[3], D.D. Djayaprawira[3], N. Watanabe[3], T. Nagahama[4,2], A. Fukushima[4,2], H. Kubota[4,2], S. Yuasa[4,5] and Y. Suzuki[1,2] *1. Osaka Univ., Toyonaka-si, Osaka-fu, Japan; 2. CREST, Kawaguchi-shi, Saitama-ken, Japan; 3. ANELVA, Fuchu-shi, Tokyo-to, Japan; 4. AIST, Tsukuba-shi, Ibaraki-ken, Japan; 5. PRESTO, Kawaguchi-shi, Saitama-ken, Japan*

HS-24. Associated Effects of MgO Tunnel Barrier Thickness on Magneto Hysteresis in a New pMTJ of GdFeCo/FeCo/MgO/FeCo/TbFeCo. S.C. Li[1], T. Chen[1], C. Chang[1], K. Liao[1], C. Hou[1] and *T. Wu*[1] *1. Taiwan SPIN Research Center,, Touliu, Taiwan*

HS-25. ELECTROMIGRATION-DRIVEN RESISTANCE SWITCHING IN TUNNEL JUNCTIONS. *J. Ventura*[1], J. Teixeira[1], A. Pereira[1], J.P. Araujo[1], J.B. Sousa[1], Y. Liu[2], Z. Zhang[2] and P.P. Freitas[2] *1. DFFCUP, IFIMUP, Porto, Portugal; 2. IST, INESC-MN, Lisbon, Portugal*

HS-26. Electrical spin injection from a FePt electrode into a III-V semiconductor heterostructure through an epitaxial MgO tunnel barrier. P. de Person[1], *P. Warin*[1], M. Jamet[1] and Y. Samson[1] *1. DRFMC, CEA-Grenoble, Grenoble, France*

HS-27. Spin Imbalance Enhanced Magnetoresistance in NiFe-Al-NiFe Double-tunnel Junctions. *J. Shyu*[1,2], F. Tang[2], Y. Yao[2] and C. Chen[1] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

HS-28. Magnetoresistance and magnetization switching characteristics of MTJs with amorphous CoFeSiB single and synthetic antiferromagnet free layers. *J. Hwang*[1], J. Rhee[1], B. Chun[2], Y. Kim[2], T. Kim[3] and W. Park[3] *1. Physics, Sookmyung Women's University, Seoul, South Korea; 2. Materials Science and Engineering, Korea University, Seoul, South Korea; 3. Materials and Devices Laboratory, Samsung Advanced Institute of Technology, Suwon, South Korea*

THURSDAY AFTERNOON 1:00 IMPERIAL

Session HT
MULTILAYER FILMS AND SUPERLATTICES III (POSTER SESSION)

Pallavi Dhagat, Chair

HT-01. Depth-Profile of Spin Polarization in Nonmagnetic Layers of Epitaxial Fe/Au(001) Multilayers by Resonant X-ray Magnetic Scattering. *T. Ohkochi*[1], K. Mibu[2], N. Hosoito[3], Y. Otsuka[1], K. Kodama[3], S. Kasai[1] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 2. Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Aichi, Japan; 3. Nara Institute of Science and Technology, Ikoma, Nara, Japan*

HT-02. Perpendicular exchange coupling in TbFeCo/FePt bilayer films. *C. Zha*[1], Y. Zhang[1], B. Ma[1], Y. Liu[2], Z. Zhang[1], Q. Jin[1] and F. Gan[1] *1. Deparment of optical science and engineering, Fudan university, Shanghai, China; 2. Department of Physics, Tongji University, Shanghai, China*

HT-03. Magnetic Soft/Hard Coupling in $Fe_3O_4/Fe_{3-x}Co_xO_4$ Superlattices Grown on MgO(001) by Molecular Beam Epitaxy. C. Lee[1] and *G. Chern*[1] *1. physics, National Chung Cheng University, Chia-Yi, Taiwan*

HT-04. Fabrication and magnetic anisotropy of multilayered Co/Cu nanowires. *J. Cho*[1], J. Min[1], S. Ko[1], Y. Kim[1] and S.H. Choi[2] *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, South Korea; 2. Bio-Nanotechnology Group, Jet Propulsion Laboratory/NASA, Pasadena, CA, USA*

HT-05. Magneto-optical additivity in the Magneto-Tunnel-Junction structures grown on GaAs(001). *M. Przybylski*[1], M. Nyvlt[1], J. Zukrowski[1] and J. Kirschner[1] *1. Experimental Department I, Max-Planck-Institut fur Mikrostrukturphysik, Halle, Germany*

HT-06. Electronic and Magnetic Properties at the Mn3O4/Fe3O4 Interface Studied by X-Ray Magnetic Circular Dichroism. C. Chen[1], G. Chern[2], H. Lin[3] and *H.C. Chang*[1] *1. Physics, Tamkang University, Tamsui, Taiwan; 2. Physics, National Chung-Cheng University, Chiayi, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

HT-07. Spin Wave Spectrum of Magnonic Crystals with Model Imperfections. *V.V. Kruglyak*[1], A.N. Kuchko[2], M.L. Sokolovskii[2] and V.S. Tkachenko[2] *1. School of Physics, University of Exeter, Exeter, United Kingdom; 2. Department of Physics, Donetsk National University, Donetsk, Ukraine*

