General Information

SCOPE OF THE CONFERENCE

The 56th Magnetism and Magnetic Materials Conference is sponsored jointly by Physics Conferences Inc. and the Magnetics Society of the IEEE, in cooperation with the American Physical Society. Members of the international scientific and engineering communities interested in recent developments in fundamental and applied magnetism are invited to attend the Conference and contribute to its technical sessions. Sessions will include invited and contributed papers, oral and poster presentations, and invited symposia. This Conference provides an outstanding opportunity for worldwide participants to meet their colleagues and collaborators and discuss developments in all areas of magnetism research. In terms of the number of presentations, this will be the largest MMM in the history of the Conference, with over 1700 oral and poster presentations.

PHOENIX/SCOTTSDALE, ARIZONA

Scottsdale (*www.ScottsdaleAz.gov/*) is a suburb north of Phoenix located in the beautiful Sonoran Desert and bordered by the McDowell Mountains. The McDowell Sonoran Preserve is the largest urban wilderness areas in the U.S. The city of Scottsdale, which is historic in its own right, offers approximately 100 art galleries and 85 restaurants.

TRANSPORTATION

Phoenix Sky Harbor International Airport (PHX) (*www.ifly.com/phoenix-sky-harbor-international-airport*) is served by a host of airlines offering direct and connecting flights to all parts of the world. To reach the JW Marriott Desert Ridge Resort & Spa, where all MMM 2011 sessions and activities will be held, there is a Shared Ride Van service available from "SuperShuttle." The current one-way cost in a shared ride van holding a total of 7 passengers is $22/person. To book your own ride from Sky Harbor (PHX) to the JW Marriott Desert Ridge, go to *www.supershuttle.com*. If several people are arriving in Phoenix together, you may want to use "Transtyle" town car service (*www.transtyle.com*) from the airport. If arranged in advance, this service will pick up 3 passengers for $60 total or 5 passengers in an SUV for $80 total and take you directly to the Marriott Desert Ridge. Transtyle also offers a return rate to the airport of $22/person, leaving the hotel on the hour between 5:00 AM-5:00 PM (MUST be arranged at the Concierge Desk at least 24 hours in advance of your departure). Taxi fares to and from the airport and the resort average $65-$70 as of August 2011.

HOTEL

HELP KEEP YOUR CONFERENCE FEES DOWN: Costs for the MMM Conference meeting and exhibits space are minimized by meeting pre-established targets for room occupancy at the Conference hotel. Please support the Steering Committee and Advisory Committee in their attempt to keep your conference registration fees as low as possible by booking your room at the JW Marriott Desert Ridge for the 2011 MMM Conference **before the cutoff date of Monday, October 3rd.**

The JW Marriott Desert Ridge is located approximately 23 miles/30 minutes north of Phoenix Sky Harbor International Airport. It is a AAA 4-Diamond Award property. Within a short walk from the resort is a shopping center offering a group of food outlets, in addition to the multiple dining options at Desert Ridge, that are open throughout the day and evening. The special group rate for MMM 2011 participants at this world-class resort is $189/ single or double plus tax.

Each Conference participant is responsible for making his/her own hotel reservation and for paying all personal bills upon checkout. You may book your room by going directly to the reservations web site link for the MMM 2011 Conference at: *https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=3272117*

For Telephone Reservations call: 1-506-474-2009 (from outside the U.S.) or 1-800-266-9432. Be sure to mention the MMM 2011 Conference if you call.

Making a hotel room reservation via the web site is the fastest way to book the room you want, and will provide you with an immediate confirmation. The link also provides a wealth of information about the property's many amenities and services, along with a map of how to travel from the airport to the resort. The hotel can serve all special needs, so please make any required special requests when you reserve your room. **Special amenities to note in this hotel are newly-redecorated rooms, complimentary laundry service on the 4th Floor of two of the wings, and free internet service in the hotel's Lobby, Vista Lounge, and the Patio outside the lounge.**

Remember….your hotel room reservation must be received by the JW Marriott Desert Ridge no later than Monday, October 3rd, in order for you to receive the special MMM Conference rates.

ADDITIONAL ACTIVITIES AT THE HOTEL AND IN THE SCOTTSDALE AREA

The following activities and resources will be available for MMM participants and their spouses or accompanying family members during the conference.

Reception – A Welcome and Networking Reception will be held for MMM attendees on Sunday evening, October 30th, from 5:00 PM until 8:00 PM.

Golf Tournament – A golf outing is being organized for the afternoon of Sunday, October 30th. Greens fees ($158.49 per player) will be the responsibility of each golfer. MMM golf event tee-off begins at 12:00 on Sunday, October 30th at Wildfire Golf Course (walking distance to Marriott). All golf fees must be paid/received in advance of Monday, October 3rd, which is the Advance Registration cutoff date. If you wish to pay the golf fees separately, please go to the Advance Registration website and click the option to register for GOLF ONLY. You may also pay for one or more guests to play. Please send any special requests for playing partners to Randall Victora (*victora@umn.edu*). Also, an indication of skill level such as handicap index will aid the grouping of foursomes. Most golfers will wish to bring their own equipment owing to the high cost of club and shoe rental at the resort.

Child Care – There are several local childcare providers who can take care of children staying in hotel rooms for an hourly fee. The Desert Ridge also has a Family Escape Center with games, activities and excursion planning. *http://www.jwdesertridgeresort.com/Time-To-Play-19.html*

On-site Activities – The Resort offers bike rentals, walking tours, watercolor painting, tennis courts and lessons, golf, swimming pools (one of them a "Lazy River") and a luxurious spa, among other activities. *http://www.jwdesertridgeresort.com/Experience-Phoenix-Arizona-9.html*

Dining – There are several on-site restaurants, cafes and bars, as well as dining options nearby and in the historic city of Scottsdale itself. *http://www.jwdesertridgeresort.com/Phoenix-Restaurants-7.html*

Excursions – The Resort offers many tours of sites around Scottsdale and throughout Arizona. You can also arrange our own travel and tourism in the beautiful State of Arizona. Some examples of excursions are the following:

Scottsdale/Phoenix Town, Art Gallery and Food Tours

Chocolate & Candy Factory

Wine Bottling Experience

Day Trip To Bisbee, a Victorian-era mining town

Grand Canyon Tour

Desert Botanical Garden

Heard Museum or Wrigley Mansion Tours

Hiking

Hot Air Balloon Rides

The Legend of the Bells….a tour of Cosanti

Arabian Horse Ranch

Musical Instrument Museum

Paint the Desert

Queen Creek Olive Mill Tour

Sedona, Rocks and Taliesin West Tours

Some of these excursions require advance planning and a minimum number of participants. If you wish to plan a trip only for yourself and one or two friends, more information about planning excursions will be available from the hotel's Concierge.

SPECIAL CONFERENCE EVENTS

Sunday Evening Opening Reception

On Sunday evening, while the Registration Desks are open in the same area for your convenience, there will be a Welcome and Networking Reception held from 5:00 PM until 8:00 PM in the lobby area and the garden outside the Saguaro Ballroom where the poster sessions and exhibits are held. Beer, wine, soft drinks, and hors d'oeuvres will be served, generously sponsored by the IEEE Magnetics Society. Participants will be surrounded by displays of interesting facts and mementoes from the MMM Conference's history. Plan to be there!

Special Evening Session: Tuesday

Rare earth elements have been featured in the news recently due to concerns over their global supply. A Special Session will be held on Tuesday November 1st at 7:00pm on the status of rare earth elements used in permanent magnets. Presentations will cover the distributions and economics of these elements, and their essential role in permanent magnets.

Women in Magnetism Networking Event: Monday

There will be a Women's Networking Reception with beverages and light hors d'oeuvres on Monday from 5.30 PM until 7.30 PM. All interested attendees (both men and women) are encouraged to participate. For questions, contact either Liesl Folks (*Liesl.folks@hitachigst.com*) or Julie Borchers (*Julie.borchers@nist.gov*). The 2011 MMM Conference is especially grateful to the IEEE Magnetics Society for their sponsorship of this special event.

NIST Reunion Reception: Monday

NIST employees, alumni, associates, collaborators and friends are invited to attend a reception on Monday from 5:00 until 6:30 p.m. For questions, contact either Bob Shull (*shull@nist.gov*) or Ron Goldfarb (*ron.goldfarb@nist.gov*).

Student Lunch with the Experts: Wednesday

Following the successful format of the American Physical Society Meetings, we will introduce a new MMM lunch event for students. Students will have a chance to meet "Experts" from industry, universities and national laboratories over lunch (provided by the Conference) on Wednesday November 2nd at 12:00 pm. In early October, the speakers and topics will be announced in an email that will be sent, along with a registration form just for this event, to paid student registrants. Interested students will have to complete the registration form and return it to *wendyw@widerkehr.com*. Attendance will be limited. This is an excellent opportunity to explore career opportunities or just find out more about life as a professional scientist or engineer.

Bierstubes and Coffee

Complimentary coffee service will be available on Monday through Thursday mornings inside the Grand Saguaro Ballroom , with the Exhibits and Poster Sessions, from 7:45 AM – 10:15 AM.

On Monday through Wednesday evenings, the Bierstube will be held from 5:00 PM – 6:30 PM in this same location. On Monday and Tuesday evenings the Bierstubes will again be sponsored through the generosity of Williams Advanced Materials.

CONFERENCE REGISTRATION

All 2011 MMM Conference attendees, including invited speakers, must pay registration fees. You can register in advance at a reduced rate prior to Monday, October 3, 2011. You are encouraged to register via the secure web site at:

www.yesevents.com/mmm

If you prefer to send your payment by mail, you may also register by downloading, completely filling out, and mailing the Advance Registration Form posted on the MMM web site at: *http://www.magnetism.org/*. Payment in **U.S. dollars** must be made by MasterCard, Visa or American Express credit card or by personal or corporate check **(drawn on a U.S. bank only)**. Checks are to be made payable to "2011 MMM Conference."

REMEMBER: All "Advance Registration" forms must be accompanied by FULL payment and must be received by October 3, 2011. Onsite registration during the Conference will be at the higher rates listed below. After October 3rd, only the higher registration fees will be accepted, and only at the Onsite Registration Desks at the Conference. **Mail-in forms not accompanied by payment or with incomplete or incorrect credit card information will be considered "late" and the higher rates will be collected onsite at the Conference.**

PLEASE NOTE: This MMM Conference begins on Sunday, October 30th, with a "Welcome and Networking Reception" being held beginning at 5:00 PM while the Registration Desks are also open for your convenience.

Registration Fees	Prior to October 3	After October 3
Full Registrant	$475.00	$575
Student	$230.00	$280
Unemployed Retiree	$230.00	$280

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

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received no later than Monday, October 3, 2011. Refunds of the original payment, less a $75 service fee, will be mailed to the original registrant following the Conference.

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

REGISTRATION HOURS

The Conference Registration Desks, located in the Grand Canyon Ballroom Foyer one level below the hotel's Lobby, will be open during the following hours:

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

Badge Policy: All attendees will be required to wear 2011 MMM Conference name badges to enter the Technical Sessions and Exhibits.

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

VISA REQUIREMENTS FOR ENTRY INTO THE USA:

The US has updated its visa policies to increase security, so it may take you 3 months or more to apply for and receive your visa. For details that apply specifically to your country please go **immediately** to your nearest US Consulate or Embassy. Review your visa status now to determine if you need a US visa or visa renewal and to find out how to schedule an interview appointment, pay fees, and other vital instructions. If you need a personal letter of invitation to attend the Conference, contact the Conference coordinators by email at: *mmm2011@widerkehr.com*. Please provide the following information: complete name, mailing address, and any other details that your country of residence requires for your visa application. Only an original copy (not faxed or email version) may be accepted with your visa application. **The Conference cannot contact or intervene with any U.S. Embassy or Consulate office abroad on your behalf so please begin your visa application process as soon as you determine that you want to attend the 56th MMM Conference.**

NEW VISA WAIVER PROGRAM TRAVEL: All nationals and citizens of Visa Waiver Program (VWP) countries (*http://www.travel.state.gov/visa/temp/without/without_1990.html#countries*) who plan to travel to the U.S. for temporary business or pleasure for 90 days or less are required by law to obtain travel authorization prior to initiating travel to the United States. This authorization can be obtained online through the Electronic System for Travel Authorization (see web site: *http://www.cbp.gov/xp/cgov/travel/id_visa/esta/*) (ESTA), a free Internet application administered by the U.S. Department of Homeland security (*http://www.dhs.gov/index.shtm*). For additional information about the ESTA please visit *http://www.cbp.gov/esta*. Travelers from countries not in the VWP are still required to obtain a Visa prior to entry into the United States.

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

PUBLICATIONS

Conference proceedings will be published in a special issue of Journal of Applied Physics scheduled to appear in print in April 2012. All manuscripts must be submitted online before the September 23, 2011 deadline using the AIP web submission system PeerX-Press (PXP). Guidelines for manuscript preparation may be found at the submission site (*http://mmm.peerx-press.org*). Review standards will mirror those used for regular articles submitted to Journal of Applied Physics.

The Publications Room, where authors can check the status of their manuscripts, will be located in Desert Conference Office I on the Lobby Level of the hotel. The status of all papers can be found here and authors should check periodically on their individual papers if they have questions. This room will be open as follows:

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

SPEAKER PRACTICE ROOM

Speakers may use Desert Hospitality Suite #2442 on the Lobby Level of the hotel to practice their presentations and test their computer connections. Audiovisual equipment (LCD projector and screen) will be available for authors to use from Sunday at 1:00 PM until Thursday at 1:30 PM. Speakers are encouraged to use this facility to practice their presentation, either alone or with colleagues.

LCD PROJECTORS

Speakers are reminded that the Conference requires an all-electronic oral presentation format. Therefore, **only video LCD projectors** will be available for oral presentation materials. Authors are expected to bring their presentation on their own laptop computer, and have it powered on and ready to connect to the projector. **Only standard PC-style VGA connections to the LCD projector will be supplied, therefore you must supply any required adaptor to your computer. In particular, Mac OS users must make sure that they have the correct adaptor plug and that video "mirroring" is activated.**

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

SESSION CHAIRS

Poster and Oral Session Chairs are expected to attend the Session Chair's Breakfast on the morning of the session which they are chairing. **If you are chairing an oral session, please be sure to bring your laptop computer to the Conference or arrange to borrow one during your session, as the Chair's laptop will be used for session timing.** Further details will be emailed to Session Chairs a few weeks before the conference.

POSTER SESSIONS

The Poster Sessions will be in the Saguaro Ballroom and **will be open from 8:00 AM–12:00 PM (morning poster sessions) and 1:00 PM–5:00 PM (afternoon poster session).** Authors should set up their materials at least 30 minutes before session start times. Poster presenters MUST be present at their poster for at least 30 minutes at the start and end of the Poster Session ***(8:00 – 8:30 AM and 11:30 – 1200 PM for morning sessions and 1:00 - 1:30 PM and 4:30 – 5:00 PM for afternoon sessions).*** Guidelines for preparation of Posters are found at: *http://www.magnetism.org/presentation.html*. **Authors are reminded to remove all of their materials PROMPTLY at the end of their session (except the push-pins provided by the Conference). Any poster materials not removed may be discarded by Conference coordinators in order to prepare for the next session.**

EXHIBITS

An exhibition of Magnetism-related services, equipment, materials, and software will be held as a part of the Conference. The exhibits will be located adjacent to the poster sessions in the Saguaro Ballroom. Individuals and organizations who are interested in purchasing booth space should contact Wendy Walker, Exhibits Coordinator at Widerkehr & Associates, by e-mail at *wendyw@widerkehr.com*; or by Fax at 301-527-0994. The Exhibitor Prospectus and Application Form are now available on the MMM website at *www.magnetism.org*.

BEST STUDENT PRESENTATION AWARD

There will be a competition for the best student presentation at the 56th MMM Conference in Scottsdale, AZ to recognize and to encourage excellence in graduate studies in the field of magnetism. Conference attendees are encouraged to attend these talks, and support these young scientists. The finalists for this year are:

Z. Budrikis, BC-03, "Diversity Opens Dynamical Pathways: Disorder & Energy Landscape Exploration in Artificial Spin Ice"

Z. Wang, DB-01, "Amplification of Surface Spin Waves in Ferrite Thin Films via Interfacial Spin Scattering"

L. Pereira, DF-13, "Lattice Location of Transition Metals in Dilute Magnetic Semiconductors"

E. Folven, EE-08, "Competing Anisotropies in a Spin-Flop Coupled AFM/FM Heterostructure"

55th MMM Conference Best Student Presentation Winners
A. Dussaux
(Unité Mixte de Physique, CNRS/Thales, Palaiseau, France)
for his presentation: EC-09 "Large Locking Range and Fractional Synchronization in Vortex Based Spin Transfer Oscillators"

E. Evarts
(Physics Dept., Carnegie Mellon University, Pittsburgh, PA)
for his presentation: FC-13: "Spin Torque Switching of 26 nm Diameter Magnetic Tunnel Junction using a Conductive Atomic Force Microscope"

The student finalists for the 55th MMM Conference Best Student Presentation were:

E. Jarormirska, AC-07, "Geometry-Driven Current-Induced Vortex Excitations in Point Contact Devices"

X. Cheng, EC-03, "Spin Torque Diode Detectors with Sensitivity Exceeding that of Schottky Diodes"

CONGRATULATIONS TO ALL!!!

BEST POSTER PRESENTATIONS

Eligibility: All posters will be eligible for nomination for this award provided that they meet the requirements and guidelines for MMM poster presentations and sessions, as described on the website. The poster presentations should consist of well-prepared visual materials about the work, posted on a designated board. It is required that an author be registered for the Conference and available in-person to present poster details and answer attendee questions during the designated session time. ***In particular, they need to be present during the 1.5 hours at the start of the Poster Session (8:00 AM – 9:30 AM for morning sessions and 1:00 PM – 2:30 PM for afternoon sessions).*** Since the award will be made at the session itself, it is recommended that the authors be present for the majority of the session. All posters should include a full contact mailing address in case the authors are not present when the award is made.

Award: The best-poster award consists of $50 cash and an award certificate. The awards will be made in the last hour of each poster session. A ribbon will also be attached to the successful posters. Winning posters will be prominently displayed during the remainder of the conference.

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

This is the list of the winners from the Atlanta, GA conference:

Best 55th MMM Conference Poster Presentation Winners

AP-04
Frequency Splitting of Resonance Modes in Non-Collinearly Arranged Rectangular Magnets
S. Jain[1], A.O. Adeyeye[1], and M. Kostylev[2]
1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore
2. University of Western Australia, Crawley, WA, Australia

AU-06
In-plane Magnetic Anisotropy in Fe/MgO/GaAs(001) System
J. Li, G. Chen, J. Zhu, J. Liang, and Y. Wu
Dept. of Physics, State Key Laboratory of Surface Physics, Fudan University, Shanghai, China

BQ-01
Impact of Post-Deposition Annealing on the Magnetic Entropy Change in Gd Thin Films
N.A. Bingham, H. Srikanth, and C.W. Miller
Dept. of Physics, University of South Florida, Tampa, FL

BU-11
A Novel Non-Liftoff Approach to Block Copolymer Patterning of Magnetic Metals
A. Baruth[1], M.D. Rodwogin[2], M.J. Erickson[3], A. Shankar[1], M.A. Hillmyer[2], and C. Leighton[1]
1. Dept. of Chemical Engineering & Materials Science, University of Minnesota, Minneapolis, MN
2. Dept. of Chemistry, University of Minnesota, Minneapolis, MN
3. Dept. of Physics, University of Minnesota, Minneapolis, MN

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

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

DP-01
Comparisons Between STT-RAM Switching Distributions and the Thermal Activation Model
R. Heindl, W.H. Rippard, S. Russek, and M. Pufall
Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO

DV-04
Incorporating Magneto Resistance into MQCA Logic
A. Lyle, J. Harms, A. Klemm, and J. Wang
Dept. of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN

EP-04
Frequencies and Critical Currents for Spin-Transfer-Induced Motion of Coupled Vortices in Spin-Valve Nanopillars
A.V. Khvalkovskiy[1,2], N. Locatelli[2], J. Grollier[2], K.Y. Guslienko[3,4], K.A. Zvezdin[1,5], and V. Cros[2]
1. A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russian Federation
2. Unite Mixte de Physique , CNRS/Thales and University Paris Sud 11, Palaiseau, France
3. Dpto. Fisica de Materiales, Universidad del Pais Vasco, San Sebastian, Spain
4. IKERBASQUE, The Basque Foundation for Science, Bilbao, Spain
5. Instituto P.M. s.r.l., Torino, Italy

ET-12
Large Scale Fabrication of Magnetic Tunneling Junctions Based on Nanopillars and Nanorings by Nanosphere Lithography
W. Wang, X. Chen, S. Hageman, S. Huang, F.Q. Zhu, T. Chen, and C. Chien
Dept. of Physics and Chemistry, The Johns Hopkins University, Baltimore, MD

FP-03
Current-Driven Vortex Dynamics in Metallic Nanocontacts
G. Hrkac[1], J. Dean[1], L. Saharan[1], M. Bashir[1], T. Schrefl[1], J. Kim[2], T. Devolder[2], and L. Lagae[3]
1. Dept. of Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom
2. Institut d'Electronique Fondamentale, Universite Paris-Sud, Paris, France
3.IMEC, Leuven, Belgium

FT-14

Fe and Mn Orbital Moment Variation in (MnxFe1-x)3O4 Nanoparticles

V. Pool[1,5], M. Klem[2], C. Jolley[3,5], E.A. Arenholz[4], T. Douglas[3,5], and Y.U. Idzerda[1,5]

1. Dept. of Physics, Montana State University, Bozeman, MT
2. Dept. of Chemistry, Montana Tech., Butte, MT
3. Dept. of Chemistry and Biochemistry, Montana State University, Bozeman, MT
4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA
5. Center for Bio-inspired Nanomaterials, Montana State University, Bozeman, MT

GS-09

Field Dependent Magnetic Anisotropy of Galfenol Thin Films

D.A. Resnick[1], A. McClure[2], P. Rugheimer[2], and Y.U. Idzerda[2]

1. Dept. of Physics, Carroll University, Waukesha, WI
2. Dept. of Physics, Montana State University, Bozeman, MT

GT-10

Improvement of Perpendicular Exchange Bias in [Pd/Co]/FeMn Thin Films by Tailoring the Magnetoelastically-Induced Perpendicular Anisotropy

L. Lin[1], N. Thiyagarajah[1], H. Joo[1], J. Heo[2], K. Lee[2], and S. Bae[1]

1. Dept. of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore
2. Dept. of Physics, Dankook University, Cheonan, Republic of Korea

STUDENT TRAVEL AWARDS

Travel grants are offered to a limited number of students who are presenting at the 56th MMM Conference. These students were chosen from among those who applied online (with advisor's endorsement), and the grants will be used to reimburse partial travel expenses of those students (receipts required). The program is for students who are presenting at the conference and have not previously received a Conference or Magnetics Society travel grant. Only one application per research group is accepted. Postdoctoral fellows and non-students are not eligible. If you are interested in applying for a travel grant to attend future magnetics conferences, go to *www.magnetism.org* two months prior to the conference dates.