HT-08. Effect of capped layer on the coercivity and magnetic anisotropy of FePt films. *S. Chen*[1,2], P. Kuo[1], A. Sun[1], C. Chou[1] and Y. Fang[1] *1. Institute of Materials Science and Engineering, and Center for Nanostorage Research, National Taiwan University, Taipei 106, Taiwan; 2. Department of Mechanical Engineering, De Lin Institute of Technology, Taipei 236, Taiwan*

HT-09. Spin Structures of Chromium in Epitaxial Multilayers Cr(001)/X (X=Sn, Au, V). *N. Jiko*[1], Y. Otsuka[2], K. Mibu[3] and M. Takeda[4] *1. Institute for Chemical Research, Kyoto Univesity, Uji, Kyoto, Japan; 2. Graduate School of Science, Kyoto University, Sakyo-ku, Kyoto, Japan; 3. Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan; 4. Advanced Science Research Center, JAERI, Tokai, Ibaraki, Japan*

HT-10. Effect of Os inserted layer on magnetic properties of CoFe/IrMn. *T. Peng*[1], C. Lo[2,4], S. Chen[1] and Y. Yao[3,1] *1. The Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Lab. for Spintronics, Information Storage Division, Opto Electronics and Systems Laboratories, Industrial Technology Research Institute, Hsin-Chu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Nanotechnology Research Center, Industrial Technology Research Institute, Hsinchu, Taiwan*

HT-11. Thermal robustness in synthetic antiferromagnetic free layer for magnetic random access memory applications. *T. Takenaga*[1], T. Kuroiwa[1], T. Furukawa[1], M. Taki[1], K. Yoshiara[1] and Y. Tokuda[1] *1. Advanced Technology R&D Center, Mitsubishi Electric Corp., Amagasaki, Japan*

HT-12. Spectroscopic Measurements of Zeeman Splitting of the Density of States in High Temperature Superconducting Multilayer Tunneling Junctions. G.A. Alvarez[1,2], I. Iguchi[2], *X.L. Wang*[1], S.X. Dou[1] and C. Cook[3] *1. Spintronic and Electronic Materials Group, ISEM, University of Wollongong, Wollongong, NSW, Australia; 2. Applied Physics, Tokyo Insitute of Technology, Tokyo, Japan; 3. Engineering, University of Wollongong, Wollongong, NSW, Australia*

HT-13. Transition from uniaxial to unidirectional anisotropy in IrMn/Co/FeOx/Co films. C. Shen[1], *C. Lai*[1], P. Huang[1], S. Hsu[2] and T. Chung[2] *1. Department of Materials Science & Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Institute and Department of electrophysics, National Chiao Tung University, Hsinchu, Taiwan*

HT-14. Atomic simulation of epitaxial growth for Ni/Al multilayers. *S. Lee*[1] and Y. Chung[1] *1. Department of Ceramic Engineering, Hanyang University, Seoul, South Korea*

HT-15. Tunable Microwave Filters Based on Superlattice Metallic Nanowires. *L. Spinu*[1], I. Dumitru[1], F. Li[2], B. Ye[2], J. Jung[3], A. Stancu[4] and J.B. Wiley[2] *1. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Department of Chemsitry and AMRI, University of New Orleans, New Orleans, LA, USA; 3. Department of Chemsitry, Kangnung National University, Kangnung, South Korea; 4. Department of Solid State & Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Romania*

HT-16. Frequency dependence of ac magnetic susceptibility in $La_{2/3}Ca_{1/3}MnO_3/YBa_2Cu_3O_{7-\delta}/La_{2/3}Ca_{1/3}MnO_3$ heterostructures. *F.A. Perez*[1], O. Moran[1], K. Gross[1], M.E. Gomez[1], E. Baca[1] and D. Fuchs[2] *1. Physics, Universidad del Valle, Cali, Colombia; 2. Institut fuer Festkoerperphysik, Karlsruhe, Germany*

HT-17. Effect of Pt-Spacer Layer on the Magnetic Properties of Co/Pt/Co Multilayer. *N. Deo*[1], J.H. Montgomery[1] and H.S. Gamble[1] *1. School of Electrical and Electronic Engineering, The Queen, Belfast, United Kingdom*

HT-18. Fabrication of $L1_0$ ordered FeNi films by alternate monatomic layer deposition. *T. Shima*[1], M. Okamura[2], S. Mitani[2] and K. Takanashi[2] *1. Faculty of Enginnering, Tohoku-Gakuin University, Tagajo, Japan; 2. IMR, Tohoku University, Sendai, Japan*

HT-19. Magnetic Properties of Coupled Ni/Gd Films. *I. Zoto*[1], G. Mankey[1], A. Alsmadi [3] and S. te Velthuis [2] *1. MINT Center/Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 2. Materials Science Division, Argonne National Laboratory, Chicago, IL, USA; 3. Intense Pulsed Neutron Source/Materials Science Division, Argonne National Laboratory, Chicago, IL, USA*

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* indicates student award nominee