FUTURE CONFERENCES

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

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

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

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

ADDITIONAL INFORMATION

If you would like to receive more information about the 57th 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 2011 MMM Conference can be found on the Web at the Conference homepage at: *http://www.magnetism.org/*.

CONFERENCE ORGANIZATION

Steering Committee 56th MMM Conference

Chairman	Caroline Ross
Chairman Elect	Paul Crowell
Past Chairman	Jeff Childress
Treasurer	Julie Borchers
Program Co-Chairmen	Amanda Petford-Long, Kevin Coffey
Program Committee Members	J. Åkerman, D. Abraham, A. Akunle, D. Altbir, K. Barmak, G. Beach, A Bhattacharya, C. Binns, K. Buchanan, R. Chantrell, X. Chen, Y-S. Choi, M. Ciria, T. Crawford, N. Dempsey, G. Dionne, Z. Fan, C. Felser, C. Fennie, L. Folks, P. Freitas, H. Fukunaga, J. Furdyna, K. Gao, D. Gardner, C. Hammel, X. Han, V. Harris, R. Hasegawa, G. Herzer, L. Heyderman, B. Hillebrands, K. Hono, G. Hu, L. Hueso, B. Jonker, S. K. Kim, M. Kläui, A. Kohn, K. Krishnan, J. Lau, C. Leighton, M. Lian, P. Liu, C. Lo, S. Majetich, I. Mertig, C. Miller, J. Moreland, C. Palmstrom, C. Petrovic, R. Ramanujan, N. Rizzo, T. Santos, S. Sanvito, T. Schrefl, J. Shen, R. Shull, R. Skomski, A. Slavin, K. Suzuki, Y. Suzuki, B. Terris, T. Thomson, A. Torabi, M. Wu, S. Zhang, J. Zhao, and G. Zimaniy
Publications Chairman	Hari Srikanth
Publications Editors	Cindi Dennis, Haifeng Ding, Victorino Franco, Chris Leighton, Michael McHenry, Kiyonori Suzuki
Exhibits Chairman	Sylvia Florez
Publicity	Brian Maranville
Student Travel	Beth Stadler
Poster and Student Presentation Awards	Robert Shull
IEEE Representative	Massimo Pasquale
PCI/AIP Representative	Bill Burke
Editor, J. Appl. Phys.	James Viccaro
Conference Management	Diane Melton, Wendy Walker; Widerkehr & Associates
PCI/AIP Coordinators	Janis Bennett

Advisory Committee 56th MMM Conference

Chairman	J. Childress
Chair-Elect	C. Ross
Executive Secretary/Treasurer	J. Borchers
Recording Secretary	D. Melton
Term Expires **December 2011**:	C.-L. Chien, B. Hillebrands, A. Hoffmann, Y. Idzerda, Y. Ijiri, M. McHenry, H. Muraoka, C. Ross, R. Stamps, M. Willard
Term Expires **February 2013**:	K. Coffey, P. Crowell, L. Folks, A. Kent, C. Leighton, L. Lewis, S. Majetich, A. Petford-Long, T. Suzuki, R. Victora
Term Expires **December 2013**:	J. Borchers, B. Dieny, C. Felser, E. Fullerton, B. Liu, M. Stiles, H. Srikanth, B. Terris, J. Thiele, S. Yuasa

Sponsoring Society Representatives

Physics Conferences Inc. (AIP)	M. Burke
IEEE Magnetics Society	M Pasquale

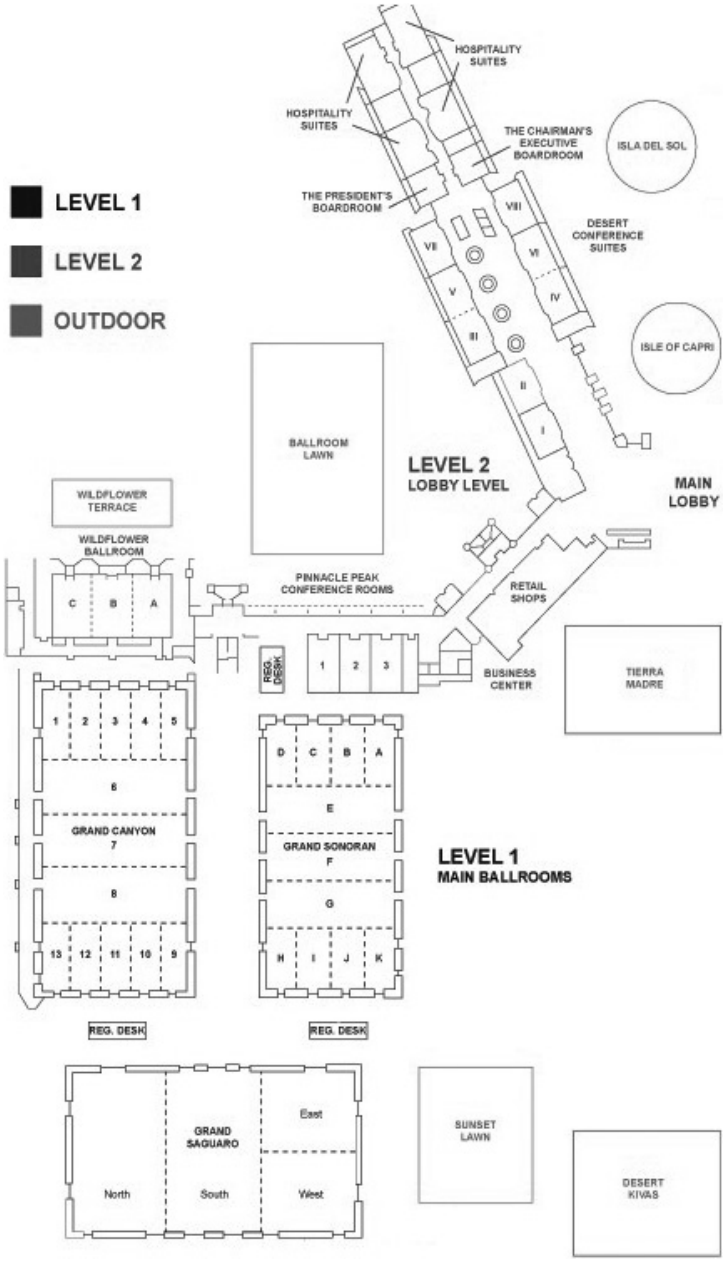
CONFERENCE PROGRAM

Sun, Eve			
5-8 pm		Welcome and Networking Reception	Lobby
Monday			
8:30 am	AA	Symposium on new development in spintronics based on Heusler compounds	Grand Canyon 6
	AB	Spintronics: Organic semiconductors	Grand Canyon 7
	AC	Magnetization dynamics and damping I	Grand Canyon 8
	AD	Multilayers and superlattices I	Grand Canyon 9-11
	AE	Hard-magnetic nanostructures	Grand Canyon 2-3
	AF	Magnetoresistive random access memory	Grand Canyon 4-5
	AG	Complex oxides: Films, interfaces and bulk materials	Grand Canyon 12-13
	AH	Magneto-optics and MEMS I	Grand Canyon 1
8:00 am	AP	Nanoparticle synthesis I	Saguaro Ballroom
	AQ	Amorphous alloys I	Saguaro Ballroom
	AR	Strongly correlated systems I	Saguaro Ballroom
	AS	Magnetic recording readers and writers	Saguaro Ballroom
	AT	Advanced magnetic recording	Saguaro Ballroom
	AU	Magnetoelastic and magnetocaloric properties I	Saguaro Ballroom
	AV	Transformers, motors, inductors and levitation I	Saguaro Ballroom
	AW	Domain walls and vortices I	Saguaro Ballroom
Monday			
1:30 pm	BA	Symposium on spin and magneto Seebeck and Peltier effects	Grand Canyon 6
	BB	Spin transfer torque switching I	Grand Canyon 7
	BC	Spin ice and frustrated systems	Grand Canyon 8
	BD	Magnetic vortex dynamics	Grand Canyon 9-11
	BE	Other magnetic materials I	Grand Canyon 2-3
	BF	Perpendicular recording media	Grand Canyon 4-5
	BG	Superconductivity and low dimensional magnetism	Grand Canyon 12-13
	BH	Ferrite materials and high frequency devices	Grand Canyon 1
1:00 pm.	BP	Multilayers and superlattices II	Saguaro Ballroom
	BQ	Ferromagnetic semiconductors I	Saguaro Ballroom
	BR	Spintronics: Organic materials	Saguaro Ballroom
	BS	Semiondconductor spin injection and transport	Saguaro Ballroom
	BT	Multiferroic materials I	Saguaro Ballroom
	BU	Magnetocaloric properties II	Saguaro Ballroom
	BV	Permanent-magnet processing and applications	Saguaro Ballroom
	BW	Exchange bias and Heusler alloys	Saguaro Ballroom
Tuesday			
8:30 am	CA	Symposium on room temperature semiconductor spintronics	Grand Canyon 6
	CB	Amorphous alloys II	Grand Canyon 7
	CC	Magnetic tunnel junction I: MgO, other	Grand Canyon 8

	CD	Spin waves I	Grand Canyon 9-11
	CE	Nanoparticle characterization I	Grand Canyon 2-3
	CF	Heat assisted media and recording	Grand Canyon 4-5
	CG	Magnetocaloric properties I	Grand Canyon 12-13
	CH	Sensors I	Grand Canyon 1
8:00 am	CP	Complex oxides: Superconductivity and magnetism	Saguaro Ballroom
	CQ	Complex oxides: Manganites and cobaltites	Saguaro Ballroom
	CR	Strongly correlated systems II	Saguaro Ballroom
	CS	Magnetization switching and dynamics	Saguaro Ballroom
	CT	Other magnetic materials II	Saguaro Ballroom
	CU	Other magnetic materials III	Saguaro Ballroom
	CV	Borides I	Saguaro Ballroom
	CW	Ordered alloys and borides	Saguaro Ballroom
Tuesday			
1:30 pm	DA	Symposium on perpendicular magnetic anisotropy for spintronics	Grand Canyon 6
	DB	Spin waves II	Grand Canyon 7
	DC	Domain walls and vortices II	Grand Canyon 8
	DD	Ordered alloys	Grand Canyon 9-11
	DE	Heusler alloys	Grand Canyon 2-3
	DF	Ferromagnetic semiconductors II	Grand Canyon 4-5
	DG	Magnetic microscopy I	Grand Canyon 12-13
	DH	Magneto-elastic materials I	Grand Canyon 1
1:00 pm	DP	Hard-magnetic oxide and L10 nanostructures	Saguaro Ballroom
	DQ	Patterned and microwave media	Saguaro Ballroom
	DR	Micromagnetic modeling I	Saguaro Ballroom
	DS	Magnetization dynamics	Saguaro Ballroom
	DT	Critical phenomena and spin glasses	Saguaro Ballroom
	DU	Permanent-magnet motors and actuators	Saguaro Ballroom
	DV	Sensors II	Saguaro Ballroom
	DW	Ferrite materials: Processing and properties	Saguaro Ballroom
Tues. Eve			
7:00 pm	XA	Rare earth elements: Global supply and magnetic applications	Grand Canyon 6
Wednesday			
8:30 am	EA	Symposium on progress in assisted write magnetic recording	Grand Canyon 6
	EB	Spin transfer torque oscillators I	Grand Canyon 7
	EC	Materials measurements and microscopy	Grand Canyon 8
	ED	Ultrafast switching	Grand Canyon 9-11
	EE	Patterned films I	Grand Canyon 2-3
	EF	Ultra-thin films and surface effects I	Grand Canyon 4-5
	EG	Magnetic tunnel junction II: MgO	Grand Canyon 12-13
	EH	Transformers, motors, inductors and levitation II	Grand Canyon 1
8:00 am	EP	Nanomagnetic logic, magnetostrictive and magneto-optic devices	Saguaro Ballroom

	EQ	Spin waves	Saguaro Ballroom
	ER	Magnetic fluids and separations and biomagnetism	Saguaro Ballroom
	ES	Magnetic particles for hyperthermia, drug delivery and separation	Saguaro Ballroom
	ET	Anisotropic magnetic nanostructures	Saguaro Ballroom
	EU	Multiferroic materials II	Saguaro Ballroom
	EV	Metal spintronics: Seebeck, pumping and spin valves	Saguaro Ballroom
	EW	Semiconductor spin transport: Kondo and spin-orbit	Saguaro Ballroom
Wednesday			
1:30 pm	FA	Symposium on advances in biomedical imaging	Grand Canyon 6
	FB	Spintronics: Seebeck, pumping, Hall and spin-valve	Grand Canyon 7
	FC	Spintronics effects	Grand Canyon 8
	FD	Magnetic dynamics II	Grand Canyon 9-11
	FE	Magnetoelectronic materials I	Grand Canyon 2-3
	FF	Nanoparticle synthesis II	Grand Canyon 4-5
	FG	Patterned and microwave recording	Grand Canyon 12-13
	FH	Modeling	Grand Canyon 1
1:00 pm	FP	Magnetic tunnel junction III: MgO, other	Saguaro Ballroom
	FQ	MRAM and MgO magnetic tunnel junctions	Saguaro Ballroom
	FR	Magnetic microscopy II	Saguaro Ballroom
	FS	Materials measurements	Saguaro Ballroom
	FT	Ferrite materials and high frequency devices II	Saguaro Ballroom
	FU	Ultra-thin films and surface effects II	Saguaro Ballroom
	FV	Magnetocaloric properties III	Saguaro Ballroom
	FW	Domain wall devices I	Saguaro Ballroom
Thursday			
8:30 am	GA	Symposium on spin pumping	Grand Canyon 6
	GB	Spintronics: Ge, GaAs, diamond	Grand Canyon 7
	GC	Spin transfer torque switching II	Grand Canyon 8
	GD	Novel memory and energy harvesting devices	Grand Canyon 9-11
	GE	Correlated systems	Grand Canyon 2-3
	GF	Exchange bias I	Grand Canyon 4-5
	GG	Borides II	Grand Canyon 12-13
	GH	Magnetic nanostructures and devices for biomedical applications	Grand Canyon 1
8:00 am	GP	Hysteresis and magnetic modeling	Saguaro Ballroom
	GQ	Ferromagnetic semiconductor oxides	Saguaro Ballroom
	GR	Rare-earth alloy nanostructures	Saguaro Ballroom
	GS	Spintronic effects and domain walls	Saguaro Ballroom
	GT	Magnetoelectronic materials II	Saguaro Ballroom
	GU	Continuous recording media	Saguaro Ballroom
	GV	Crystalline alloys I	Saguaro Ballroom
	GW	Spin transfer torque oscillators II	Saguaro Ballroom

Thursday			
1:30 pm	HA	Symposium on artificial spin ice: Discovering frustration and emergent monopoles with Nanomagnets	Grand Canyon 6
	HB	Spintronics: Si and graphene	Grand Canyon 7
	HC	Spin transfer torque oscillators III	Grand Canyon 8
	HD	Multiferroic materials III	Grand Canyon 9-11
	HE	Domain wall devices II	Grand Canyon 2-3
	HF	Exchange bias II	Grand Canyon 4-5
	HG	Applied permanent magnetism	Grand Canyon 12-13
	HH	Crystalline alloys II	Grand Canyon 1
1:00 pm	HP	Actuators, energy transfer and other applications	Saguaro Ballroom
	HQ	Patterned films II	Saguaro Ballroom
	HR	Spin transfer torque switching III	Saguaro Ballroom
	HS	Biomedical applications	Saguaro Ballroom
	HT	Nanoparticle characterization II	Saguaro Ballroom
	HU	Superconductivity	Saguaro Ballroom
	HV	Micromagnetic modeling II	Saguaro Ballroom
	HW	Transformers, motors, inductors and levitation III	Saguaro Ballroom
	HX	Magneto-optics and MEMS II	Saguaro Ballroom


LEVEL 1
LEVEL 2
OUTDOOR
HOSPITALITY SUITES
HOSPITALITY SUITES
THE CHAIRMAN'S EXECUTIVE BOARDROOM
ISLA DEL SOL
THE PRESIDENT'S BOARDROOM
DESERT CONFERENCE SUITES
ISLE OF CAPRI
BALLROOM LAWN
LEVEL 2
LOBBY LEVEL
MAIN LOBBY
WILDFLOWER TERRACE
WILDFLOWER BALLROOM
PINNACLE PEAK CONFERENCE ROOMS
RETAIL SHOPS
BUSINESS CENTER
TIERRA MADRE
REG. DESK
GRAND CANYON
GRAND SONORAN
LEVEL 1
MAIN BALLROOMS
REG. DESK
REG. DESK
GRAND SAGUARO
East
North
South
West
SUNSET LAWN
DESERT KIVAS

SUNDAY
EVENING
5:00

LOBBY

Session ZA
SUNDAY EVENING OPENING RECEPTION
Caroline Ross, Chair

MONDAY
MORNING
8:30

GRAND CANYON 6

Session AA
SYMPOSIUM ON NEW DEVELOPMENT IN SPINTRONICS BASED ON HEUSLER COMPOUNDS
Claudia Felser, Co-Chair
Guenter Reiss, Co-Chair

8:30

AA-01. Application of magnetic Heusler alloys to CPP-GMR read sensors. ***(Invited)*** *J. Childress[1] 1. Hitachi San Jose Research Center, San Jose, CA*

9:06

AA-02. Crystalline Formation of Polycrystalline Co-Based Full-Heusler Alloy Films Observed by HRTEM with *in-situ* Annealing. ***(Invited)*** *A. Hirohata[1,2], L.R. Fleet[3], M.J. Walsh[3], J. Sagar[3], G. Cheglakov[1], K. Yoshida[4], V.K. Lazarov[3], Y. Ohba[5], E.D. Boyes[1,3] and T. Nakayama[5] 1. Department of Electronics, University of York, York, United Kingdom; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan; 3. Department of Physics, University of York, York, United Kingdom; 4. Japan Fine Ceramics Center, Nagoya, Japan; 5. Department of Electrical Engineering, Nagaoka University of Technology, Nagaoka, Japan*

9:42

AA-03. Perpendicularly Magnetized Tetragonal Heusler-like Alloy Films for Spin Torque Applications. ***(Invited)*** *S. Mizukami[1], T. Kubota[1], H. Naganuma[2], M. Oogane[2], Y. Ando[2] and T. Miyazaki[1] 1. WPI-Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Japan*

10:18

AA-04. Heusler alloys boosting the performance of TMR-biosensors. ***(Invited)*** *A. Hutten*[1], C. Albon[1], A. Weddemann[2], A. Auge[1], P. Hedwig[1], J. Rogge[1], D. Akemeier[1] and N. Teichert[1] *1. Physics, Bielefeld University, Bielefeld, Germany; 2. RLE, LEES, MIT, Cambridge, MA*

10:54

AA-05. Tunable multifunctional topological insulators in ternary Heusler and related compounds. ***(Invited)*** *S. Chadov*[1], X. Qi[3], J. Kübler[2], G.H. Fecher[1], C. Felser[1] and S. Zhang[3] *1. Institut für Anorganische Chemie und Analytische Chemie, Johannes Gutenberg-Universtität, Mainz, Germany; 2. Institut für Festkörperphysik, Technische Universität Darmstadt, Darmstadt, Germany; 3. Department of Physics, McCullough Building, Stanford University, Stanford, CA*

MONDAY MORNING 8:30

GRAND CANYON 7

Session AB
SPINTRONICS: ORGANIC SEMICONDUCTORS

Tamalika Banerjee, Chair

8:30

AB-01. Chiral organic molecules as spin filter. ***(Invited)*** *R. Naaman*[1], Z. Xie[1], T.Z. Markus[1], S.R. Cohen[2] and Z. Vager[3] *1. Chemical Physics, Weizmann Institute, Rehovot, Israel; 2. Chemical Support, Weizmann Institute, Rehovot, Israel; 3. Department of Particle Physics and Astrophysics, Weizmann Institute, Rehovot, Israel*

9:06

AB-02. Multi-step tunneling in C_{60}-based spin valves. *T. Tran*[1], T. Le[1], J. Sanderink[1], W.G. van der Wiel[1] and M.P. de Jong[1] *1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

9:18

AB-03. Tunnel magnetoresistance in Self-Assembled Monolayers Based Tunnel Junctions. S. Tatay[1], M. Galbiati[1], C. Barraud[1], P. Seneor[1], *R. Mattana*[1], K. Bouzehouane[1], C. Deranlot[1], E. Jacquet[1], A. Fert[1] and F. Petroff[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France*

9:30

AB-04. Observation of magnetoresistance effects at engineered ferromagnetic/organic-complex interfaces. *A.M. Kamerbeek*[1,2], K.V. Raman[1], A. Mukherjee[4], S.K. Mandal[4], M. Münzenberg[3] and J.S. Moodera[1,5] *1. Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, MA; 2. Zernike Institute of Advanced Materials, University of Groningen, Groningen, Netherlands; 3. I. Physikalisches Institut, University of Göttingen, Göttingen, Germany; 4. Chemical Sciences, Indian Institute of Science Education and Research, Kolkata, India; 5. Physics Department, Massachusetts Institute of Technology, Cambridge, MA*

9:42

AB-05. A New Avenue towards Colossal Magnetoresistance in Organic Materials. ***(Invited)*** *J. Shen*[1,2] *1. Department of Physics, Fudan University, Shanghai, China; 2. Department of Physics and Astronomy, Teh University of Tennessee, Knoxville, TN*

10:18

AB-06. Orbital hybridization and oscillatory magnetic polarization of C_{60}/Fe(001) interfaces for spintronics. *M. de Jong*[1], L. Tran[1], J. Wong[1], W. van der Wiel[1], Y. Zhan[2] and M. Fahlman[2] *1. NanoElectronics Group, MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands; 2. Department of Physics, Chemistry, and Biology, Linköping University, Linköping, Sweden*

10:30

AB-07. Reduced spin injection efficiency in organic spin-valves with an interface layer of CuPc. F. Yue[1] and *D. Wu*[1] *1. National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, China*

10:42

AB-08. Coupled magnetic spin-valve and electric bi-stability in a single organic device. *M. Prezioso*[1], A. Riminucci[1], I. Bergenti[1], P. Graziosi[1], R. Rakshit[1] and D. Brunel[1] *1. ISMN, CNR, Bologna, Italy*

10:54

AB-09. Designing molecular spintronics devices in the coherent tunneling regime. ***(Invited)*** *C. Herrmann*[1], G.C. Solomon[2] and M.A. Ratner[3] *1. Department of Chemistry, University of Hamburg, Hamburg, Germany; 2. Nano-Science Center and Department of Chemistry, University of Copenhagen, Copenhagen, Denmark; 3. Department of Chemistry, Northwestern University, Evanston, IL*

MONDAY MORNING 8:30

GRAND CANYON 8

Session AC
MAGNETIZATION DYNAMICS AND DAMPING I

Oleksandr Serha, Chair

8:30

AC-01. Frequency-selective control of FMR linewidth in magnetic multilayers. *S. Schäfer*[1], N. Pachauri[1], C. Mewes[1], T. Mewes[1], C. Kaiser[2], Q. Leng[2] and M. Pakala[2] *1. MINT Center, University of Alabama, Tuscaloossa, AL; 2. Western Digital, Fremont, CA*

8:42

AC-02. Damping phenomena in $Co_{90}Fe_{10}$/Ni multilayers and alloys. *J.M. Shaw*[1], H.T. Nembach[1] and T.J. Silva[1] *1. NIST, Boulder, CO*

8:54

AC-03. Observation of nonlinear bistability by use of ferromagnetic resonance in an array of patterned Permalloy stripes. *T. Silva*[1], H. Nembach[1] and J. Shaw[1] *1. Div. 687.03, NIST, Boulder, CO*

9:06

AC-04. Manipulating Spin Dynamics on the Single Atom Scale. ***(Invited)*** *S. Loth*[1], M. Etzkorn[1], C.P. Lutz[1], D.M. Eigler[1] and A.J. Heinrich[1] *1. IBM Research - Almaden, San Jose, CA*

9:42

AC-05. A Quantum-Mechanical Relaxation Model. *R. Skomski*[1], A. Kashyap[2] and D.J. Sellmyer[1] *1. Physics and Astronomy, Univ Nebraska, Lincoln, NE; 2. IIT, Jaipur, India*

9:54

AC-06. Shape dependent magnetization dynamics in single FePt nanomagnets. *R. Brandt*[1], C. Brombacher[2], D. Gilbert[3], P. Krone[2], F. Ganss[2], T. Senn[4], K. Liu[3], M. Albrecht[2] and H. Schmidt[1] *1. School of Engineering, UC Santa Cruz, Santa Cruz, CA; 2. Institute of Physics, Chemnitz University of Technology, Chemnitz, Germany; 3. Physics, UC Davis, Davis, CA; 4. Institute of Nanometer Optics and Technology, Helmholtz Center Berlin for Materials and Energy, Berlin, Germany*

10:06

AC-07. Intrinsic damping due to electron-magnon interactions. *S. Zhang*[1] and S. Zhang[1] *1. Physics, University of Arizona, Tucson, AZ*

10:18

AC-08. Dynamical Modeling of Nanoparticle Fluctuations and FMR. *S.E. Russek*[1] and R.J. Usselman[1] *1. Natl Inst of Standards & Tech, Boulder, CO*

10:30

AC-09. Origins of Damping in Ultra-Thin Ferromagnetic Films. *L. Lu*[1], Z. Wang[1], G. Mead[1], M. Wu[1], C. Kaiser[2], Q. Leng[2] and M. Pakala[2] *1. Department of Physics, Colorado State University, Fort Collins, CO; 2. Western Digital, Fremont, CA*

10:42

AC-10. Tilt and coherent precession of magnetization induced by picosecond acoustic pulses in ferromagnetic (Ga,Mn)As. *M. Bombeck*[1], A.S. Salasyuk[1,2], A.V. Scherbakov[2], D.R. Yakovlev[1,2], A.V. Akimov[2,3], X. Liu[4], J.K. Furdyna[4], V.F. Sapega[2], C. Brü ggemann[1] and M. Bayer[1] *1. Experimentelle Physik II, TU Dortmund, Dortmund, NRW, Germany; 2. Ioffe Physical-Technical Institute, Russian Academy of Sciences, St.Petersburg, Russian Federation; 3. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom; 4. Department of Physics, University of Notre Dame, Notre Dame, IN*

10:54

AC-11. Model of spin transfer induced processional switching in in-plane magnetized magnetic tunnel junctions with perpendicular polarizer. *B. Lacoste*[1], M. Marins de Castro[1], R.C. Sousa[1], L.D. Buda-Prejbeanu[1] and B. Dieny[1] *1. Spintec UMR 8191, CEA/CNRS/UJF/G-INP, Grenoble, France*

11:06

AC-12. Electrically detected ferromagnetic resonance measurements in Permalloy nanowires. *Z. Duan*[1], C.T. Boone[1], I.N. Krivorotov[1], N. Reckers[2], J. Lindner[2] and M. Farle[2] *1. University of California, Irvine, Irvine, CA; 2. Universität Duisburg-Essen, Duisburg, Germany*

11:18

AC-13. Anisotropy and damping in collective precessional dynamics in arrays of $Ni_{80}Fe_{20}$ nanoelements. B. Rana[1], D. Kumar[1], S. Barman[1], R. Mandal[1], S. Pal[1], S. Sugimoto[3], Y. Fukuma[2], Y. Otani[3,2] and *A. Barman*[1] *1. Department of Material Sciences, S. N. Bose National Centre for Basic Sciences, Kolkata, India; 2. Advanced Science Institute, RIKEN, Wako, Saitama, Japan; 3. Institute for Solid State Physics, University of Tokyo, Kashiwa, Chiba, Japan*

MONDAY MORNING 8:30

GRAND CANYON 9-11

Session AD
MULTILAYERS AND SUPERLATTICES I
Guoxing Miao, Chair

8:30

AD-01. Soliton propagation through magnetic multilayers. *D.C. Petit*[1], J. Lee[1], A. Fernandez-Pacheco[1], R. Mansell[1], R. Lavrijsen[1] and R.P. Cowburn[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

8:42

AD-02. Hall effect-induced acceleration of electromigration failures in spin valve multilayers under magnetic field. *D. Zeng*[1], J. Jiang[1], K. Chung[2] and S. Bae[1] *1. Electrical and Computer Engineering, Biomagnetics Laboratory, National University of Singapore, Singapore, 117576, Singapore; 2. Nuri Vista Co. Ltd., Gasan-dong, Geumcheon-gu,, Seoul 153-786, Korea, Republic of*

8:54

AD-03. Graded anisotropy and Pd polarization in pressure-varied Co/Pd multilayers. *B.J. Kirby*[1], P. Greene[2], M. Fitzsimmons[3] and K. Liu[2] *1. Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Physics, University of California - Davis, Davis, CA; 3. LANSCE, Los Alamos National Laboratory, Los Alamos, NM*

9:06

AD-04. Imprinting perpendicular domains into NiFe. *Y. Fang*[1], T.N. Anh Nguyen[2], R.K. Dumas[1], S.M. Mohseni[2] and J. Åkerman[1,2] *1. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 2. Materials Physics, Royal Institute of Technology (KTH), Stockholm, Sweden*

9:18

AD-05. Magnetostatically driven domain replication induced by temperature cycling. *S. Mohseni*[1], R.K. Dumas[2] and J. Åkerman[1,2] *1. Materials Physics, Royal Institute of Technology (KTH), Stockholm, Sweden; 2. Department of Physics, University of Gothenburg, Gothenburg, Sweden*

9:30

AD-06. [Co/Pd]-NiFe exchange springs with a highly tunable/uniform magnetization tilt angle. *A. Nguyen*[1], N. Benatmane[1], V. Fallahi[1], Y. Fang[1], S. Mohseni[1], R. Dumas[2] and J. Åkerman[1,2] *1. Materials Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 2. Department of Physics, University of Gothenburg, Gothenburg, Sweden*

9:42

AD-07. Magnetization reversal and exchange-bias in hard/soft ferromagnetic bilayers with orthogonal anisotropies. *D. Navas*[1,2], J. Torrejon[3], F. Bé ron[3], C. Redondo[2], F. Batallan[4], B.P. Toperverg[5], A. Devishili[5], B. Sierra[2], F. Castañ o[2], K.R. Pirota[3] and C.A. Ross[1] *1. Materials Science and Engineering Department, MIT, Cambridge, MA; 2. Quimica-Fisica, Universidad del Pais Vasco (UPV), Leioa, Pais Vasco, Spain; 3. Inst. Fis. Gleb Wataghin, UNICAMP, Campinas, Sao Paulo, Brazil; 4. Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Madrid, Spain; 5. Department of Physics, Ruhr-Universitat Bochum, Bochum, Germany*

9:54

AD-08. Impact of MgO Deposition Conditions on the Texture of Adjacent CoFeB Layers using Ion Beam Assisted deposition. *R.A. Ferreira*[1,4], S.C. Freitas[1,2], P.P. Freitas[1,2], R. Petrova[3,4] and S. McVitie[3] *1. Microsystems and Nanotechnologies, INESC-MN, Lisbon, Portugal; 2. Dep. Physics, IST, Lisbon, Portugal; 3. Department of Physics and Astronomy, Univ. Glasgow, Glasgow, United Kingdom; 4. International Iberian Nanotechnology Laboratory, INL, Braga, Portugal*

10:06

AD-09. Perpendicular magnetic anisotropy in CoFeSiB/Pd multilayers. *S. Kim*[1], B. Chun[1], D. Kim[1] and Y.K. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, Korea, Republic of*

10:18

AD-10. Real-space observation of chiral magnetic order in metallic thin films at room temperature. *(Invited)* *Y. Wu*[1] *1. Physics department, Fudan university, Shanghai, China*

10:54

AD-11. Dependence of perpendicular magnetic anisotropy on the buffer layer in CoFeB-MgO based structures. *S. Ahn*[1], O. Berthold[2], A. Lamperti[3], W. Lin[1] and D. Ravelosona[1] *1. Institut d'Electronique Fondamentale, Orsay, France; 2. Singulus technology AG, Kahl am Main, Germany; 3. Laboratorio MDM, CNR-IMM, Agrate Brianza, Italy*

11:06

AD-12. The concept and fabrication of Exchange Switchable Trilayer of FePtX/FeRh/FeCo with reduced switching field. *T. Zhou*[1], K. Cher[1], Z. Yuan[1], J. Hu[1] and B. Liu[1] *1. Data Storage Institute, Singapore, Singapore*

11:18

AD-13. Non-collinear magnetic profile in $(Rh/Fe_{1-x}Co_x)_2/Rh(001)$ bilayer probed by polarized soft x-ray resonant magnetic reflectivity. *M. Przybylski*[1], J. Tonnerre[2], F. Yildiz[1], H. Tolentino[2] and J. Kirschner[1] *1. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany; 2. Institut Néel, CNRS & Université J. Fourier, Grenoble, France*

MONDAY MORNING 8:30

GRAND CANYON 2-3

Session AE
HARD-MAGNETIC NANOSTRUCTURES
Bala Balamurugan, Chair

8:30

AE-01. $Fe_{16}N_2$ Interstitial Compound - New Candidate for Permanent Magnetic Material with Rare Earth Element Free -. *(Invited)* *M. Takahashi*[1,2] and T. Ogawa[1] *1. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 2. Center for Nanobioengineering and Spintronics, Chungnam National University, Daejeon, Korea, Republic of*

9:06

AE-02. Magnetism of Directly Ordered Sm-Co Nanoclusters. *B. Balasubramanian*[1], R. Skomski[1], B. Das[1], X. Li[1], S.R. Valloppilly[1], G.C. Hadjipanayis[2] and D.J. Sellmyer[1] *1. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE*

9:18

AE-03. Aligned and Exchange-Coupled L10 (Fe,Co)Pt-Based Magnetic Films. *Y. Liu*[1], T.A. George[1], R. Skomski[1] and D.J. Sellmyer[1] *1. Physics and Astronomy and Nebraska Center for Materials and Nanoscience, Univ Nebraska-Lincoln, Lincoln, NE*

9:30

AE-04. Structural studies of Co-W clusters produced by Inert Gas Condensation. *M.J. Kramer*[1], Y. Zhang[1], F. Golkar[2], R.W. McCallum[1], R. Skomski[2], D.J. Sellmyer[2] and J.E. Shield[2] *1. 1Materials Sciences and Engineering, Ames Laboratory, Ames, IA; 2. Mechanical and Materials Engineering, University of Nebraska, Lincoln, NE*

9:42

AE-05. Anisotropic nanocrystalline MnBi with high coercivity. Y. Yang[1], X. Chen[1], X. Ma[1], Y. Yang[1], *J. Yang*[1], S. Guo[2], A. Yan[2], Q. Huang[3], M. Wu[4] and D. Chen[4] *1. School of Physics, Peking University, Beijing, China; 2. Ningbo Institute of Materials Technology and Engineering,, Ningbo, China; 3. National Institute of Standards and Technology, Gaithersburg, MD; 4. China Institute of Atomic Energy, Beijing, China*

9:54

AE-06. Hysteresis and Relaxation in Granular Permanent Magnets. *R. Skomski*[1], B. Balamurugan[1], T.A. George[1], M. Chipara[2], X. Wei[1], J.E. Shield[3] and D.J. Sellmyer[1] *1. Physics and Astronomy, Univ Nebraska, Lincoln, NE; 2. Department of Physics and Geology, University of Texas–Pan American, Edinburg, TX; 3. Mechanical Engineering, University of Nebraska, Lincoln, NE*

10:06

AE-07. Separated Sm-Co hard nanoparticles by an optimization of mechanochemical processes. *L. Zheng*[1,2], B. Cui[1,3], W. Li[1] and G.C. Hadjipanayis[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE; 2. School of Electromechanical Engineering, Hebei Unversity of Engineering, Handan, Hebei, China; 3. Electron Energy Corporation, Landisville, PA*

10:18

AE-08. Effect of film thickness on magnetic properties and structure in Cr/SmCo/Cr films. *N. Li*[1], B. Li[2], C. Feng[1] and G. Yu[1] *1. Department of Materials Physics and Chemistry, University of Science and Technology Beijing, Beijing, China; 2. Department of Physics, Beijing Technology and Business University, Beijing, China*

10:30

AE-09. Magnetic properties of Sm_5Fe_{17}/Fe composite magnets produced by spark plasma sintering method. *T. Saito*[1] and H. Miyoshi[1] *1. Chiba Institute of Technology, Chiba, Japan*

10:42

AE-10. Huge thermal hysteresis loop in indium substituted ε-Fe_2O_3 nanomagnet. *S. Ohkoshi*[1,2], T. Yorinaga[1], S. Sakurai[1] and A. Namai[1,2] *1. Department of Chemistry, The University of Tokyo, Tokyo, Japan; 2. CREST, JST, Tokyo, Japan*

10:54

AE-11. Simulation studies of the coercive behaviour and the energy product for multilayers of FeCo and SmFeN. *A. Belemuk*[1] and S. Chui[1] *1. Department of Physics and Astronomy, Univ Delaware, Newark, DE*

11:06

AE-12. One-Step Fabrication of fct FePt Nanocubes and Rods by Cluster Beam Deposition. *O. Akdogan*[1], W. Li[1], G.C. Hadjipanayis[1], R. Skomski[2] and D.J. Sellmyer[2] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Physics and Astronomy, University of Nebraska, Lincoln, NE*

11:18

AE-13. High temperature performance of Pr10(Fe,Co,Ni)84B6 nanocomposite alloys. *M. Daniil*[2,1], L. Minter[3] and M.A. Willard[1] *1. Naval Research Lab., Washington, DC; 2. Physics, George Washington University, Washington, DC; 3. Mechanical Engineering, Tennessee State University, Nashville, TN*

MONDAY MORNING 8:30

GRAND CANYON 4-5

Session AF
MAGNETORESISTIVE RANDOM ACCESS MEMORY

Jason Janesky, Chair

8:30

AF-01. Investigation of perpendicular interface magnetic anisotropy in CoFeB films using seed and insertion layers. *D. Abraham*[1] and D.C. Worledge[1] *1. IBM-MagiC MRAM Alliance, IBM T.J. Watson Research Center, Yorktown Heights, NY*

8:42

AF-02. Statistical and Time Resolved Studies of Switching in Orthogonal Spin Transfer MRAMs. *D. Bedau*[1], D. Backes[1], H. Liu[1], J. Langer[2], P. Manandhar[3] and A.D. Kent[1] *1. New York University, New York, NY; 2. Singulus Technologies AG, Kahl am Main, Germany; 3. Spin Transfer Technologies, Boston, MA*

8:54

AF-03. Thermally assisted writing in magnetic tunnel junctions with perpendicular anisotropy. S. Bandiera[1], *R.C. Sousa*[1], M. Marins de Castro Souza[1], C. Ducruet[2], C. Portemont[2], L. Vila[3], S. Auffret[1], L. Prejbeanu[2] and B. Dieny[1] *1. SPINTEC, Grenoble, France; 2. Crocus Technology, Grenoble, France; 3. CEA/SP2M/NM, Grenoble, France*

9:06

AF-04. Spacer layers to improve the magneto-resistance in perpendicular magnetic tunnel junctions with Co|Pd reference layers. *G. Hu*[1], T. Topuria[2], P.M. Rice[2], J. Jordan-Sweet[3] and D. Worledge[1] *1. IBM-MagIC MRAM Alliance, IBM T J Watson Research Center, Yorktown Heights, NY; 2. IBM Almaden Research Center, San Jose, CA; 3. IBM T J Watson Research Center, Yorktown Heights, NY*

9:18

AF-05. Characterization of Interlayer Interactions in OST-MRAM Layer Stacks using Ferromagnetic Resonance. *D. Backes*[1], D. Bedau[1], H. Liu[1], J. Langer[2] and A.D. Kent[1] *1. Physics, New York University, New York, NY; 2. Singulus Technologies AG, Kahl am Main, Germany*

9:30

AF-06. Design Considerations for Thermal-assistant STT-RAM through Joule Heating. *X. Bi*[1], X. Wang[2] and H. Li[1] *1. Polytechnic Institute of New York University, Brooklyn, NY; 2. Seagate Technology, Bloomington, MN*

9:42

AF-07. Spin torque switching of sub 30-nm CoFeB/MgO MTJ pillars with perpendicular magnetic anisotropy. *M. Gajek*[1], M.C. Gaidis[1], J. Nowak[1], G. Hu[1], J.Z. Sun[1], P.L. Trouilloud[1], D.D. Abraham[1], S. Brown[1], Y. Zhu[1], W.J. Gallagher[1] and D.C. Worledge[1] *1. IBM-MagIC MRAM Alliance, Yorktown Heights, NY*

9:54

AF-08. Numerical investigation of damping effects on single and dual-polarizer devices in scaling down perpendicular and in-plane STT-MRAM Cells. *K. Eason*[1], K. Tan[3] and R. Sbiaa[2] *1. Advanced Concepts Group, Data Storage Institute, Singapore, Singapore; 2. Spintronics, Media, and Interface Division, Data Storage Institute, Singapore, Singapore; 3. Mechatronics and Recordings Channel Division, Data Storage Institute, Singapore, Singapore*

10:06

AF-09. Enhanced Perpendicular Magnetic Anisotropy in thin CoFeB Films. *J.J. Kan*[1], K. Lee[2], J.J. Sapan[1], S.H. Kang[2] and E.E. Fullerton[1] *1. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA; 2. Advanced Technology, Qualcomm Incorporated, San Diego, CA*

10:18

AF-10. Development of perpendicular-MgO-MTJs with RA-product below 3 $\Omega\mu m^2$ prepared at room temperature. *K. Yakushiji*[1], H. Kubota[1], A. Fukushima[1], S. Yuasa[1] and K. Ando[1] *1. Spintronics Research Center, AIST, Tsukuba, Japan*

10:30

AF-11. Towards Planar-Hall-effect magnetic random access memory with permalloy. *Y. Telepinsky*[1], V. Mor[1], M. Schultz[1] and L. Klein[1] *1. Department of Physics, Bar-Ilan University, Ramat Gan, Israel*

10:42

AF-12. Spin Transfer Torque Switching Above Room-Temperature. *H. Zhao*[1], P.k. Amiri[2], Y. Zhang[1], A. Lyle[1], Y. Chen[3], G. Rowlands[3], P. Upadhyaya[2], Z. Zeng[4], J.A. Katine[5], J. Langer[6], K. Galatsis[2], H. Jiang[4], I.N. Krivorotov[3] and J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN; 2. Electrical Engineering, University of California, Los Angeles, Los Angeles, CA; 3. Physics and Astronomy, University of California, Irvine, Irvine, CA; 4. Physics and Astronomy, University of California, Los Angeles, Los Angeles, CA; 5. Hitachi Global Storage Technologies, San Jose, CA; 6. Singulus Technologies, Kahl/ Main, Germany*

10:54

AF-13. Effects of CoFe Seed layer on Structural and Magneto-transport Properties of MTJs with Natural Oxidized MgO Barrier. *C. Yoshida*[1], T. Ochiai[1] and T. Sugii[1] *1. Low-power Electronics Association & Project, Tsukuba, Ibabaraki, Japan*

11:06

AF-14. MTJ Design Margin Exploration for Self-Reference Sensing Scheme. *Z. Sun*[1], X. Wan[2] and H. Li[1] *1. Electrical and Computer Engineering, Polytechnic Institute of New York University, Brooklyn, NY; 2. Seagate Technology, Bloomington, MN*

11:18

AF-15. Multiscale Micromagnetism of Co-Pd Multilayers. *P. Manchanda*[1,2], R. Skomski[1], P.K. Sahota[1,2] and A. Kashyap[2] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Physics, The LNM Institute of Information Technology, Jaipur, Rajasthan, India*

MONDAY MORNING 8:30

GRAND CANYON 12-13

Session AG
COMPLEX OXIDES: FILMS, INTERFACES AND BULK MATERIALS

Yayoi Takamura, Chair

8:30

AG-01. Interfacial ferromagnetism and exchange bias in CaRuO3/CaMnO3 superlattices. *C. He*[1], M. Gu[2], N.D. Browning[2,3], Y. Takamura[2], B.J. Kirby[4], J.A. Borchers[4], X. Zhai[1], V.V. Mehta[1,5], F.J. Wong[1,5] and Y. Suzuki[1,5] *1. Materials Science and Engineering, University of California-Berkeley, Berkeley, CA; 2. Chemical Engineering and Materials Science, University of California-Davis, Davis, CA; 3. Condensed Matter and Materials Division,Physical and Life Sciences Directorate, Lawrence Livermore National Laboratory, Livermore, CA; 4. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 5. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA*

8:42

AG-02. Evidence for High Spin Ru^{4+} in $SrRuO_3$ Thin Films. *A. Grutter*[1,2], F. Wong[1], E. Arenholz[3], A. Vailionis[4] and Y. Suzuki[1,2] *1. Materials Science and Engineering, University of California, Berkeley, Berkeley, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Geballe Laboratory for Advanced Materials, Stanford University, Stanford, CA*

8:54

AG-03. Understanding Spin-Flop Coupling at Perovskite Oxide Interfaces. *Y. Takamura*[1], E. Folven[2], F. Yang[1], A. Scholl[3], A.T. Young[3], S.T. Retterer[4], M.D. Biegalski[4], H.M. Christen[4], T. Tybell[2] and J.K. Grepstad[2] *1. Chemical Engineering and Materials Science, UC Davis, Davis, CA; 2. Department of Electronics and Telecommunications, Norwegian University of Science and Technology, Trondheim, Norway; 3. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Oak Ridge, TN*

9:06

AG-04. Potential of Fe-doped $CoFe_2O_4$ for Magnetic Layers in Multiferroic Heterostructures. *J.A. Moyer*[1], C.F. Vaz[1], D.A. Arena[2], M.J. Marshall[1], D. Kumah[1] and V.E. Henrich[1] *1. Applied Physics, Yale University, New Haven, CT; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY*

9:18

AG-05. Modified magnetic structure in complex oxide magnetic tunnel junctions. *S. te Velthuis*[1], Y. Liu[1], M. Zhernenkov[2], M.R. Fitzsimmons[2], J.W. Freeland[1], Z. Sefrioui[3,4], C. Visani[3], A. Barthé lé my[4] and J. Santamaria[3] *1. Argonne National Laboratory, Argonne, IL; 2. Los Alamos National Laboratory, Los Alamos, NM; 3. Universidad Complutense de Madrid, Madrid, Spain; 4. Unité mixte de Physique CNRS/Thales, Palaiseau, France*

9:30

AG-06. Impact of nanostructuring on the magnetic and magnetocaloric properties of $La_{0.25}Pr_{0.375}Ca_{0.375}MnO_3$ *P.J. Lampen*[1], N.S. Bingham[1], M.H. Phan[1], H. Srikanth[1], C.L. Zhang[2], S.W. Cheong[2], T.H. Hoang[3] and H.D. Chinh[3] *1. Physics, University of South Florida, Tampa, FL; 2. Physics, Rutgers University, Piscataway, NJ; 3. Chemical Engineering, Hanoi University of Technology, Hanoi, Viet Nam*

9:42

AG-07. Uncovering Hidden Magnetic Phases in $La_{0.7}Sr_{0.3}MnO_3$ Thin Films: A Deeper Look with X-rays. ***(Invited)*** *D. Arena*[1], J. Lee[2], P. Yu[4], R. Ramesh[4,5], T.S. Santos[3] and C. Kao[2] *1. National Synchrotron Light Source, Brookhaven National Lab, Upton, NY; 2. Stanford Synchrotron Radiation Lightsource, SLAC, Menlo Park, CA; 3. Center for Nanoscale Materials, Argonne National Lab, Argonne, IL; 4. Dept. of Physics, Univ. of California, Berkeley, Berkeley, CA; 5. Materials Science Division, Lawrence Berkeley National Lab, Berkeley, CA*

10:18

AG-08. Valence transition in (Pr,Ca)CoO_3 cobaltites: Charge migration at the metal-insulator transition. *J. García-Muñoz*[1], C. Frontera[1], A. Baró n-González[1], J. Padilla[1], J. Herrero[1], S. Valencia[2], R. Feyerherm[2], E. Dudzik[2], F. Radu[2], J. Blasco[3], G. Subí as[3] and R. Abrudan[4] *1. Instituto de Ciencia de Materiales de Barcelona.ICMAB-CSIC, E-08193 Bellaterra, Barcelona, Spain; 2. Hemholtz-Zentrum Berlin, BESSY, 12489 Berlin, Germany; 3. Instituto de Ciencias de Materiales de Aragón, CSIC-Univ. de Zaragoza, 50009 Zaragoza, Spain; 4. Institut für Experimentalphysik/Festkörperphysik, Ruhr-Universität Bochum, Germany*

10:30

AG-09. Multiphase transitions and complex phase diagram in mixed phase (La,Pr,Ca)MnO_3 manganites .N.S. Bingham[1], M.H. Phan[1], C.L. Zhang[2], S.W. Cheong[2] and *H. Srikanth*[1] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Rutgers Center for Emergent Materials, Rutgers University, Piscataway, NJ*

10:42

AG-10. Simultaneous metal-insulator, ferrimagnetic and structural transitions at 295 K in $YBaCo_2O_{5.5}$J. Padilla-Pantoja[1], C. Frontera[1], J. Herrero-Martin[1] and *J. Garcia-Muñoz*[1] *1. Institute of Materials Science of Barcelona (ICMAB-CSIC), Barcelona, Spain*

10:54

AG-11. Comparison of magnetic and thermoelectric properties of (Nd,Ca)$BaCo_2O_{5.5}$ and (Nd,Ca)CoO_3 *S. Kolesnik*[1], B. Dabrowski[1,2], O. Chmaissem[1,2], K. Wojciechowski[3] and K. Swierczek[4] *1. Department of Physics, Northern Illinois University, DeKalb, IL; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL; 3. Faculty of Materials Science and Ceramics, AGH-UST University of Science and Technology, Cracov, Poland; 4. Faculty of Energy and Fuels, AGH-UST University of Science and Technology, Cracov, Poland*

11:06

AG-12. Magnetic and calorimetric studies of magnetocaloric effect in $La_{0.7-x}Pr_xCa_{0.3}MnO_3$V. Naik[1], S. Barik[1], A. Devi[1], A. Rebello[1] and *M. Ramanathan*[1] *1. Physics, National university of Singapore, Singapore, Singapore*

11:18

AG-13. Effect of deviation from stoichiometric composition on structural and magnetic properties of cobalt ferrite, $Co_xFe_{3-x}O_4$ (x = 0.2 to 1.0). *C.I. Nlebedim*[1], J.E. Snyder[2], A.J. Moses[2] and D.C. Jiles[3] *1. Ames Laboratory, US Department of Energy, Iowa State University, Ames, IA; 2. Wolfson Centre for Magnetics, School of Engineering, Cardiff University, Cardiff, United Kingdom; 3. Electrical and Computer Engineering, Iowa State University, Ames, IA*

MONDAY MORNING 8:30 GRAND CANYON 1

Session AH
MAGNETO-OPTICS AND MEMS I
Leszek Malkinski, Chair

8:30

AH-01. Magnetophotonic crystal comprising electro-optical layer for controlling helicity of light. *T. Goto*[1], A.V. Baryshev[1,2] and M. Inoue[1] *1. Toyohashi University of Technology, Toyohashi 441-8580, Aichi, Japan; 2. Ioffe Physico-Technical Institute, St. Petersburg 194021, Russian Federation*

8:42

AH-02. Fano-shape longitudinal Kerr effect enhancement in 2D magnetoplasmonic crystals. *A. Chetvertukhin*[1], A. Baryshev[2], T. Dolgova[1], H. Uchida[3], M. Inoue[2] and A. Fedyanin[1] *1. Faculty of Physics, Lomonosov Moscow State University, Moscow, Russian Federation; 2. Toyohashi University of Thechonlogy, Toyohashi, Japan; 3. Tohoku Institute of Technology, Sendai, Japan*

8:54

AH-03. Study of Crystallographically Amorphous Ferrimagnetic Alloys: Comparing a Localized Atomistic Spin Model with Experiments. *T.A. Ostler*[1], R. Evans[1], R.W. Chantrell[1], U. Atxitia[2], O. Chubykalo-Fesenko[2], I. Radu[3,6], R. Abrudan[4], F. Radu[3], A. Tsukamoto[5], A. Itoh[5], A. Kirilyuk[6], T. Rasing[6] and A. Kimel[6] *1. Physics, University of York, York, North Yorkshire, United Kingdom; 2. Instituto de Ciencia de Materiales, Madrid, Cantoblanco, Spain; 3. Helmholtz-Zentrum Berlin fur Materialien und Energie, BESSY II, Berlin, Germany; 4. Experimentalphysik IV, Ruhr-Universitat Bochum, Bochum, Germany; 5. College of Science and Technology, Nihon University, Funabashi, Japan; 6. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands*

9:06

AH-04. Magnetic properties of liquid crystals tuned by magnetic nanoparticles. *J. Lim*[1], J. Wiley[2], L. Malkinski[2], A. Glushchenko[2], Z. Celinski[1] and Y. Garbovskiy[1] *1. Physics, UCCS, Colorado Springs, CO; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA*

9:18

AH-05. Femtosecond dynamics of Faraday effect in thin magnetic films and magnetophotonic crystals. *M. Sharipova*[1], A. Zhdanov[1], A. Chetvertukhin[1], T. Shapaeva[1], A. Shaposhnikov[2], T. Dolgova[1] and A. Fedyanin[1] *1. physics, Lomonosov Moscow State University, Moscow, Russian Federation; 2. physics, Taurida National V. I. Vernadsky University, Simferopol, Ukraine*

9:30

AH-06. Surface modes induced magneto-optical Kerr effect enhancement in Fe films by coverage of two-dimensional array of polystyrene spheres. X. Zhang[1], L. Shi[1], J. Li[2], Y. Xia[3], J. Zi[1] and *S. Zhou[1,4] 1. Surface Physics State Laboratory and Department of Physics, Fudan University, Shanghai, Shanghai, China; 2. Department of Optical Science and Engineering, Fudan University, Shanghai, Shanghai, China; 3. Shandong Province Key Lab of Laser Polarization and Information, Qufu Normal University, Qufu, Shandong, China; 4. Physics Department, Tongji University, Shanghai, Shanghai, China*

9:42

AH-07. Magneto-Optical Materials and Devices for On-chip Nonreciprocal Photonic Applications. *(Invited)* *L. Bi[1] 1. DMSE, MIT, Cambridge, MA*

10:18

AH-08. Magneto-plasmonics and magneto-transport in Au-Co nanocomposite films. *K. Yang[1]*, C. Clavero[1], J. Skuza[2] and A. Lukaszew[1,2] *1. Department of Applied Science, College of William and Mary, Williamsburg, VA; 2. Department of Physics, College of William and Mary, Williamsburg, VA*

10:30

AH-09. Magnetoplasmonic nanostructures based on nickel opal slabs. *A. Grunin[1]*, N. Sapoletova[1], K. Napolskii[1], A. Eliseev[1] and A. Fedyanin[1] *1. Lomonosov State University, Moscow, Russian Federation*

10:42

AH-10. Circularly Polarized Plasmon Modes in Spheroidal Nanoshells for Application in All-Optical Magnetic Recording. *L. Hung[1]*, G. Lang[1], P. McAvoy[1], C. Krafft[2] and I. Mayergoyz[3] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD; 3. Electrical and Computer Engineering, UMIACS and AppEl Center, University of Maryland College Park, College Park, MD*

10:54

AH-11. Voltage-Controlled Magnetic Data Writing using Inverse Magnetostrictive Effect. *M.T. Alam[1]*, D. Carlton[1], E. Techfeld[1], B. Lambson[1] and J. Bokor[1] *1. Electrical Engineering & Computer Sciences (EECS), University of California Berkeley, Berkeley, CA*

11:06

AH-12. Manipulations of Vibrating Micro Magnetic Particle Chains. *Y. Li[1]*, S. Sheu[1], J. Pai[1] and C. Chen[1] *1. Mechanical Engineering, National Chiao Tung University, Hsinchu, Taiwan*

11:18

AH-13. Design and Test of Magnetostrictive Actuators for Nanometer Resolution and Fast Response Applications. *T. Zhang[1]*, H. Zhang[1], J. Liu[1], J. Wang[1] and C. Jiang[1] *1. School of Materials Science and Engineering, Beihang University, Beijing, China*

MONDAY MORNING 8:00 — SAGUARO BALLROOM

Session AP
NANOPARTICLE SYNTHESIS I (Poster Session)

Tianlong Wen, Chair

AP-01. Magnetic Field Assisted Polyol Synthesis of Cobalt Carbide Microwires. *A.A. Farghaly[1]*, Z.J. Huba[1] and E.E. Carpenter[1] *1. Chemistry, Virginia Commonwealth University, Richmond, VA*

AP-02. Co-Ferrite Spinel and FeCo Alloy Core Shell Nanocomposites & Mesoporous Systems for Multifunctional Applications. *K. Zhang[1]* and A.K. Pradhan[1] *1. Center for Materials Research, Norfolk State University, Norfolk, VA*

AP-03. Gram scale synthesis of high magnetic moment Fe100-xCox alloy nanoparticles. *C. Chinnasamy[1]*, J. Herr[2], R. Pai[1] and J. Liu[1] *1. Electron Energy Corporation, Landisville, PA; 2. Chemistry, PennState University, University Park, PA*

AP-04. Synthesis of Fe-Co nanoparticles with high saturation magnetization by low temperature post-annealing through the growth of particle from nanoparticles cluster. T. Ogawa[1], *H. Takano[1]*, H. Kura[1] and M. Takahashi[1] *1. Department of Electronic Engineering,, Graduated School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

AP-05. Large-scale synthesis of high moment FeCo nanoparticles using modified polyol synthesis. *M. Zamanpour[1]*, V.G. Harris[2], L.H. Lewis[1], C. Vittoria[2] and Y. Chen[2] *1. Chemical Engineering, Northeastern University, Boston, MA; 2. Electrical and Computer Engineering, Northeastern Univeristy, Boston, MA*

AP-06. Carbon nanotube coated silicated soft magnetic carbonyl iron microspheres and their magnetorheology. Y. Liu[1] and *H. Choi[1] 1. Department of Polymer Science and Engineering, Inha Univ, Incheon, Korea, Republic of*

AP-07. Magnetic stability of Fe-Silica core-shell nanoparticles prepared via hydrolysis. *J. Zhang[1]*, A. Thurber[2] and A. Apunnoose[2] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Department of Physics, Boise State University, Boise, ID*

AP-08. Facile Synthesis of Superparamagnetic Iron Oxide/MCM-41 Hybrid Nanospheres for Targeted Drug Delivery.L. Yu[1] and *H. Bi[1,2] 1. College of Chemistry and Chemical Engineering, Anhui University, Hefei, Anhui, China; 2. Department of Medicine, Columbia University, New York, NY*

AP-09. Magnetic Properties of Thiol Capped Gold Nanoparticles.S. Yoon[1], *T. Lee*[2], K. Han[1], B. Suh[1], Z. Jang[2], J. Kim[3] and D. Jung[3] *1. Physics, Catholic University of Korea, Bucheon, Gyunggido, Korea, Republic of; 2. Physics, Kookmin University, SEOUL, SEOUL, Korea, Republic of; 3. Chemistry, Sungkyunkwan University, Suwon, Gyunggido, Korea, Republic of*

AP-10. Concentration dependence of magnetic moment in $Ce_{1-x}Fe_xO_2$ *G.L. Beausoleil*[1], A. Thurber[1], A. Punnoose[1] and S. Singamaneni[1] *1. Physics, Boise State University, Boise, ID*

AP-11. Magnetic and optical properties of monosized Eu-doped ZnO nanocrystals from nanoemulsion. *H. Yoon*[1], J.H. Wu[2], J.H. Min[1], J. Lee[1] and Y.K. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Pioneer Research Center for Biomedical Nanocrystals, Korea University, Seoul, Korea, Republic of*

AP-12. Magnetic Properties and microstructures of defect free high crystalline NiO Nanoparticals and Nanorods. *D. Chen*[1], X. Wang[1], Y. Du[1], S. Ni[2] and X. Liao[2] *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. School of Aerospace, Mechanical & Mechatronic Engineering, The University of Sydney, Sydney, NSW, Australia*

AP-13. The effect of ball size on morphology and magnetic properties of anisotropic SmCo5 nanoflakes prepared by surfactant-assisted ball milling. *J. Nie*[1], X. Han[1], J. Liu[1], W. Li[1,2], A. Yan[1] and J. Du[1] *1. Ningbo Institute of Material Technology & Engineering,CAS, Ningbo, China; 2. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China*

AP-14. Efficiently Recyclable Magnetic Core-Shell Photocatalyst for Photocatalytic Oxidation of Chlorophenol in Water.K. Choi[1], S. Oh[2], J. Jung[3] and *J. Jung*[3,2] *1. Material R&D Division, H & Glbal Co., Gwangmyeong, Gyeonggido, Korea, Republic of; 2. Gangneung Center, Korea Basic Science Institute, Gangneung, Gangwondo, Korea, Republic of; 3. Chemistry, Gangneung-Wonju National University, Gangneung, Gangwon do, Korea, Republic of*

AP-15. Preparation and magnetic behavior of self-assembled nanocrystalline $CuFeS_2$ chalcopyrite. *C. Lin*[1], Y. Siao[2], I. Lyubutin[3], M. Chen[4], T. Han[5], G. Jhang[1], G. Chen[1], C. Wu[1] and X. Qi[2] *1. Institute of Nanotechnology and Department of Mechanical Engineering, Southern Taiwan University, Tainan, Taiwan; 2. Department of Materials Science and Engineering, National Cheng Kung University, Tainan, Taiwan; 3. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Moscow, Russian Federation; 4. Department of Electro-optical Engineering, Southern Taiwan University, Tainan, Taiwan; 5. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

MONDAY MORNING 8:00 SAGUARO BALLROOM

Session AQ
AMORPHOUS ALLOYS (Poster Session)
Masato Ohnuma, Chair

AQ-01. Continuous Annealing Method for Producing a Flexible and Curved Soft Magnetic Amorphous Alloy Ribbon. *B. Francoeur*[1] and P. Couture[1] *1. IREQ, Hydro-Quebec, Varennes, QC, Canada*

AQ-02. Si addition effect on soft magnetic properties in FeBCCu alloy system.F. Xingdu[1,2], M. He[1], M. Aibin[2] and *S. Baolong*[1] *1. Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China; 2. College of Mechanics and Materials, Hohai University, Nanjing, Jiangsu, China*

AQ-03. Giant Magneto-Impedance in Co63Fe4B22.4Si5.6Nb5 alloy ribbons. *H. Sun*[1,2], Q. Man[1], Y. Dong[1] and B. Shen[1] *1. Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China; 2. College of Physics, Mathematics and Information engineering, Zhejiang Normal University, Jinhua, China*

AQ-04. Study on the soft magnetic properties and high frequency characteristics of Co-M (M=Ti, Zr, and Hf) thin films.H. Chang[1], Y. Huang[2], C. Hsieh[2], *C. Shih*[2], W. Chang[2] and D. Xue[3] *1. Tunghai University, Taichung, Taiwan; 2. National Chung Cheng University, Chia-Yi, Taiwan; 3. Lanzhou University, Lanzhou, China*

AQ-05. Magnetism of BaB_6 thin films produced by pulsed laser deposition. *K. Ackland*[1], M. Venkatesan[1] and J.M. Coey[1] *1. School of Physics and CRANN, Trinity College, Dublin 2, Ireland*

AQ-06. Measurement of Volume Exchange in Soft FeCo Films of High Magnetization.C. Mathieu[1], *H. Liu*[2], K.S. Buchanan[2] and V.R. Inturi[1] *1. Seagate Technology, Bloomington, MN; 2. Physics, Colorado State University, Fort Collins, CO*

AQ-07. Tuning of Magnetization Dynamics in Sputtered CoFeB Thin Film by Gas Pressure. *F. Xu*[1,2], Q. Huang[1], Z. Liao[1], C. Ong[3] and S. Li[4] *1. Department of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 2. Laboratory of Solid State Microstructures, Nanjing University, Nanjing, China; 3. Department of Physics, National University of Singapore, Singapore 11754, Singapore; 4. Physics Department, Fujian Normal University, Fuzhou, China*

AQ-08. High stability of magnetic parameters in Fe 25 at.% Al nanocomposite.S. Jani[1], J. Nehra[1], S. Damodaran[1], L. Nambakkat[1] and *V. Kanippoth*[1] *1. Physics, Mohanlal Sukhadia University, Udaipur, Rajasthan, India*

AQ-09. Development of a composite material with high magnetic permeability and low loss factor for high frequency application. *D. Roy*[1] and P. Kumar[1] *1. Department of Physics, Indian Institute of Science, Bangalore, India*

AQ-10. Magnetic behaviour of $Ni_{0.4}Zn_{0.6}Co_{0.1}Fe_{1.9}O_4$ spinel nano-ferrite.A. Thakur[1], . Thakur[2] and *J. Hsu*[1] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Physics, Himachal Pradesh University, Shima, India*

AQ-11. Effect of Cu and Nb additives on the μ_i-T curves in FeSiB alloys.Y. Jia[1], *Z. Wang*[1], R. Shi[1] and J. Wang[1] *1. tianjin university, Tianjin, tianjin, China*

AQ-12. Effect of P on soft magnetic properties of nanocrystalline Fe-Si-B-P-Cu alloys with high Bs. *A. Urata*[1], M. Yamaki[1], M. Takahashi[1], K. Okamoto[1], H. Matsumoto[1], S. Yoshida[1] and A. Makino[2] *1. NEC TOKIN Corporation, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

AQ-13. Electrodeposition and Magnetic Properties of FeCo Alloy Films.D. Zhou[1,2], M. Zhou[1], M. Zhu[1], *Z. Guo*[1], X. Yang[2] and F. Li[2] *1. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China; 2. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China*

AQ-14. The Effect of Distributed Exchange Parameters on Magnetocaloric Refrigeration Capacity in Amorphous and Nanocomposite Materials. *N.J. Jones*[1], H. Ucar[1], J.J. Ipus[1], M.E. McHenry[1] and D.E. Laughlin[1] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

AQ-15. Room-temperature deposition of nanocrystalline ferrite thin films for photomagnetic functionality. *U.S. Alaan*[1], F.J. Wong[1], A.J. Grutter[1,2], J.M. Iwata[1], V.V. Mehta[1,2], J.L. Watts[1] and Y. Suzuki[1,2] *1. Department of Materials Science and Engineering, University of California, Berkeley, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA*

MONDAY MORNING 8:00 SAGUARO BALLROOM

Session AR
STRONGLY CORRELATED SYSTEMS I (Poster Session)

Michael Loewenhaupt, Chair

AR-01. Temperature dependent magnetic structure of lithium delithiated Li_xFeSO_4F (x=0, 1) by Mössbauer spectroscopy. *I. Lee*[1], S. Hyun[1], T. Kouh[1], I. Shim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of*

AR-02. The strong one-dimensional antiferromagnetism in a charge-transfer insulator: AgSO4.x. Zhang[1], T. Jia[1], T. Liu[1], Z. Zeng[1] and *H. Lin*[2] *1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Acadamy of Sciences, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Hong Kong, China*

AR-03. First-principles investigation of magnetic and elastic properties of Fe-Si. *W. Yun*[1], J. Lee[1], I. Kim[1], S. Hong[2] and J. Lee[3] *1. Graduate Institute of Ferrous Technology, Pohang University of Science and Technology, Pohang 790-784, Korea, Republic of; 2. Department of Physics and Energy Harvest-Storage Research Center, University of Ulsan, Ulsan 680-749, Korea, Republic of; 3. Department of Physics, Inha University, Incheon 402-751, Korea, Republic of*

AR-04. Large positive magnetroresistance (~ 100%) at very low temperature (< 10 K) observed in Bi2Te3/C. *Y. Zhang*[1] *1. Institute of superconducting and electronic materials, Wollongong, NSW, Australia*

AR-05. Antiferromagnetism in the 2D Limit and Interface Superconductivity in Metal-Insulator La(2-x)Sr(x)CuO(4) Superlattices. *A. Suter*[1], E. Morenzoni[1], T. Prokscha[1], B.M. Wojek[2,1], H. Luetkens[1], A. Gozar[3], G. Logvenov[4,3] and I. Bozovic[3] *1. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Physics Institute, University of Zurich, Zurich, Switzerland; 3. Brookhaven National Laboratory, Upton, NY; 4. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany*

AR-06. The correlation and hybridization effects between 4f and other electrons on the ARPES and hybridization gap in CeCoGe2: DFT+DMFT study. *H. Choi*[1], J. Shim[2] and B. Min[1]*1. Physics, POSTECH, Pohang, Korea, Republic of; 2. Chemistry, POSTECH, Pohang, Korea, Republic of*

AR-07. Crossing point phenomena (T* = 2.7 K) in Specific heat curves of Superconducting Ferromagnets RuSr2Gd1.4Ce0.6Cu2O10-δ *A. Kumar*[1,2], R. Tandon[2] and V. Awana[1]*1. Quantum Phenomena and Application, National Physical Laboratory, New Delhi, Delhi, India; 2. Physics and Astrophysics, University of Delhi, New Delhi, Delhi, India*

AR-08. Withdrawn

AR-09. Interplay between Magnetism and Charge Transport in Antiperovskite Manganese Nitrides: Extremely Low Temperature Coefficient of Resistance due to Strong Magnetic Scattering. *M. Hadano*[1], A. Ozawa[1], K. Takenaka[1], N. Kaneko[2], T. Oe[2] and C. Urano[2]*1. Department of Crystalline Materials Science, Nagoya University, Nagoya, Japan; 2. National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

AR-10. Magnetic and rectifying properties in $La_{0.8}Ca_{0.2}MnO_3$/$SrTiO_3$/GaAs heterostructures. *Z. Wu*[1], L. Wang[1] and J. Gao[1]*1. Physics, The University of Hong Kong, Hong Kong, Hong Kong*

AR-11. Tuning Magnetic Phase Transition by A-site Quenched Disorder in Half-Doped Manganite Pr0.5Ba0.5MnO3. *D. Ling*[1], P. Hsu[1] and C. Lee[1]*1. Department of Physics, Tamkang University, Tamsui, Taiwan*

AR-12. Structural and magnetic study of SmTAl single crystals (T=Pd and Ni). *J. Prchal*[1], M. Rusnak[1] and J. Pospisil[1]*1. Department of Condensed Matter Physics, Charles University in Prague, Prague 2, Czech Republic*

AR-13. Magnetism in $CeIr(Si_xGe_{1-x})_3$ compounds. *J. Prokleska*[1], J. Pospisil[1], M. Kratochvilova[1] and V. Sechovsky[1]*1. Dept. of Condensed Matter Physics, Charles University,, Prague, Czech Republic*

AR-14. Relationships between crystal structure and magnetic properties in type-A hetero-epitaxial MnAs thin films. *J. Song*[1], Y. Cui[2] and J.B. Ketterson[2]*1. Physics, Chungnam Natl Univ, Daejeon, Korea, Republic of; 2. Physics and Astronomy, Northwestern University, Evanston, IL*

AR-15. Anomalous low temperature magnetic and magneto-transport properties in Ru deficient $SrRuO_3$ *C. Sow*[1], D. Samal[1,2] and P. Kumar[1]*1. Department of Physics, Indian Institute of Science, Bangalore, Karnataka, India; 2. Presently at Faculty of Science and Technology and MESA+ Institute for Nanotechnology, University of Twente, 7500 AE Enschede, Netherlands*

MONDAY MORNING 8:00

SAGUARO BALLROOM

Session AS
MAGNETIC RECORDING READERS AND WRITERS
(Poster Session)

Kaizhong Gao, Chair

AS-01. Spin torque transfer effects in CPP differential dual spin valve. *H. Meng*[1] and G. Han[1]*1. Data storage institute, Singapore, Singapore*

AS-02. Enhancement of current-perpendicular-to-plane giant magnetoresistance by insertion Fe(001) layers at alternate monatomic $[Fe/Co]_n$ superlattices /Ag interface. *J. Jung*[1], Y. Shiokawa[1], Z. Jin[1], M. Doi[2] and M. Sahashi[1]*1. Electonic Engineering, Tohoku University, Sendai, Japan; 2. Electonic Engineering, Tohoku Gakuin University, Tagajyo, Japan*

AS-03. Spin torque noise properties in exchange biased spin-valve and trilayer CPP-GMR devices using $Co_2Fe(Al_{0.5}Si_{0.5})$ Heusler alloy layers. *T.M. Nakatani*[1], M. Hayashi[1], T. Furubayashi[1] and K. Hono[1]*1. National Institute for Materials Science, Tsukuba, Japan*

AS-04. Initial Magnetic Damage in Tunneling Magnetoresistance Head due to Temperature Increase Caused by Electrostatic Discharge Models. *C. Surawanitkun*[1], A. Kaewrawang[1], T. Mewes[2], C.K. Mewes[2] and A. Siritaratiwat[1]*1. KKU-Seagate Cooperation Research Laboratory, Department of Electrical Engineering, Khon Kaen University, Khon Kaen, Thailand; 2. Physics & Astronomy, University of Alabama, Tuscaloosa, AL*

AS-05. Magnetic nanocontact MR with high MR ratio and low RA. *H. Iwasaki*[1], S. Hashimoto[1], H.N. Fuke[1], M. Takagishi[1] and M. Sahashi[2]*1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

AS-06. Ferromagnetic resonance line widths of metastable Co single crystal thin films.M. Sakamoto[1], H. Ohashi[1], M. Ohtake[2], M. Futamoto[2] and *N. Inaba*[1]*1. Department of Electrical Engineering, Yamagata University, Yonezawa, Japan; 2. Chuo University, Bunkyoku, Tokyo, Japan*

AS-07. Effect of interlayer coupling on the reversal process of the Differential Dual Spin Valves. *C. Murapaka*[1,2], C. Wang[2], G. Han[2] and W. Lew[1]*1. Division of Physics and Applied Physics, Nanyang Technological University, Singapore, Singapore; 2. Data Storage Institute, A*STAR (Agency for Science, Technology and Research), Singapore, Singapore*

AS-08. Effect of exchange stiffness of shield material on the sensitivity profile of read heads. *Y. Suzuki*[1] *1. Electric and Electronic Engineering, Nihon University, Koriyama-shi, Fukushima-ken, Japan*

AS-09. Thermal Response Characteristics and Model for Head/Disk Interaction in TMR Heads. *P. Supnithi*[1], P. Kovintavewat[2] and C. Pupaichitkul[3] *1. Faculty of Engineering and College of Data Storage Innovation, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand; 2. Data Storage Technology Research Unit, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Muang, Nakhon Pathom, Thailand; 3. Seagate Technology (Korat), Nakorn Ratchaseema, Thailand*

AS-10. Measuring and Understanding Write Width and Off-Track as a function of Linear Density in Perpendicular Recording. *J. Fernandez-de-Castro*[1], G. Sandler[1], M. Hurben[1], P. Lu[1] and N. Curland[1] *1. Seagate Technology, Bloomington, MN*

AS-11. Time resolved scanning Kerr microscopy of the vector magnetization within thin film write head structures. *P. Gangmei*[1], P.S. Keatley[1], W. Yu[1], R.J. Hicken[1], M.A. Gubbins[2], P.J. Czoschke[3] and R. Lopusnik[3] *1. Physics, University of Exeter, Exeter, Devon, United Kingdom; 2. Research & Development, Seagate Technology, 1 Disc Drive,Springtown Industrial Estate, Derry, Northern Ireland BT48 0BF, United Kingdom; 3. Recording Heads Operation, Seagate Technology, 7801 Computer Avenue South, Bloomington, MN*

AS-12. Characterization method of magnetic properties in ion-beam-etched main pole using magnetoresistance measurements. *Y. Ohsawa*[1,2], K. Yamakawa[2] and H. Muraoka[2] *1. CR&D center, Toshiba corp, Kawasaki, Japan; 2. RIEC, Tohoku Univ., Sendai, Japan*

AS-13. Head Field Measurement by Anomalous Hall Effect of Recording Layer with Soft Under Layer. *K. Yamakawa*[1,2], Y. Ohsawa[1,3], T. Kiya[2], K. Ise[2] and H. Muraoka[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. Akita Industrial Technology Center, Akita, Japan; 3. R & D Center, Toshiba Corp., Kawasaki, Japan*

AS-14. Write Field Asymmetry in Perpendicular Magnetic Recording. Z. Li[1], *D. Bai*[1], E. Lin[1] and S. Mao[1] *1. Western Digital, Fremont, CA*

AS-15. Structural and magnetic characterization of epitaxial Fe16N2 thin films with giant saturation magnetization. *N. Ji*[1], V. Lauter[2], L.F. Allard[2], C. Sanchez-Hanke[3], H. Ambaye[2], E. Lara-Curzio[2], F. Groot[4] and J. Wang[1] *1. U of Minnesota, Minneapolis, MN; 2. Oak Ridge National Laboratory, Oak Ridge, TN; 3. Brookhaven National Laboratory, Upton, NY; 4. Utrecht University, Utrecht, Netherlands*

MONDAY MORNING 8:00

SAGUARO BALLROOM

Session AT
ADVANCED MAGNETIC RECORDING (Poster Session)

Simon Greaves, Chair

AT-01. A new kind of Non-linear Distortion in Perpendicular Magetic Recording Systems. *M. Nichols*[1] and N. Miladinovic[1] *1. SISA, San Jose, CA*

AT-02. Understanding and Improving a Micro-Track Test in Perpendicular Recording. *J. Fernandez-de-Castro*[1], G. Sandler[1], G. Le[1] and P. Krivosik[1] *1. Seagate Technology, Bloomington, MN*

AT-03. The Effects of Writer Widths and Shingling Percentages in Shingled Write Recording. *P. Supnithi*[1] and S. Chandrasekaran[2] *1. Telecommunications Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand; 2. Western Digital, Bang Pa-in, Thailand*

AT-04. Optimization and Design of Shingle Magnetic Recording Systems. *K. Chan*[1], R. Elidrissi Moulay[1], K. Teo[1] and Y. Kanai[2] *1. MRC, Data Storage Institute, Singapore, Singapore; 2. Department of Information and Electronics Engineering, Niigata Institute of Technology, Kashiwazaki,, Japan*

AT-05. Atomistic Simulation Method in Head-Disk Interface of Magnetic Data Storage System. *R.L. Smith*[1], P. Chung[1] and M.S. Jhon[1,2] *1. Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. School of Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon, Korea, Republic of*

AT-06. Novel Head-disk Interface Design in Magnetic Data Storage. *R.L. Smith*[1], P. Chung[1] and M.S. Jhon[1,2] *1. Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. School of Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon, Korea, Republic of*

AT-07. Novel Graphene Overcoat in Magnetic Data Storage Technology. *S. Vemuri*[1], R. Smith[1], Y. Jhon[2], P. Chung[1] and M.S. Jhon[1,2] *1. Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. School of Advanced Materials Science and Engineering,, Sungkyunkwan University, Suwon, Suwon, Korea, Republic of*

AT-08. Multiscale Modeling in Head/Disk Interface of Magnetic Data Storage System. *P. Chung*[1], R. Smith[1], S. Vemuri[1] and M.S. Jhon[1,2] *1. Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. School of Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon, Kyunggi, Korea, Republic of*

AT-09. High Speed Magnetisation Reversal In Heat Assisted Recording On Continuous Media. *S. Greaves*[1], H. Muraoka[1] and Y. Kanai[2] *1. RIEC, Tohoku University, Sendai, Japan; 2. IEE, Niigata Institute of Technology, Kashiwazaki, Japan*

AT-10. Magnetic origin of further coercivity reduction in FePt/Fe ECC media by forming magnetic graded interface. *L. Huang*[1,2], J. Hu[2] and J. Chen[1] *1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data storage Institute, Singapore, Singapore*

AT-11. Granular $L1_0$ FePt:X (X = B, B-SiO_2 and C-SiO_2) (001) Thin Films for Heat Assisted Magnetic Recording. *S.D. Granz*[1,2], K. Barmak[2,3] and M.H. Kryder[1,2] *1. Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 3. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

AT-12. A Study on Modeling of Writing Process and Two-Dimensional Neural Network Equalization for Two-Dimensional Magnetic Recording. *M. Yamashita*[1], Y. Okamoto[1], Y. Nakamura[1], H. Osawa[1], K. Miura[2], S.J. Greaves[2], H. Aoi[2], Y. Kanai[3] and H. Muraoka[2] *1. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan; 2. RIEC, Tohoku University, Sendai, Japan; 3. Niigata Institute of Technology, Kashiwazaki, Japan*

AT-13. Microwave assisted magnetic recording simulation on ECC medium. *A. Kato*[1], Y. Furomoto[1], T. Tanaka[1], A. Md Nor[2], Y. Kanai[3] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Physics, Malaya University, Kuala Lumpur, Malaysia; 3. Department of Information and Electronics Engineering, Niigata Institute of Technology, Kashiwazaki, Niigata, Japan*

AT-14. Micromagnetic Studies on Exchange Coupled Composite Recording Media. H. Xie[1], H. Li[2], Y. Wang[1], K. Zhang[2], Y. Wang[2], Z. Li[1], J. Bai[1], *F. Wei*[1] and D. Wei[2] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Materials Science and Engineering, Tsinghua University, Beijing, China*

AT-15. Demonstration of read-write on Co/Pd bit patterned media fabricated by direct deposition method. *N. Thiyagarajah*[1], S. Leong[2], H. Duan[3], M. Asbahi[3], J. Yang[3] and V. Ng[1] *1. Department of Electrical and Computer Engineering, National Univ Singapore, Singapore, Singapore; 2. Data Storage Institue, Singapore, Singapore; 3. Institute of Materials Research and Engineering, Singapore, Singapore*

MONDAY MORNING 8:00

SAGUARO BALLROOM

Session AU
MAGNETOELASTIC AND MAGNETOCALORIC PROPERTIES I (Poster Session)

José Arnaudas, Chair

AU-01. Optimization of sputter deposition parameters for magnetostrictive $Fe_{62}Co_{19}Ga_{19}$/Si(100) films. *S. Jen*[1] and T. Tsai[1,2] *1. Academia Sinica, Institute of Physics, Taipei, Taiwan; 2. Dept. of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan*

AU-02. Giant Magnetostriction in Tetragonally-Distorted Antiperovskite Manganese Nitrides. *T. Shimizu*[1], T. Shibayama[1], K. Asano[1] and K. Takenaka[1] *1. Department of Crystalline Materials Science, Nagoya university, Nagoya, Japan*

AU-03. Effect of the Mn substitution for Fe on magnetic and magnetostrictive properties of $SmFe_2$ compound. Y. Wang[1], *W.J. Ren*[1], Z.H. Wang[1], Y.Q. Zhang[1], J. Li[1] and Z.D. Zhang[1] *1. Shenyang national laboratory for materials science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*

AU-04. Withdrawn

AU-05. Structural, magnetic and magnetoelastic effects in Sr(Ti1-xMx)O3 (M=Fe, Co, or Cr) epitaxial thin films. *D. Kim*[1], L. Bi[1], P. Jiang[1], G.F. Dionne[1] and C.A. Ross[1] *1. MIT, Cambridge, MA*

AU-06. Effects of Ni addition on the magnetostriction and microstructures of $Fe_{70-x}Pd_{30}Ni_x$ high-temperature ferromagnetic shape memory alloys. *Y. Lin*[1], C. Lin[2] and J. Yang[2] *1. Department of Mold and Die Engineering, National Kaohsiung University of Applied Sciences, Kaohsiung, Taiwan; 2. Department of Mechanical and Automatic Engineering, National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan*

AU-07. Effect of Orthogonal Fields on Magnetostrictive Power Harvesting. *A. Adly*[1], D. Davino[2], A. Giustiniani[3] and C. Visone[2] *1. Elect. Power & Machines Dept., Cairo University, Giza, Egypt; 2. Dept. of Engineering, University of Sannio, Benevento, Italy; 3. DIIIE, University of Salerno, Fisciano, Italy*

AU-08. Magnetovolume effect in $Ho_2Fe_{17-x}Mn_x$ compounds. *J. Wang*[1,2], A.J. Studer[1], S.J. Kennedy[2], R. Zeng[1], S.X. Dou[1] and S.J. Campbell[3] *1. Institute for Superconducting & Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Bragg Institute,, ANSTO, Sydney, NSW, Australia; 3. School of Physical, Environmental and Mathematical Sciences, The University of New South Wales, The Australian Defence Force Academy, Canberra, ACT, Australia*

AU-09. Structure and bias exchange of $Ni_{50}Mn_{37}Sn_{13}$ ribbons. Y. Yang[1], J. Wei[1], X. Ma[1], C. Wang[1], Y. Yang[1] and *J. Yang*[1] *1. School of Physics, Peking university, Beijing, China*

AU-10. Dynamic Magnetoelastic Properties of Epoxy-Bonded $Sm_{0.88}Nd_{0.12}Fe_{1.93}$ Pseudo-1-3 Magnetostrictive Particulate Composites. *F. Yang*[1,2], S. Or[1], W. Liu[2], X. Lv[2] and Z. Zhang[2] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China; 2. Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*

AU-11. Phase identification and magnetostrictive property of Fe-19at.% Ga single crystal. *X. Zhu*[1], J. Liu[1] and C. Jiang[1] *1. Materials science and engineering School, Beijing University of Aeronautics & Astronautics, Beijing, China*

AU-12. Direct measurement of magnetocaloric effect in Co-doped Mn-rich Ni_2MnGa alloys. *J. Kastil*[1], J. Kamarad[2], S. Fabbrici[3], F. Albertini[3], A. Paoluzi[3] and Z. Arnold[2] *1. Department of Condensed Matter Physics, Faculty of Mathematics and Physics, Charles University, Praha 2, Czech Republic; 2. Institute of Physics ASCR, Prague 8, Czech Republic; 3. IMEM CNR, Parma, Italy*

AU-13. Grain Interactions During the Phase Transition in Ni-Mn-Ga. *R.A. Booth*[1], S.F. Li[1], R.M. Suter[1] and S.A. Majetich[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA*

AU-14. A cheaper NiMnGa based Heusler alloy for magnetic refrigeration. *C. Salazar Mejia*[1], A.M. Gomes[1] and L. de Oliveira[2] *1. Instituto Fisica, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil; 2. Instituto Fisica "Gleb Wataghin", Universidade Estadual de Campinas, Campinas, SP, Brazil*

AU-15. Refrigerant capacity of austenite in as-quenched and annealed $Ni_{51.1}Mn_{31.2}In_{17.7}$ melt spun ribbons. J.L. Sanchez Llamazares[1], H. Flores-Zuñ iga[1], C.F. Sanchez-Valdes[2] and *C. Garcia*[3] *1. División de Materiales Avanzados, Instituto Potosino de Investigación Científica y Tecnológica (IPICyT), San Luis Potosí, Mexico; 2. Institut de Ciencia de Materials de Barcelona (C.S.I.C.), Bellaterra, Spain; 3. Physics, Bogazici University, Istanbul, Turkey*

MONDAY MORNING 8:00

SAGUARO BALLROOM

Session AV
TRANSFORMERS, MOTORS, INDUCTORS AND LEVITATION I (Poster Session)

Steven Turner, Chair

AV-01. Magnetic Property Modeling of Silicon Steel Sheets Under DC-Biasing Magnetization. *Z. Zhao*[1], F. Liu[1], P. Ren[2], Y. Wang[1], L. Zhao[1], D. Li[1] and W. Yan[1] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Tianjin, China; 2. School of electronic,information and electrical engineering, Shanghai Jiao Tong University, Shanghai, China*

AV-02. Solution to the Problem of E-Cored Coil above a Layered Half-Space Using the Method of Truncated Region Eigenfunction Expansion. F. Sakkaki[1] and *H. Bayani*[1] *1. Physics, K.N.T. University of Technology, Tehran, Iran, Islamic Republic of*

AV-03. Electrostatically tunable inductor with improved operational frequency and quality factor. *J. Lou*[1], Z. Su[1], M. Liu[2], M. Pasquale[3] and N. Sun[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL; 3. Divisione Elettromagnetismo, INRIM, Torino, Italy*

AV-04. A study on the characteristic of motor according to using slot wedge in Induction motor. *D. Kim*[1], S. Lee[1], J. Jung[1] and J. Hong[1] *1. Hanyang University, Seoul, Korea, Republic of*

AV-05. Prediction of Iron Losses in Doubly Salient Permanent Magnet Machine with Rectangular Current Waveform. *J. Zhang*[1], M. Cheng[1] and M. Wang[1] *1. Southeast University, Nanjing, China*

AV-06. Harmonic Analysis and Design of an Advanced Permanent Magnet Vernier Machine. *J. Wang*[1], J. Li[2], S. Ho[1], K. Chau[2] and W. Fu[1] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong*

AV-07. Improved Thrust Calculations of Active Magnetic Bearings considering Fringing Flux. S. Jang[1], *K. Kim*[1], K. Ko[1], J. Choi[1] and S. Lee[2] *1. Chungnam National uuiversity, Daejeon, Korea, Republic of; 2. Korea Institute of Industrial Technology Gwangju Reserch Center, Gwangju, Korea, Republic of*

AV-08. A Model of Linear Synchronous Motor Based on Distribution Theory. *M. Trapanese*[1] *1. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Università di Palermo, Palermo, Italy*

AV-09. Design Verification of Electromagnet for Magnetic Levitation Systems through Static and Dynamic Analyses. *J. Choi*[1], H. Shin[1] and S. Jang[1] *1. Chungnam National University, Dae-jeon, Korea, Republic of*

AV-10. New Linear Fault-Tolerant Permanent-Magnet Motor for Levitation Applications. *W. Zhao*[1], M. Cheng[2], K. Chau[3] and R. Cao[2] *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China; 2. School of Electrical Engineering, Southeast University, Nanjing, China; 3. Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kon, China*

AV-11. Characteristic and Magnetic Field Analysis of a HTS Axial-Flux Coreless Induction Maglev Motor. *Q. Wei*[1], F. Yu[1], L. Guo Guo[1], F. Jin[1] and L. Gang[1] *1. Electrical Engineering, Beijing Jiaotong University, Beijing, Beijing, China*

AV-12. Modeling and Analysis of a Magnetically Levitated Synchronous Permanent Magnet Planar Motor. B. Kou[1], *L. Zhang*[1] and L. Li[1] *1. Harbin Institute of Technology, Harbin, China*

AV-13. Stabilization of Input Impedance for Wireless Power Supply Circuit. *T. Misawa*[1], T. Sato[2], T. Takura[1], F. Sato[1] and H. Matsuki[2] *1. Graduate of engineerring, Tohoku University, Sendai, Japan; 2. Graduate of biomedical engineering, Tohoku University, Sendai, Japan*

AV-14. A New Dual Output Phase-shift Distribution Transformer–Input Harmonic Current Mitigating Performance. J. Guo[1], *P. Jin*[2] and S. Fang[2] *1. School of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China; 2. School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China*

AV-15. Transient Analysis and Control of Bias Magnetic State in the Transformer of On-Line PWM Switching Full Bridge DC-DC Converter. J. Chen[1], *Y. Guo*[2], J. Zhu[2] and Z. Lin[2] *1. College of Electromechanical Engineering, Donghua University, Shanghai, China; 2. University of Technology Sydney, Sydney, NSW, Australia*

MONDAY MORNING 8:00

SAGUARO BALLROOM

Session AW
DOMAIN WALLS AND VORTICES I (Poster Session)

Hermann Stoll, Chair

AW-01. Electrical detection of antivortex wall dynamics. *M. Jamali*[1], J. Kwon[1], K. Narayanapillai[1] and H. Yang[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

AW-02. Dimensional transition of current driven domain-wall dynamics. *K. Kim*[1,2], J. Lee[1,3], S. Yun[1], G. Gim[1], K. Shin[3] and S. Choe[1] *1. Department of Physics, Seoul National University, Seoul, Korea, Republic of; 2. Institute for Chemical Research, Kyoto University, Kyoto, Japan; 3. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, Korea, Republic of*

AW-03. Dynamics of Interlayer Coupled Magnetic Vortex Pairs. *S. Wintz*[1], C. Bunce[1], M. Kö rner[1], T. Strache[1], J. Raabe[2], C. Quitmann[2], J. McCord[3], A. Erbe[1] and J. Fassbender[1] *1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Christian-Albrechts Universität zu Kiel, Kiel, Germany*

AW-04. Domain Wall Motion and Interactions in Multi-Nanowire Systems. *A. Kunz*[1], R.D. McAuliffe[1], D.V. Olson[1] and K.F. Kimminau[1] *1. Physics, Marquette University, Milwaukee, WI*

AW-05. Stepwise behavior of gyrovector in magnetic vortex dynamics under AC magnetic field. *J. Shim*[1], H. Piao[1,2], S. Lee[1], S. Oh[1], S. Yu[1], S. Han[1] and D. Kim[1] *1. BK-21 Program and Department of Physics, Chungbuk National University, Cheongju, Korea, Republic of; 2. College of Science, Huaihai Institute of Technology, Lianyunguang, China*

AW-06. Magnetization switching via surface acoustic waves in Co stripes. *B.B. Maranville*[1], S. Adenwalla[2], D.K. Sam[2] and J.A. Borchers[1] *1. NIST Center for Neutron Research, Natl Inst of Standards & Tech, Gaithersburg, MD; 2. Physics, University of Nebraska - Lincoln, Lincoln, NE*

AW-07. Condition of the Ratchet Effect of a Magnetic Domain Wall Motion under an Asymmetric Potential Energy. *H. Piao*[1], H. Choi[2], D. Kim[3] and C. You[2] *1. College of Science, Huaihai Institute of Technology, Lianyungang, China; 2. Physics, Inha University, Incheon, Korea, Republic of; 3. Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of*

AW-08. Magnetic bubble nucleation and dynamics driven by spin-transfer torque. *G. Finocchio*[1], A. Prattella[1], L. Torres[2], S. Komineas[3], O. Ozatay[4] and B. Azzerboni[1] *1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Universidad de Salamanca, Salamanca, Spain; 3. University of Crete, Heraklion, Greece; 4. Bogazici University, Instambul, Turkey*

AW-09. Generation of Domain Walls in Permalloy Nanowires by Local Magnetic Fields. *F. Stein*[1], L. Bocklage[1], M. Martens[1], T. Matsuyama[1] and G. Meier[1] *1. Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Hamburg, Germany*

AW-10. Direct Imaging of Precessional Domain Wall Propagation in Ferromagnetic Rings Induced by Circular Magnetic Fields. *A. Bisig*[1,2], M. Stä rk[1,3], C. Moutafis[1,3], J. Rhensius[3,4], J. Heidler[1], M. Curcic[2], E. Amaladass[2], M. Noske[2], M. Weigand[2], T. Tyliszczak[5], B. Van Waeyenberge[6], L.J. Heyderman[4], H. Stoll[2], G. Schü tz[2] and M. Klä ui[1,7] *1. SwissFEL, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Moderne Magnetische Materialien, Max-Planck-Institut für Intelligente Systeme, Stuttgart, Germany; 3. Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 4. Labor für Mikro- und Nanotechnologie, Paul Scherrer Institut, Villigen, Switzerland; 5. Advanced Light Source, LBNL, Berkeley, CA; 6. Department of Solid State Sciences, Ghent University, Ghent, Belgium; 7. Institut für Physik, Johannes Gutenberg-Universität Mainz, Mainz, Germany*

AW-11. Describing Spin Currents in Sharp Dynamical Magnetic Textures. *F. Dogan*[2], N. Collier[1], V.M. Calo[1] and A. Manchon[2] *1. Mathematical Sciences and Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. Physical Sciences and Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

AW-12. Magnetic Switching Behaviors of Ferromagnetic Rolled-up Nanotubes. *J. Lee*[1,3], D. Makarov[2], D. Suess[1], J. Fidler[1], O.G. Schmidt[2] and S. Kim[3] *1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Institute for Integrative Nanosciences, IFW Dresden, Dresden, Germany; 3. National Creative Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, Seoul National University, Seoul, Korea, Republic of*

AW-13. Domain wall motion in magnetically frustrated nanorings. *M.V. Lubarda*[1], S. Li[1], R. Chang[1], E.E. Fullerton[1] and V. Lomakin[1] *1. CMRR, UCSD, La Jolla, CA*

AW-14. Direct Observation of Stochastic Domain-Wall Behavior in Numerous Magnetic Nanowires. *K. He*[1] and J. Cumings[1] *1. Department of Materials Science and Engineering, University of Maryland, College Park, MD*

AW-15. Domain growth and dipolar bias in magnetic thin films strongly coupled to a periodic pinning potential. *R.L. Novak*[4,1], P.J. Metaxas[6,2], S. Rohart[1], R. Weil[1], J. Jamet[1], A. Mougin[1], J. Ferre[1], R.L. Stamps[5,6], V. Baltz[3] and B. Rodmacq[3] *1. Laboratoire de Physique des Solides, Université Paris-Sud/CNRS, UMR 8502, Orsay, France; 2. Unite Mixte de Recherche CNRS/Thales, UMR 137, Palaiseau, France; 3. SPINTEC, URA CNRS/CEA 2512, CEA-Grenoble, Grenoble, France; 4. Lab. de Physique de la Matiere Condensee, Ecole Polytechnique/CNRS, UMR 7643, Palaiseau, France; 5. SUPA-School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 6. School of Physics, M013, University of Western Australia, Crawley, WA, Australia*

MONDAY AFTERNOON 1:30 GRAND CANYON 6

Session BA
SYMPOSIUM ON SPIN AND MAGNETO SEEBECK AND PELTIER EFFECTS

Gerrit Bauer, Chair

1:30

BA-01. Spin current generation using heat and magnetic dynamics. ***(Invited)*** *E. Saitoh*[1,2] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. JAEA, Tokai, Japan*

2:06

BA-02. Spin Seebeck effect due to spin excitations in ferromagnetic insulators. ***(Invited)*** *J. Xiao*[1] *1. Department of Physics, Fudan University, Shanghai, China*

2:42

BA-03. Magnons, Phonons, and Spin Seebeck Effect. ***(Invited)*** *S. Maekawa*[1] *1. Advanced Science Research Center, Japan Atomic Energy Agency, Ibaraki, Japan*

3:18

BA-04. Spin Seebeck and spin Peltier effects in nanoscale non-local spin valves. ***(Invited)*** *B. van Wees*[1] *1. Zernike Institute of Advanced Materials, Groningen, Groningen, Netherlands*

3:54

BA-05. Spin-Seebeck, phonon-drag and phonon transport in GaMnAs. ***(Invited)*** *J.P. Heremans*[1] *1. Dept. of Mechanical and Aeronautical Engineering, and Dept. of Physics, Ohio State University, Columbus, OH*

MONDAY AFTERNOON 1:30

GRAND CANYON 7

Session BB
SPIN TRANSFER TORQUE SWITCHING I

Xiufeng Han, Chair

1:30

BB-01. Novel Ultra-Thin Dual MTJ for STT-RAM. *D. Apalkov*[1], V. Nikitin[1], S. Watts[1], X. Tang[1], D. Lottis[1], A. Khvalkovskiy[1], K. Moon[1], R. Kawakami[1], E. Chen[1], A. Ong[1], A. Driskill-Smith[1] and M. Krounbi[1] *1. Grandis Inc, Milpitas, CA*

1:42

BB-02. Error rates and stability in a novel ultra-thin dual MTJ for STT-RAM. *S.M. Watts*[1], D. Apalkov[1], V. Nikitin[1], X. Tang[1], D. Lottis[1], A. Khvalkovskiy[1], K. Moon[1], E. Chen[1], A. Driskill-Smith[1] and M. Krounbi[1] *1. Grandis, Inc., Milpitas, CA*

1:54

BB-03. Spin Transfer Torque Driven Switching Probability Study of Magnetic Tunnel Junctions by Single Shot Time Domain Analysis. *Y. Zhang*[1], H. Zhao[1], A. Lyle[1], P. Crowell[2] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Department of Physics, University of Minnesota, Minneapolis, MN*

2:06

BB-04. Switching field distributions for nanopillar spin-valves with perpendicular anisotropy driven by spin-transfer and thermal fluctuations. *D.B. Gopman*[1], D. Bedau[1], C.H. Lambert[2], S. Mangin[2], E.E. Fullerton[3], J.A. Katine[4] and A.D. Kent[1] *1. Physics, New York University, New York, NY; 2. Physics, Institute Jean Lamour, UMR CNRS 7198, Nancy Université, Vandoeuvre, France; 3. CMRR, University of California at San Diego, La Jolla, CA; 4. San Jose Research Center, Hitachi-GST, San Jose, CA*

2:18

BB-05. Effect of Temperature and Spin Torque on Stoner-Wohlfarth Astroid of a Nanomagnet. *Y. Chen*[1], J.A. Katine[2], J. Langer[3], M. Lewis[4], G.E. Rowlands[1], J. Zhu[1], P. Khalili Amiri[4], K.L. Wang[4] and I.N. Krivorotov[1] *1. Department of Physics and Astronomy, University of California, Irvine, CA; 2. Hitachi Global Storage Technologies, San Jose, CA; 3. Singulus Technologies, Kahl am Main, Germany; 4. Department of Electrical Engineering, University of California, Los Angeles, CA*

2:30

BB-06. Perpendicular Magnetic Tunnel Junctions based on Thin CoFeB Free Layer and Co-based Multilayer SAF Pinned Layers. *A. Natarajarathinam*[1,2], R. Zhu[1,4], A. Singh[1,4], H. Su[1,3], P.B. Visscher[1,3] and S. Gupta[1,3] *1. Center for Materials for Information Technology (MINT), The University of Alabama, Tuscaloosa, AL; 2. Department of Electrical and Computer Engineering, The University of Alabama, Tuscaloosa, AL; 3. Department of Metallurgical and Materials Engineering, The University of Alabama, Tuscaloosa, AL; 4. Department of Physics, The University of Alabama, Tuscaloosa, AL*

2:42

BB-07. Dependence of spin-transfer switching characteristics in MTJs with synthetic free layers on the coupling strength. *M. Nishimura*[1], M. Oogane[1], H. Naganuma[1], N. Inami[1], T. Morita[2] and Y. Ando[1] *1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. ULVAC, Inc., Shizuoka, Japan*

2:54

BB-08. Theoretical study on dependence of thermal switching time of synthetic free layer on coupling field. *T. Taniguchi*[1] and H. Imamura[1] *1. Nanosystem Research Institute, AIST, Tsukuba, Ibaraki, Japan*

3:06

BB-09. Reduction of switching current density in perpendicular magnetic tunnel junctions by tuning the anisotropy direction of the CoFeB free layer. *M. Rahman*[1], A. Lyle[1], P.K. Amiri[2], B. Glass[1], J. Harms[1], H. Zhao[1], Z. Zheng[3], G. Rowlands[3], Y.J. Chen[4], H.W. Jiang[3], J. Katine[5], J. Langer[6], I.N. Krivorotov[4], K.L. Wang[2] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Electrical Engineering, University of California, Los Angeles, CA; 3. Physics and Astronomy, University of California, Los Angeles, CA; 4. Physics and Astronomy, University of California, Irvine, CA; 5. HGST, San Jose, CA; 6. Singulus Technologies, Kahl am Main, Germany*

3:18

BB-10. Novel STT Device Design with Circuit Scheme to Enable All Metallic Logic Circuits. ***(Invited)*** *J. Zhu*[1], D. Bromberg[1], D.H. Morris[1] and L. Pileggi[1] *1. Electrical and Computer Engineering, Carnegie Mellon Univ, Pittsburgh, PA*

3:54

BB-11. Reducing soft write error and write current overdrive in STT-RAM. *E. Chen*[1], D. Apalkov[1], S. Watts[1], X. Tang[1], A. Khvalkovskiy[1], K. Moon[1], D. Lottis[1], V. Nikitin[1], A. Driskill-Smith[1] and M. Krounbi[1] *1. Grandis Inc, Milpitas, CA*

4:06

BB-12. Reduction of switching current of current-perpendicular-to-plane giant magnetoresistance devices with perpendicular $Gd_{1-x}Fe_x$ free layer for light modulator application.
K. Aoshima[1], Y. Hashimoto[1], N. Funabashi[1], K. Machida[1], K. Kuga[1], H. Kikuchi[1], T. Ishibashi[2] and N. Shimidzu[1] *1. Science & Technology Research Laboratories, Japan Broadcasting Corp., Tokyo, Japan; 2. 2. Department of Materials Science and Technology, Nagaoka Institute of Technology, Nagaoka, Japan*

4:18

BB-13. Decrease in intrinsic critical current density under magnetic field along hard in-plane axis of free layer in magnetic tunnel junctions with in-plane anisotropy. *K. Miura*[1,2], R. Sugano[1,5], M. Ichimura[1,5], J. Hayakawa[1], S. Ikeda[2,3], H. Ohno[2,3] and S. Maekawa[4,5] *1. Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan; 2. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Miyagi, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan; 4. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Ibaraki, Japan; 5. JST, CREST, Chiyoda-ku, Tokyo, Japan*

MONDAY AFTERNOON 1:30

GRAND CANYON 8

Session BC
SPIN ICE AND FRUSTRATED SYSTEMS
Robert Stamps, Chair

1:30

BC-01. Spin Liquids and Magnetic Monopoles in Rare Earth Cubic Pyrochlores. *(Invited)* *J.W. Lynn*[1], H. Kadowaki[2], H. Takatsu[2], T.J. Sato[3] and Y. Tabata[4] *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Department of Physics, Tokyo Metropolitan University, Tokyo 192-0397, Hachioji-shi, Japan; 3. Institute for Solid State Physics, University of Tokyo, Tokai, Ibaraki 319-1106, Japan; 4. Department of Materials Science and Engineering, Kyoto University, Kyoto 606-8501, Japan*

2:06

BC-02. Magnetic induction and reversal studies of nanoscale artificial spin ice lattices. C. Phatak[1], *A. Petford-Long*[1], M. Tanase[1,4], M. Pan[3], O. Heinonen[1] and M. De Graef[2] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Carnegie Mellon University, Pittsburgh, PA; 3. Northwestern University, Evanston, IL; 4. National Institute of Standards andTechnology, Gaithersburg, MD*

2:18

BC-03. Diversity opens dynamical pathways: disorder and energy landscape exploration in artificial spin ice. *Z. Budrikis*[1,2], P. Politi[2] and R. Stamps[1,3] *1. School of Physics, The University of Western Australia, Crawley, WA, Australia; 2. Istituto dei Sistemi Complessi CNR, Sesto Fiorentino (Florence), Italy; 3. SUPA, School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

2:30

BC-04. Measuring Disorder in Artificial Kagome Ice. *S. Daunheimer*[1], O. Petrova[2], O. Tchernyshyov[2] and J. Cumings[1] *1. Materials Science & Engineering, University of Maryland, College Park, MD; 2. Department of Physics & Astronomy, Johns Hopkins University, Baltimore, MD*

2:42

BC-05. Magnetic Reversal of an Artificial Square Ice – Dipolar Correlation and Charge Ordering. *J.P. Morgan*[1], A. Stein[2], S. Langridge[3] and C.H. Marrows[1] *1. School of Physics and Astronomy, University of Leeds, Leeds, Yorkshire, United Kingdom; 2. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY; 3. ISIS, STFC Rutherford Appleton Laboratory, Didcot, Oxfordshire, United Kingdom*

2:54

BC-06. Going up and down the energy landscape of a frustrated mixed-spin oxide. *M. Charilaou*[1], K.K. Sahu[1], J.F. Lö ffler[1] and A.U. Gehring[1] *1. ETH Zurich, Zurich, Switzerland*

3:06

BC-07. Glassy magnetic behavior in Ni,Co:$CuMn_2O_4$ spinels. *J. McCloy*[1], C. Leslie[2], T. Kaspar[1] and W. Jiang[1] *1. Pacific Northwest National Laboratory, Richland, WA; 2. University of Washington, Seattle, WA*

3:18

BC-08. Low-Temperature Heat Transport of Spin Gapped Quantum Magnets. *X. Sun*[1], X. Wang[1], W. Ke[1], L. Chen[1], C. Fan[1], Z. Zhao[1] and X. Zhao[2] *1. Hefei National Laboratory for Physical Sciences at the Microscale, University of Science and Technology of China, Hefei, Anhui, China; 2. School of Physical Sciences, University of Science and Technology of China, Hefei, Anhui, China*

3:30

BC-09. Field-induced slow spin relaxation in monoclinic Nd2Ti2O7. *H. Xing*[1], G. Long[2], H. Guo[1], C. Feng[1], G. Cao[1], Z. Xu[1] and H. Zeng[2] *1. Department of Physics, Zhejiang University, Hangzhou, China; 2. Department of Physics, University at Buffalo, SUNY, Buffalo, NY*

3:42

BC-10. Berry Phase of A Randomly Fluctuating Magnetic Field. *R. Skomski*[1] *1. Physics and Astronomy, Univ Nebraska, Lincoln, NE*

3:54

BC-11. Manipulation of spin interaction in FM/graphene/FM trilayer structures. *J. Hong*[1] *1. physics, Pukyong National Univ, Busan, Korea, Republic of*

4:06

BC-12. Metallic state in $Eu_2Ru_2O_7$ induced by hole creation or orbital overlap in the t_{2g} bands. S. Muñ oz Pé rez[1], *R. Cobas Acosta*[1], S. Cadogan[1], J. Albino Oliveira de Aguiar[2], P. Bonville[3], T. Puig[4] and X. Obradors[4] *1. Department of Physics and Astronomy, University of Manitoba, Winnipeg, R3T 2N2, MB, Canada; 2. Departamento de Física, Universidade Federal de Pernambuco, Recife, Pernambuco, Brazil; 3. Service de Physique de l'Etat Condensé, CEA-CNRS, CE-Saclay, 91191 Gif-sur-Yvette, France; 4. Institut de Ciència dels Materials de Barcelona, CSIC, Campus de la UAB, Bellaterra 08193, Spain*

4:18

BC-13. Ferromagnetic Resonance in Micro- and Nano-sized Hexagonal Ferrite Powders at Millimeter Waves. *M.N. Afsar*[1], K.A. Korolev[1,3] and J.S. McCloy[2] *1. Electrical and Computer Engineering, Tufts Univ, Medford, MA; 2. Glass and Materials Science Team, Pacific Northwest National Laboratory, Richland, WA; 3. Extremely High Frequency Medical and Technical Association, Moscow, Russian Federation*

MONDAY AFTERNOON 1:30

GRAND CANYON 9-11

Session BD
MAGNETIC VORTEX DYNAMICS

Sang-Koog Kim, Chair

1:30

BD-01. Tunable negligible-loss energy transfer between dipolar-coupled magnetic disks by stimulated vortex gyration. *H. Jung*[1], K. Lee[1], D. Jeong[1], Y. Choi[1], Y. Yu[1], D. Han[1], A. Vogel[2], L. Bocklage[2], G. Meier[2], M. Im[3], P. Fischer[3] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul Natl Univ, Seoul, Korea, Republic of; 2. Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Hamburg, Germany; 3. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA*

1:42

BD-02. Orbital trajectory characteristics of a current-driven magnetic vortex. *K.S. Buchanan*[1], S.D. Pollard[2], L. Huang[2], D.A. Arena[3] and Y. Zhu[2] *1. Department of Physics, Colorado State University, Fort Collins, CO; 2. Department of Condensed Matter Physics, Brookhaven National Laboratory, Brookhaven, NY; 3. National Synchrotron Source, Brookhaven National Laboratory, Brookhaven, NY*

1:54

BD-03. Field- and current-induced domain-wall motion in permalloy nanowires with magnetic soft spots. A. Vogel[1], S. Wintz[2], T. Gerhardt[1], L. Bocklage[1], T. Strache[2], M. Im[3], P. Fischer[3], J. Fassbender[2], J. McCord[2] and *G. Meier*[1] *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. Institut für Ionenstrahlphysik und Materialforschung, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA*

2:06

BD-04. Magnetic vortex core reversal by excitation of spin waves. ***(Invited)*** *H. Stoll*[1], M. Kammerer[1], M. Weigand[1], M. Curcic[1], M. Noske[1], M. Sproll[1], A. Vansteenkiste[2], B. Van Waeyenberge[2], G. Woltersdorf[3], C.H. Back[3] and G. Schuetz[1] *1. MPI for Intelligent Systems, (formerly MPI for Metals Research), Stuttgart, Germany; 2. Department of Solid State Sciences, Ghent University, Ghent, Belgium; 3. Department of Physics, Regensburg University, Regensburg, Germany*

2:42

BD-05. Thickness dependence of the gyrotropic mode of a single magnetic vortex. *T. Chen*[1], M. Erickson[1], A. Galkiewicz[1], C. Leighton[2] and P. Crowell[1] *1. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN*

3:18

BD-06. X-ray Imaging of Nonlinear Resonant Gyrotropic Magnetic Vortex Core Motion in Circular Permalloy Disks. B.L. Mesler[1], K.S. Buchanan[2], M. Im[1] and *P. Fischer*[1] *1. CXRO, LBNL, Berkeley, CA; 2. Dept of Physics, CSU, Fort Collins, CO*

3:30

BD-07. Evidence of vortex-antivortex pair nucleation in the pinned layer of nanocontact vortex oscillators. *R. M. Otxoa*[1,2], S. Petit-Watelot[1,2], M. Manfrini[3,4], T. Devolder[1,2], J. Kim[1,2], A. Vansteenkiste[5], B. Van de Wiele[6], W. Van Roy[3,4] and L. Lagae[3,4] *1. Institut d'Electronique Fondamentale, Paris, France; 2. Université Paris-Sud, Paris, France; 3. imec, Leuven, Belgium; 4. Physics and Astronomy department, K.U. Leuven, Leuven, Belgium; 5. 5. Department of Solid State Sciences, Ghent University, Ghent, Belgium; 6. Department of Electrical Energy, Systems and Automation, Ghent University, Ghent, Belgium*

3:42

BD-08. All Electrical Operation of Vortex Core Memory Cell. *K. Nakano*[1], D. Chiba[1,2], N. Ohshima[3], S. Kasai[4], T. Sato[5], Y. Nakatani[5], K. Sekiguchi[1], K. Kobayashi[1] and T. Ono[1] *1. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan; 3. NEC Corporation, Sagamihara, Japan; 4. Magnetic Material Centre, National Institute for Materials Science, Tsukuba, Japan; 5. Department of Computer Science, University of Electro-Communications, Chofu, Japan*

3:54

BD-09. Thermo-mechanical sensitivity calibration and magnetometry of permalloy disks via mechanical transduction of nano-paddle resonators. *J.E. Losby*[1,2], J. Burgess[1,2], D.C. Fortin[1], Z. Diao[1,2], W.K. Hiebert[2] and M.R. Freeman[1,2] *1. Physics, University of Alberta, Edmonton, AB, Canada; 2. National Institute for Nanotechnology, Edmonton, AB, Canada*

4:06

BD-10. Robust switching of swirls for coupled ferromagnetic nanobricks with the Landau structure. *A.S. Arrott*[1] *1. Physics, Simon Fraser University, Burnaby, BC, Canada*

4:18

BD-11. Switching rates in exchange-coupled media: moment landscapes. *P.B. Visscher*[1] and R. Zhu[1] *1. Physics and MINT Center, University of Alabama, Tusc aloosa, AL*

MONDAY AFTERNOON 1:30

GRAND CANYON 2-3

Session BE
OTHER MAGNETIC MATERIALS I

Parashu Kharel, Co-Chair
Mathew Kramer, Co-Chair

1:30

BE-01. Novel Exchange Anisotropy in Nanostructured MnAl Alloys. T. Sepehrifar[1], *F. Jimenez-Villacorta*[1], J.L. Marion[1], M. Daniil[2], M. Willard[3] and L.H. Lewis[1] *1. Department of Chemical Engineering, Northeastern University, Boston, MA; 2. Department of Physics, George Washington University, Washington DC, DC; 3. Multifunctional Materials Branch, U.S. Naval Research Laboratory, Washington DC, DC*

1:42

BE-02. Instability of ferromagnetic ground state in $Lu_2Fe_{17-X}Mn_X$ *Z. Arnold*[1], A.G. Kuchin[2] and J. Kamarad[1] *1. Magnetics and Superconductors, Institute of Physics AS CR, v.v.i., Prague, Czech Republic; 2. Institute of Metal Physics, Ekaterinburg, Russian Federation*

1:54

BE-03. Mechanism of MnBi magnetic anisotropy: Role of higher order contributions. *O.N. Mryasov*[1], J. Park[2], Y. Hong[2], S. Faleev[1] and G. Mankey[1] *1. Physics and MINT, University of Alabama, Tuscaloosa, AL; 2. ECE and MINT, Unversity of Alabama, Tuscaloosa, AL*

2:06

BE-04. Structural and electrical properties of half-Heusler LaPtBi thin films grown by 3-source magnetron co-sputtering. *T. Miyawaki*[1], N. Sugimoto[1], N. Fukatani[1], T. Yoshihara[1], K. Ueda[1], N. Tanaka[2] and H. Asano[1] *1. Dept. of Crystalline Materials Science, Graduate School of Engineering, Nagoya University, Nagoya, Japan; 2. EcoTopia Institute, Nagoya University, Nagoya, Japan*

1:18

BE-05. New magnetic configuration in paramagnetic phase of $HoCo_2$ *C.M. Bonilla*[1,4], C. Castan[1], I. Calvo[1,2], A.I. Figueroa[1], J. Herrero-Albillos[3], J.A. Rodrí guez-Velamazán[1,2], D. Schmitz[3], E. Weschke[3], D. Paudyal[4], V.K. Pecharsky[4,5], K.A. Gschneidner Jr[4,5], J. Bartolomé [1], F. Bartolomé [1] and L.M. Garcí a[1] *1. Departamento de fisica de la materia condensada, Universidad de Zaragoza, Zaragoza, Zaragoza, Spain; 2. Institute Laue Langevin, Grenoble, France; 3. Helmholtz-Zentrum Berlin, Berlin, Germany; 4. U.S. Department of Energy, Ames Laboratory, Ames, IA; 5. Department of Materials Science and Engineering, Iowa State University, Ames, IA*

2:30

BE-06. High-field magnetization study of ErCo2. *M. Guillot*[1] and Y. Oner[2] *1. CNRS, IPG, Grenoble, France; 2. Istanbul Technical Iniversity, Istanbul, Turkey*

2:42

BE-07. Irreversibility in the magnetically ordered state of Laves phase compounds $Er_{1-x}Dy_xCo_2$ (x = 0.25, 0.33). R. Nirmala[2,1], *D. Paudyal*[2], Y. Mudryk[2], V.K. Pecharsky[2,3], K.A. Gschneidner Jr.[2,3] and A.K. Nigam[4] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. The Ames Laboratory, U. S. Department of Energy, Iowa State University, Ames, IA; 3. Department of Materials Science and Engineering, Iowa State University, Ames, IA; 4. Tata Institute of Fundamental Research, Mumbai, India*

2:54

BE-08. Synthesis and Electronic Structure of $Fe_{1-x}In_x$ Thin Films. *A. McClure*[1], E. Arenholz[2] and Y.U. Idzerda[1] *1. Physics, Montana State University, Bozeman, MT; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

3:06

BE-09. Crystal Structure and Magnetic States in $Dy_5Ni_2In_4$ *A. Provino*[1,2], Y. Mudryk[2], D. Paudyal[2], P. Manfrinetti[1,2], V.K. Pecharsky[2,3] and K.A. Gschneidner Jr.[2,3] *1. Department of Chemistry, University of Genova, Genova, Italy; 2. The Ames Laboratory, U.S. Department of Energy, Iowa State University, Ames, IA; 3. Materials Science and Engineering Department, Iowa State university, Ames, IA*

3:18

BE-10. Metamagnetization phase transition in Ni-Cu-Mn-Ga alloys. P. Li[1], *J. Wang*[1], J. Liu[1], T. Zhang[1] and C. Jiang[1] *1. School of Materials Science and Engineering, Beihang University, Beijing, China*

3:30

BE-11. A "How To" For Magnetic Carbon. *H. Ohldag*[1], E. Arenholz[2], T. Tyliszczak[2], R. Hoehne[3], D. Spemann[3], P. Esquinazi[3], M. Ungureneau[3] and T. Butz[3] *1. Stanford Synchrotron Radiation Lightsource, SLAC National Accelerator Center, Menlo Park, CA; 2. Advanced Light Source, LBNL, Berkeley, CA; 3. Experimentalphysik, University Leipzig, Leipzig, Germany*

3:42

BE-12. Inducing Magnetism in Graphene Nanomesh. *H. Yang*[1], M. Chshiev[1], D.W. Boukhvalov[2], X. Waintal[3] and S. Roche[4,5] *1. SPINTEC, UMR CEA/CNRS/UJF-Grenoble 1/Grenoble-INP, INAC, 38054, Grenoble, France; 2. School of Computational Sciences, Korea Institute for Advanced Study (KIAS), Hoegiro 87, Dongdaemun-Gu, 130-722, Seoul, Korea, Republic of; 3. SPSMS-INAC-CEA, INAC, 38054, Grenoble, France; 4. CIN2 (ICN-CSIC) and Universitat Autónoma de Barcelona, Catalan Institute of Nanotechnology, Campus UAB, 08193, Barcelona, Spain; 5. ICREA, Institució Catalana de Recerca i Estudis Avancats, 08070, Barcelona, Spain*

3:54

BE-13. Magnetic characteristics of a new cubic defect spinel $Li_{0.5}Mg_{0.5}MnO_3$ for Li-ion batteries. *V. Singh*[1], M.S. Seehra[1], A. Manivannan[2] and P.N. Kumta[3] *1. Physics, West Virginia University, Morgantown, WV; 2. National Energy Technology Laboratories, Morgantown, WV; 3. University of Pittsburgh, Pittsburgh, PA*

4:06

BE-14. Effect of substrate and chemical doping on the atomic structure and physical properties of thermoelectric Ca3Co4O9 thin films. *D. Mazumdar*[1], C. Boyraz[1], H. Dunya[1], M. Ozdemir[1], A. Gupta[1], Q. Qiao[2], A. Gulec[2], T. Paulauskas[2], R.F. Klie[2], S. Kolesnik[3] and D. Dabrowski[3] *1. MINT center, MINT Center University of Alabama, Tuscaloosa, AL; 2. Physics, University of Illinois, Chicago, IL; 3. Physics, Northern Illinois University, Dekalb, IL*

4:18

BE-15. Structural, Magnetic, and Thermodynamic Properties of Three Metal-organic Frameworks $M(N_3)_2(bpy)$, M = Ni, Co, Cu. *D.S. Danilovic*[3], Y. Hamida[1], C. Lin[1], T. Yuen[1], K. Li[2] and J. Li[2] *1. Physics, Temple University, Philadelphia, PA; 2. Chemistry and Chemical Biology, Rutgers University, Piscataway, NJ; 3. Physics, Pitt Community College, Greenville, NC*

MONDAY AFTERNOON 1:30 GRAND CANYON 4-5

Session BF
PERPENDICULAR RECORDING MEDIA
Xiaobin Zhu, Chair

1:30

BF-01. High-performance Voronoi tessellation-based micromagnetic simulator and the analysis of granular media recording. *M.V. Lubarda*[1], M.A. Escobar[1], R. Chang[1], S. Li[1], J. van Ek[2] and V. Lomakin[1] *1. CMRR, UCSD, La Jolla, CA; 2. Western Digital, Longmont, CO*

1:42

BF-02. Recording performance and thermal stability in perpendicular media with enhancement of grain isolation as well as magnetic anisotropy field. *H. Jung*[1], Y. Ikeda[1], G. Choe[1] and Z. Shi[1] *1. Media Development, Hitachi GST, San Jose, CA*

1:54

BF-03. Effectiveness of Medium Noise Suppression in Segmented Media. *J. Zhu*[1] *1. Data Storage Systems Center, Carnegie Mellon Univ, Pittsburgh, PA*

2:06

BF-04. Exchange stiffness in Co thin film alloys. *C. Eyrich*[1], W. Huttema[1], M. Arora[1], E. Montoya[1], C. Burrowes[1], E. Girt[1], B. Heinrich[1], O. Myrasov[2], M. From[3] and O. Karis[4] *1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Physics, University of Alabama, Tuscaloosa, AL; 3. Physics, Western Washington University, Bellingham, WA; 4. Physics and Astronomy, Uppsala University, Uppsala, Sweden*

2:18

BF-05. Magnetic Reversal Mechanisms in Exchange Coupled Composite Media. *C. Morrison*[1], Y. Ikeda[2], K. Takano[2] and T. Thomson[1] *1. School of Computer Science, University of Manchester, Manchester, Lancashire, United Kingdom; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

2:30

BF-06. Angle dependence of the switching field of recording media at finite temperature. *L. Saharan*[1], C. Morrison[2], Y. Ikeda[3], K. Takano[3], J.J. Miles[2], T. Thomson[2], T. Schrefl[4] and G. Hrkac[1] *1. Material science and Engineering, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. School of Computer Science, University of Manchester, Manchester, Lancashire, United Kingdom; 3. San Jose Reasech Centre, Hitatchi Global Storage Technologies, San Jose, CA; 4. St. Pölten University of Applied Sciences, St. Pölten, Austria*

2:42

BF-07. Directly probing magnetization reversal of segmented perpendicular media. ***(Invited)*** *C. Lai*[1], H. Hou[1], B.J. Kirby[2] and D. Suess[3] *1. Department of Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 3. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

3:18

BF-08. Influence of Magnetic Viscosity on the First Order Reversal Curves of Antiferromagnetically Coupled Perpendicular Recording Media. *S.N. Piramanayagam*[1] and M. Ranjbar[1] *1. A*STAR (Agency for Science, Technology and Research), Data Storage Institute, Singapore, Singapore*

3:30

BF-09. Effects of Grain Size on Short Time Switching Fields in Perpendicular Media. *S.H. Florez*[1], C. Boone[1], F. Zhu[1], K. Takano[1] and B.D. Terris[1] *1. Hitachi Global Storage Technologies, San Jose, CA*

3:42

BF-10. Rate-dependence of the intrinsic switching field distribution in perpendicular recording materials. *O. Hovorka*[1], J.L. Pressesky[2], G.A. Ju[2], A. Berger[3] and R.W. Chantrell[1] *1. Department of Physics, York University, York, United Kingdom; 2. Seagate Technology, Fremont, CA; 3. Nanomagnetism Laboratory, CIC nanoGUNE Consolider, Donostia-San Sebastian, Spain*

3:54

BF-11. Modeling magnetic column intermediate layer of perpendicular magnetic recording. *Z. Li*[1], D. Bai[1], S. Li[1], F. Liu[1] and S. Mao[1] *1. Western Digital, Fremont, CA*

4:06

BF-12. Possible Impact of Stacking Faults on HCP Co-Based Perpendicular Magnetic Recording Media. *V.M. Sokalski*[1], D.E. Laughlin[1] and J. Zhu[2] *1. Material Science & Engineering, Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical & Computer Engineering, Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA*

4:18

BF-13. Si/NiFe seedlayers for Ru intermediate layer in perpendicular magnetic recording tape media. *G. Saemma*[1], S. Takahashi[1], S. Matsunuma[2], T. Inoue[2] and S. Nakagawa[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Hitachi Maxell Energy, Osaka, Japan*

MONDAY AFTERNOON 1:30

GRAND CANYON 12-13

Session BG
SUPERCONDUCTIVITY AND LOW DIMENSIONAL MAGNETISM

Leyi Zhu, Chair

1:30

BG-01. Evolution of spin excitations into the superconducting state in $FeTe_{1-x}Se_x$ ***(Invited)*** *M. Lumsden*[1] *1. Oak Ridge National Laboratory, Oak Ridge, TN*

2:06

BG-02. Neutron scattering studies of the magnetic phase diagram of superconductor parent compound $Fe_{1+x}Te$. *E.E. Rodriguez*[1], C. Stock[1,3], P. Zajdel[4], K.L. Krycka[1], C.F. Majkrzak[1] and M.A. Green[1,2] *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Materials Science and Engineering, University of Maryland, College Park, MD; 3. Physics, University of Indiana, Bloomington, IN; 4. Physics of Crystals, Institute of Physics, University of Silesia, Katowice, Poland*

2:18

BG-03. Neutron spin resonance in iron superconductor FeTe0.6Se0.4 under pressure. *K. Marty*[1], M. Lumsden[1], A. Christianson[1], B. Sipos[1], Y. Uwatoko[2], A. Moreira Dos Santos[1], C. Tulk[1], J. Fernandez-Baca[1] and B. Sales[1] *1. ORNL, Oak Ridge, TN; 2. Institute for Solid State Physics, Tokyo, Japan*

2:30

BG-04. Chemical pressure and electron doping effects in $SrPd_2Ge_2$ single crystals. *N. Sung*[1], B.Y. Kang[1] and B.K. Cho[1,2] *1. School of Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea, Republic of; 2. Department of Nanobio Materials and Electronics, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea, Republic of*

2:42

BG-05. Triplet superconductivity in Josephson junctions with barriers of ferromagnetic Heusler alloys. ***(Invited)*** *M.P. Weides*[1], D. Sprungmann[2], H. Kohlstedt[3], H. Zabel[2] and K. Westerholt[2] *1. National Institute of Standards and Technology, Boulder, CO; 2. Institut für Experimentalphysik/Festkörperphysik, Ruhr-Universität Bochum, Bochum, Germany; 3. Nanoelektronik, Technische Fakultät Kiel, Christian-Albrechts-Universität Kiel, Kiel, Germany*

3:18

BG-06. Exploring triplet superconductivity using an epitaxial exchange-spring ferromagnet/superconductor bilayer*. *L.Y. Zhu*[1], Y. Liu[1], J.E. Pearson[1], S. te Velthuis[1], S.D. Bader[1] and J.S. Jiang[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL*

3:30

BG-07. Magnetic irreversibility and quantum tunneling of normal-superconductor interfaces in a type-I superconductor. *S. Vélez*[1], A. Garcí a-Santiago[1], R. Zarzuela[1], J. Hernandez[1], J. Tejada[1] and E. Chudnovsky[2] *1. Grup de Magnetisme, Department of Fundamental Physics, University of Barcelona, Barcelona, Spain; 2. Physics, Lehman College, The City University of New York, New York, NY*

3:42

BG-08. Novel 2D spin system and its interaction with conduction electrons. T. Gang[1], D.M. Yilmaz[2], *D. Atac*[1], E. Strambini[1], S.K. Bose[1], A.H. Velders[3], M.P. de Jong[1], J. Huskens[2] and W.G. van der Wiel[1] *1. Group NanoElectronics (NE), MESA+ Institute for Nanotechnology, Enschede, Netherlands; 2. Molecular Nanofabrication Group, MESA+ Institute for Nanotechnology, Enschede, Netherlands; 3. Biomedical Chemistry Group, MESA+ Institute for Nanotechnology, Enschede, Netherlands*

3:54

BG-09. Topological Excitations in Nanomagnets. *R. Skomski*[1], Z. Li[1], R. Zhang[1], R.D. Kirby[1], A. Enders[1], E. Schubert[2] and D.J. Sellmyer[1] *1. Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Electrical Engineering, University of Nebraska, Lincoln, NE*

4:06

BG-10. Thermal Defects in Skyrmion Crystals. M. Ambrose[1] and *R. Stamps*[2] *1. School of Physics, University of Western Australia, Crawley, WA, Australia; 2. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

4:18

BG-11. Enhancement of the Curie temperature in small particles of itinerant ferromagnets. L. Peters[1], M. Katsnelson[1] and *A. Kirilyuk*[1] *1. Institute of Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands*

MONDAY AFTERNOON 1:30

GRAND CANYON 1

Session BH
FERRITE MATERIALS AND HIGH FREQUENCY DEVICES

Mingzhong Wu, Chair

1:30

BH-01. Tuning the cation distribution and magnetic properties of single phase nanocrystalline Dy3Fe5O12 garnet. *M. Guillot*[1], C. Chinnasamy[2], J. Greneche[3] and V. Harris[2] *1. Laboratoire National des Champs Magnetiques Intenses, Grenoble, France; 2. Electrical Engineering, Northeastern University, Boston, MA; 3. Lab Phys Etat Condense, Univ Maine, Le Mans, Cedex, France*

1:42

BH-02. Anisotropy Study of Garnet Films Grown Over Substrates Populated with Nanoparticles. *G.S. Lang*[1], C. Krafft[2] and I.D. Mayergoyz[1,3] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD; 3. Center of Applied Electromagnetics, University of Maryland, College Park, MD*

1:54

BH-03. Growth and Characterization of BaAlxFe12-xO19 Thin Films. *Z. Celinski*[1], I. Harward[1], Y. Nie[1,2], A. Gardner[1] and L. Reisman[1] *1. Physics, UCCS, Colorado Springs, CO; 2. Department of Electronic Science and Technology, Huazhong University of Science and Technology, Wuhan, Hubei, China*

2:06

BH-04. Skin Effect Suppression for Cu/CoZrNb multilayered inductor. *N. Sato*[1], Y. Endo[1] and M. Yamaguchi[1] *1. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan*

2:18

BH-05. Soft M-type Hexaferrite for VHF Miniature Antenna Applications. *J. Lee*[1], Y. Hong[1], W. Lee[1], G.S. Abo[1], J. Park[1], W. Seong[2], S. Park[2] and W. Ahn[2] *1. Department of Electrical and Computer Engineering and MINT Center, The University of Alabama, Tuscaloosa, AL; 2. Research and Development Center, E.M.W Co., Ltd., Seoul, Korea, Republic of*

2:30

BH-06. Spinel $Ni_{0.7}Mn_{0.3-x}Co_xFe_2O_4$ Ferrite for UHF Devices. *J. Lee*[1], Y. Hong[1], W. Lee[1], G.S. Abo[1], J. Park[1], W. Seong[2], S. Park[2] and W. Ahn[2] *1. Department of Electrical and Computer Engineering and MINT Center, The University of Alabama, Tuscaloosa, AL; 2. Research and Development Center, EMW Co., Ltd., Seoul, Korea, Republic of*

2:42

BH-07. Rotating Field Orientation of Co2Z Hexaferrite Compacts Produced via a Modified Aqueous Approach with a Single Sintering. *A.P. Daigle*[1], E. DuPre[2], J. Modest[2], A. Geiler[1], Y. Chen[2], C. Vittoria[2] and V.G. Harris[1,2] *1. Metamagnetics Inc., Sharon, MA; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA*

2:54

BH-08. New CMOS Integration-Compatible Soft Magnetic Nanocomposite*. Q. Yao[1], L. Lu[2], M. Jantz[2], M. Wu[2] and *Y. Qiang*[1] *1. Physics, University of Idaho, Moscow, ID; 2. Physics, Colorado State University, Fort Collins, CO*

3:06

BH-09. Static and Dynamic Magnetic Properties of the Barium Hexaferrites Co2Z and Co2Y Prepared From Annealed Mixtures of Autocombustion Precursor Powders[1] *T.F. Ekiert*[1,2], D.W. Mirre[1,3], M.D. Alexander, Jr.[1], M.M. Doyle[4,5], B.G. Kelly[4] and K.M. Unruh[4] *1. Composites and Hybrids Branch, Air Force Research Laboratory, WPAFB, OH; 2. Universal Technology Corportation, Dayton, OH; 3. Southwester Ohio Council for Higher Education, Dayton, OH; 4. Department of Physics and Astronomy, University of Delaware, Newark, DE; 5. Department of Physics, Drexel University, Philadelphia, PA*

3:18

BH-10. Excessive grain boundary conductivity of spin-spray deposited ferrite/non-magnetic multilayer. Y. Xing[1], O. Obi[2], N.X. Sun[2] and *Y. Zhuang*[1] *1. Electrical Engineering, Wright State University, Dayton, OH; 2. electrical engineering, Northeastern University, Boston, MA*

3:30

BH-11. A Magnetically-Tuned Microwave Phase Shifter Using YIG/GGG-GaAs Flip-Chip Structure. G. Qiu[2], *Y. Zhu*[1] and C.S. Tsai[1,3] *1. Dept.of EECS, University of California, Irvine, Irvine, CA; 2. Broadcom Corp., Irvine, CA; 3. The Institute of Photonics and Optoelectronics, National Taiwan University, Taipei, Taiwan*

3:42

BH-12. Tuning Limitations of the Voltage-Controlled Planar Microwave Ferrite Resonator*. *G.F. Dionne*[1] and D.E. Oates[1] *1. MIT Lincoln Laboratory, Lexington, MA*

3:54

BH-13. An Active Resonator Based on Magnetic Films for Near Field Microwave Microscopy. *N. Qureshi*[1], O. Kolokoltsev[1] and C. Ordoñ ez-Romero[2] *1. Centro de Ciencias Aplicadas y Desarrollo Tecnológico, Universidad Nacional Autónoma de México, Mexico, DF, Mexico; 2. Instituto de Física, Universidad Nacional Autónoma de México, Mexico, DF, Mexico*

4:06

BH-14. On-wafer microwave band stop filter using a high quality barium hexagonal ferrite thin film. *I. Harward*[1], J. Shaw[2], T. Hunter[1], A. Gardner[1] and Z. Celinski[1] *1. Physics, UCCS, Colorado Springs, CO; 2. Electromagnetics Division, NIST, Boulder, CO*

4:18

BH-15. Magneto-Electric Tuning of the Phase of Propagating Spin Waves. *K.L. Wong*[1], M. Bao[1], S. Cherepov[1], J. Zhao[1], Y. Lin[1], M. Lewis[1], A. Bur[2], T. Wu[2], J. Zhu[3], P.K. Amiri[1], I. Krivorotov[3], G. Carman[2], A.G. Khitun[4] and K.L. Wang[1]*1. Electrical Engineering, UCLA, Los Angeles, CA; 2. Mechanical and Aerospace Engineering, UCLA, Los Angeles, CA; 3. Physics and Astronomy, UCI, Irvine, CA; 4. Electrical Engineering, UCR, Riverside, CA*

MONDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session BP
MULTILAYERS AND SUPERLATTICES II (Poster Session)

Young Kim, Chair

BP-01. Inhomogeneity and damping in CoFe/Pd multilayers. *J.M. Shaw*[1], H.T. Nembach[1] and T.J. Silva[1]*1. NIST, Boulder, CO*

BP-02. The annealing effect of exchange-biased [Co/Pt] multilayer with perpendicular magnetic anisotropy. *J. Chen*[1,2], J. Feng[1], X. Han[2], W. Zhan[2] and J.D. Coey[1]*1. CRANN and School of Physics, Dublin, Ireland; 2. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics,Chinese Academy of Sciences, Beijing, China*

BP-03. Magnetization reversal and change of magnetic anisotropy in Co/Cu Multilayers Nanowires with crossed configuration. *N. Ahmad*[1], C. Junyang[1], W. Shida[1] and H. Xiufeng[1]*1. Institute of Physics, Beijing, China*

BP-04. Manipulation of permeability spectrum in [ferromagnet/antiferromagnet]$_N$ exchange-biased multilayered thin films for wideband microwave noise filter application. *L. Jin*[1], H. Zhang[1], X. Tang[1], G. Lu[1] and Z. Zhong[1]*1. University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

BP-05. Relaxation effects evidenced on first-order reversal curves in hard/soft magnetic multilayers. *A. Stancu*[1], P. Postolache[1], L. Stoleriu[1], T. Bakas[2], N. Siadou[3], M. Androutsopoulos[3] and I. Panagiotopoulos[3]*1. Faculty of Physics, "Alexandru Ioan Cuza" University of Iasi, Iasi, Iasi, Romania; 2. Department of Physics, University of Ioannina, Ioannina, Greece; 3. Department of Materials Science and Engineering, University of Ioannina, Ioannina, Greece*

BP-06. Intrawire Magnetic Interactions in Electrodeposited Co/Cu and Co/Au Multilayer Nanowires. T. Dastagir[1] and *H. Yu*[1]*1. Arizona State University, Tempe, AZ*

BP-07. Effect of interfaces on the magnetic properties of SnO2/Cu-Zn ferrite multilayers. S. Saipriya[1], J. Kurian[1] and *R. Singh*[1]*1. School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

BP-08. Effect of layer thickness (MgO and Ta) on perpendicular magnetic anisotropy of [Ta/$Co_{60}Fe_{20}B_{20}$/MgO]$_5$ multilayer films. F. Yuan[1], J. Hsu[1], *Y. Lin*[2], P. Kuo[2] and J.K. Mei[3]*1. Physics, National Taiwan University, Taipei, Taiwan; 2. Materials Science & Engineering, National Taiwan University, Taipei, Taiwan; 3. Department and Institute of Electrical Engineering, Minghsin University of Science and Technology, Hsin Chu, Taiwan*

BP-09. Perpendicular magnetic anisotropy in CoFe/Tb multilayers. J. Feng[1], *H. Kurt*[1], M. Venkatesan[1] and M. Coey[1]*1. CRANN and School of Physics, Trinity College, Dublin 2, Ireland*

BP-10. The strain, thickness and electric field effects on the magnetic anisotropy of the thin FeCo/MgO(001) films: A first principles study. *K. He*[1], J. Chen[1] and Y. Feng[2]*1. Department of Materials Science & Engineering, National University of Singapore, Singapore, Singapore; 2. Department of Physics, National University of Singapore, Singapore, Singapore*

BP-11. Texture induced CoFe(110) phases study in multilayer [CoFe(x)/Os]n films. D. Chiang[1,2], *Y. Yao*[3], D. Wei[4], S. Chen[3] and H. Lin[2]*1. Center of General Education, Ming Hsin Univ. of Sci. and Tech., Hsinchu, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 3. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan; 4. Dept. of Mechanical Engn., National Taipei University of Technology, Taipei, Taiwan*

BP-12. Withdrawn

BP-13. Thermal stability of CoFeB/Pt multilayers with perpendicular magnetic anisotropy. Y. Zhu[1], *Z. Zhang*[1], B. Ma[1] and Q. Jin[1]*1. Department of Optical Science and Engineering, Fudan University, Shanghai, China*

BP-14. Curie temperatures of CoPt ultrathin continuous films. *W. Cai*[1,2], J. Shi[2], Y. Nakamura[2], W. Liu[1] and R. Yu[3]*1. Department of Materials Science and Engineering, Tsinghua University, Beijing, China; 2. Department of Metallurgy and Ceramics Science, Tokyo Institute of Technology, Tokyo, Japan; 3. School of Materials Science and Engineering, Beihang University, Bejing, China*

BP-15. Magnetism of compositionally modulated $Ti_{1-x}V_xO_2/TiO_2$ multilayers. *D. Le Roy*[1,2], S. Valloppilly[2], R. Skomski[1,2], S. Liou[1,2] and D.J. Sellmyer[1,2]*1. Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Nebraska Center for Materials and Nanoscience, Lincoln, NE*

MONDAY
AFTERNOON
1:00

SAGUARO BALLROOM

Session BQ
FERROMAGNETIC SEMICONDUCTORS I (Poster Session)

Brian Kirby, Chair

BQ-01. Stability and Magnetoelectronic Properties of Indium Nitride Quantum Dots Doped With Co and Ni Atoms. *L.A. Pozhar*[1] *1. Department of Physics, University of Idaho, Moscow, ID*

BQ-02. Magnetic Bipolarons in Quantum Dots. *R. Oszwaldowski*[1], I. Zutić [1] **and A.G. Petukhov**[2] *1. Physics, University at Buffalo, Buffalo, NY; 2. Physics, South Dakota School of Mines and Technology, Rapid City, SD*

BQ-03. Exchange bias effect of $Ge_{1-x}Mn_xTe$ with antiferromagnetic MnTe and MnO materials. *S. Lim*[1,2], H. Lu[1,2], J. Bi[1], T. Liew[1,2] and K. Teo[1] *1. Electrical & Computer Engineering Department, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

BQ-04. Ferromagnetic Behavior in Ytterbium-doped and Ion Implanted GaN Semiconductor. *R. Palai*[1], J. Wu[1], H. Tanaka[2], J. Wang[2], W.M. Jadwisienczak[2] and H. Huhtinen[3] *1. Dept. of Physics, University of Puerto Rico, San Juan; 2. School of EECS, Ohio University, Athens, OH; 3. Department of Physics, University of Turku, Turku, Finland*

BQ-05. Magnetic properties of Mn-implanted 6H-SiC single crystal. *M. Al-Azri*[1], M. El-zain[1], K. Bouziane[1], M. Ché rif[2], Y. Roussigné [2], A. Declemy[3], M. Drouet[3] and L. Thomé [4] *1. Physics, Sultan Qaboos University, Muscat, Oman; 2. LSPM (CNRS-UPR 34071), Université Paris 13, 93430 Villetaneuse, France; 3. PhyMat (CNRS UMR 6630), Université de Poitiers, Marie et Pierre Curie SP2MI, France; 4. CSNSM-Orsay, Université d'Orsay, F-91405 Orsay, France*

BQ-06. Clustering and Magnetism of Nickel in situ Doped Amorphous AlN Thin Films. *H. Tanaka*[1], G. Chen[2], C. Wan[2], M.E. Kordesch[2], S. Kaya[1] and W.M. Jadwisienczak[1] *1. EECS, Ohio University, Athens, OH; 2. Department of Physics and Astronomy, Ohio University, Athens, OH*

BQ-07. Structural and compositional phase separation in ferromagnetic semiconductor (Zn,Cr)Te.H. Kobayashi[1], Y. Nishio[1], K. Ishikawa[1], K. Kanazawa[1], *S. Kuroda*[1], M. Mitome[2] and Y. Bando[2] *1. Institute of Materials Science, University of Tsukuba, Tsukuba, Japan; 2. International Center For Materials Nanoarchtectonics, National Institute for Materials Science, Tsukuba, Japan*

BQ-08. Mn5Ge3 clustered in n-type ferromagnetic semiconductor (Mn,H):Ge. *D. Duc Dung*[1,2], W. Feng[1], Y. Hwang[1], D. Tuan[1] and S. Cho[1] *1. Department of Physics, University of Ulsan, Ulsan 680-749, Korea, Republic of; 2. Department of General Physics, Ha Noi University of Science and Technology,, 1 Dai Co Viet road, Ha Noi, Viet Nam*

BQ-09. Room-temperature Ferromagnetism in Homogeneous Cr-doped GaN.P. Suggisetti[1,2], T. Patil[1,2], R.R. Adari[1,2], D. Banerjee[1,2], T. Pramanik[1,2], D. Saha[1,2] and *S. Ganguly*[1,2] *1. Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, India; 2. Centre of Excellence in Nanoelectronics, Indian Institute of Technology Bombay, Mumbai, India*

BQ-10. Layer by Layer investigation on the magneto-transport properties of ferromagnetic Ge:Mn prepared by pulsed laser annealing. *D. Bürger*[1], S. Zhou[1], M. Hö wler[1], G. Kovacs[1], H. Reuther[1], W. Skorupa[1], M. Helm[1] and H. Schmidt[1] *1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany*

BQ-11. Ferromagnetic InMnSb Multi-Phase Films Study by Aberration-Corrected Scanning Transmission Electron Microscopy. *L. Lari*[1,2], C. Feeser[3], B.W. Wessels[4] and V.K. Lazarov[1,2] *1. Department of Physics, University of York, York, United Kingdom; 2. The York JEOL Nanocentre, University of York, York, United Kingdom; 3. Department of Chemical Engineering, Northwestern University, Evanston, IL; 4. Department of Materials Science & Engineering and Materials Research Center, Northwestern University, Evanston, IL*

BQ-12. Magnetic and Optical Properties of Rare Earth-Doped GaN Semiconducting Thin Films.R. Palai[1], *K. Dasari*[1], J. Wu[1], W.M. Jadwisienczak[2] and H. Huhtinen[3] *1. Dept. of Physics, University of Puerto Rico, San Juan; 2. School of EECS, Ohio University, Athens, OH; 3. Department of Physics, University of Turku, Turku, Finland*

BQ-13. Giant magnetocaloric of half-metallic Ba0.08Mn0.92As epitaxial film grown on Al2O3(0001) substrate. *D. Tuan*[1], D. Duc Dung[1,2], W. Feng[1], D. Thiet[1], Y. Shin[1] and S. Cho[1] *1. Department of Physics, University of Ulsan, Ulsan 680-749, Korea, Republic of; 2. Department of General Physics, Ha Noi University of Science and Technology, 1 Dai Co Viet road, Ha Noi,, Viet Nam*

BQ-14. Kondo effect and carrier transportation in α-In2O3:Cr diluted magnetic oxide thin films. *C. Lin*[1], Y. Lee[1], C. Hsu[1], S. Sun[2] and H. Chou[1] *1. Physics, Natl Sun Yat-Sen University, Kaohsiung, Taiwan; 2. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

BQ-15. The origin of the ferromagnetic ordering of zinc vacancies in Sc-doped ZnO: bulk versus thin-films. *M.B. Kanoun*[1], S. Goumri-Said[1], U. Schwingenschlogl[1] and A. Manchon[1] *1. Physical Sciences and Engineering Division, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia*

MONDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session BR
SPINTRONICS: ORGANIC MATERIALS (Poster Session)

Michel de Jong, Chair

BR-01. Spin-dependent transport properties of single-molecule magnet Mn3.H. Hao[1], X. Zheng[1], *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, Hong Kong SAR, China*

BR-02. Magnetic fringe field control of electronic transport in an organic film.F. Wang[2], *F. Macià*[1], A.D. Kent[1], M. Wohlgenannt[2] and M.E. Flatté [2]*1. Physics and Astronomy, University of Iowa, IOWA, IA; 2. Physics, New York University, New York, NY*

BR-03. Spin-flip induced magnetoresistance in positionally disordered organic solids. *N. Harmon*[1] and M. Flatté [1]*1. Department of Physics and Astronomy and Optical Science and Technology Center, University of Iowa, Iowa City, IA*

BR-04. Depth of metal penetration at the organics/ferromagnet interface.H. Chang[1], C. Wang[2], M. Chiang[2], Y. Chan[1], C. Lee[1,3], P. Wang[3], Y. Hsu[1,4] and *D. Wei*[1]*1. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 2. Graduate Program for Science and Technology of Synchrotron Light Source, National Tsing Hua University, Hsinchu, Taiwan; 3. Department of Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan; 4. Institute of Electro-Optical Science and Engineering, National Cheng Kung University, Tainan, Taiwan*

BR-05. Hybridization and exchange coupling at organic semiconductor/ferromagnetic heterojunctions. *A. Pratt*[1,2], X. Sun[3], L. Dunne[4], M. Kurahashi[1] and Y. Yamauchi[1]*1. National Institute for Materials Science, Tsukuba, Japan; 2. York Institute for Materials Research, University of York, York, United Kingdom; 3. University of Science and Technology of China, Anhui, Hefei, China; 4. Department of Physics, University of York, York, United Kingdom*

BR-06. Ab-initio understanding of the spin injection in organic molecular semiconductors systems. *S. Goumri-Said*[1], M. Kanoun[1], U. Schwingenschlogl[1] and A. Manchon[1]*1. Physical Sciences and Engineering Division, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia*

BR-07. Magnetic Specific Heat Studies of Two Ising Spin ½ Chain Systems $M(N_3)_2(bpy)$. *T. Yuen*[1], Y. Hamida[1], D.S. Danilovic[1], K. Li[2] and J. Li[2]*1. Physics, Temple University, Philadelphia, PA; 2. Chemistry and Chemical Biology, Rutgers University, Piscataway, NJ*

BR-08. Large change of perpendicular magnetic anisotropy in Cobalt ultrathin film induced by varying capping layers. *X. Zhang*[1], S. Mizukami[1], T. Kubota[1], H. Naganuma[2], M. Oogane[2], Y. Ando[2] and T. Miyazaki[1]*1. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 2. DepartDepartment of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Japan*

BR-09. The half-metallic properties of the soft ferrimagnet [MnII(enH)(H2O)][CrIII(CN)6]H2O : A first principle study. *N. Li*[1,2], G. Zhong[1] and H. Lin[1,3]*1. Center for Photovoltaics and Solar Energy, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China; 2. School of Physics and Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, Hubei, China; 3. Physics, The Chinese University of Hong Kong, Hong Kong, Hong Kong*

BR-10. Permalloy and $Co_{50}Pd_{50}$ as ferromagnetic contacts for TMR measurements in carbon nanotube-based devices. *C. Morgan*[1,2], K. Schmalbuch[2,3], C. Meyer[1,2] and C.M. Schneider[1,2]*1. Peter Grünberg Institute 6, Forschungszentrum Jülich, Jülich, Germany; 2. JARA Jülich Aachen Research Alliance, Jülich, Germany; 3. II. Physikalisches Institut, RWTH Aachen University, Aachen, Germany*

BR-11. Spin-orbit force in graphene with Rashba spin-orbit coupling. *C. Chen*[1,2], Y. Su[1,2] and C. Chang[1,2]*1. Department of Physics, National Taiwan University, Tapei, Taiwan; 2. Center for Quantum Science and Engineering (CQSE), National Taiwan University, Taipei, Taiwan*

BR-12. Slow Magnetic Relaxation and Superexchange Interactions in Actinide-based Molecules. *N. Magnani*[1,2]*1. Lawrence Berkeley National Laboratory, Berkeley, CA; 2. Institute for Transuranium Elements, European Commission, Joint Research Centre, Karlsruhe, Germany*

BR-13. Spin transition pressure pulses investigation in the perspective of a modified dynamical model. *R. Tanasa*[1], A. Stancu[1], F. Varret[2], J. Linares[2], E. Codjovi[2] and J. Letard[3]*1. Department of Physics, "Alexandru Ioan Cuza" University, Iasi, Romania; 2. Groupe d'Etude de la Matiere Condensee, Universite de Versailles CNRS-UMR8635, Versailles, France; 3. Institut de Chimie de la Matiere Condensee de Bordeaux, Universite Bordeaux I, UPR 9048 CNRS, Bordeaux, France*

BR-14. Tailoring and Understanding Metal/Organic Semiconductor Interfaces Using a Thin Oxide Layer.N. Lee[1], Y. Bae[1], *T. Kim*[1], H. Cho[2], C. Lee[2], L. Fleet[3], A. Hirohata[3] and E. Ito[4]*1. Department of Physics, Ewha Womans University, Seoul, Korea, Republic of; 2. School of Electrical Engineering and Computer Science, Seoul National University, Seoul, Korea, Republic of; 3. Department of Electronics, The University of York, York, United Kingdom; 4. Flucto-Order Functions Research Team, RIKEN Advanced Science Institute, Wako, Japan*

BR-15. Local Electronic Structure of Complex Magnetic Nanostructures. *R. Skomski*[1], P. Sahota[2,1], A. Enders[1], J. Rojas[1], A. Kashyap[2] and D.J. Sellmyer[1] *1. Physics and Astronomy, Univ Nebraska, Lincoln, NE; 2. IIT, Jaipur, India*

MONDAY AFTERNOON 1:00 SAGUARO BALLROOM

Session BS
SEMIONDCONDUCTOR SPIN INJECTION AND TRANSPORT (Poster Session)

Hideki Saito, Chair

BS-01. Spin accumulation created electrically in an *n*-Ge channel using Schottky tunnel contacts. *Y. Baba*[1], K. Kasahara[1], K. Masaki[1], Y. Ando[1], Y. Hoshi[2], K. Sawano[2], M. Miyao[1] and K. Hamaya[1,3] *1. Department of Electronics, Kyushu University, Fukuoka, Japan; 2. Research Center for Silicon Nano-Science, Tokyo City University, Tokyo, Japan; 3. PRESTO, Japan Science and Technology Agency, Tokyo, Japan*

BS-02. Electrical creation of spin accumulation in a Si channel using a Schottky tunnel contact. *Y. Ando*[1,2], Y. Maeda[1], K. Kasahara[1], Y. Baba[1], Y. Hoshi[3], K. Sawano[3], M. Miyao[1] and K. Hamaya[1,4] *1. Electronics, Kyushu University, Fukuoka, Japan; 2. INAMORI Frontier Reseach Center, Kyushu University, Fukuoka, Japan; 3. Advanced Research Laboratories, Tokyo City University, Tokyo, Japan; 4. PRESTO, Japan Science and Technology Agency, Tokyo, Japan*

BS-03. Tunneling anisotropy in Si/Al_2O_3/ferromagnet devices. *S. Sharma*[1,2], S.P. Dash[3], H. Saito[1], S. Yuasa[1] and R. Jansen[1] *1. Spintronics Research Centre, AIST, Tsukuba, Japan; 2. Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands; 3. Department of Microtechnology and Nanoscience, Chalmers University of Technology, Göteborg, Sweden*

BS-04. The effect of ferromagnetic Gd marker on the effective work function of Fe in contact with Al_2O_3/Si. A.V. Zenkevich[1], Y.A. Matveyev[1], Y.Y. Lebedinskii[1], *R. Mantovan*[2], M. Fanciulli[2,3], S. Thiess[4] and W.W. Drube[4] *1. NRNU, Moscow Engineering Physics Institute, Moscow, Russian Federation; 2. CNR-IMM MDM Laboratory, Agrate Brianza (MB), Italy; 3. Dipartimento di Scienza dei Materiali, Università di Milano Bicocca, Milano, Italy; 4. Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany*

BS-05. Spin transport calculation for the three-terminal device of zigzag graphene nano-ribbon. *H. Lee*[1] and C. Chang[1,2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Quantum Science and Engineering (CQSE), National Taiwan University, Taipei, Taiwan*

BS-06. Magnetic Properties of Nanostructured-Co/Graphite interface studied by X-ray Magnetic Circular Dichroism. *P.J. Wong*[1], M.P. de Jong[1], M.H. Siekman[1] and W.G. van der Wiel[1] *1. NanoElectronics Group, MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands*

BS-07. Non-uniform current density and spin accumulation in a 1 μm thick n-GaAs channel. *B. Endres*[1], M. Ciorga[1], R. Wagner[1], S. Ringer[1], M. Utz[1], D. Bougeard[1], C. Back[1] and G. Bayreuther[1,2] *1. Universität Regensburg, Regensburg, Germany; 2. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany*

BS-08. Schottky Barrier Distributions in Fe/GaAs Devices. L.R. Fleet[1], K. Yoshida[2,3], H. Kobayashi[4], Y. Ohno[4] and *A. Hirohata*[1,5] *1. Physics, The University of York, York, United Kingdom; 2. Nagoya University, Nagoya, Aichi, Japan; 3. Nanostructures Research Laboratory, JFCC, Nagoya, Aichi, Japan; 4. RIEC, Tohoku University, Sendai, Miyagi, Japan; 5. PRESTO, JST, Kawaguchi, Saitama, Japan*

BS-09. Effect of Drift on Spin Polarization in a Spin-LED. D. Banerjee[1,2], T. Pramanik[2], R. Adari[2], T. Patil[2], P. Suggisetti[2], S. Ganguly[2] and *D. Saha*[2] *1. IITB-Monash Research Academy, CSE Building, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India; 2. Department of Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India*

BS-10. Optically oriented electron spin transport across a Heusler alloy/GaAs quantum well interface. *Y. Shirahata*[1], H. Muraoka[1], M. Itoh[1], Y.K. Takahashi[2], K. Hono[2], M. Yamaguchi[3] and T. Taniyama[1] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Magnetic Materials Unit, National Institute for Materials Science, Tsukuba, Japan; 3. Department of Electronics, Nagoya University, Nagoya, Japan*

BS-11. Magnetism and transport properties of epitaxial Fe-Ga thin film on GaAs(001). D. Duc Dung[1,2], *D. Tuan*[1], V. Son[3], Y. Shin[1] and S. Cho[1] *1. Department of Physics, University of Ulsan, Ulsan 680-749, Korea, Republic of; 2. Department of General Physics, Ha Noi University of Science and Technology,, 1 Dai Co Viet road, Ha Noi, Viet Nam; 3. Centers for Nanobioenineering and Spintronics, Chungnam National University, Daejon 350-746, Korea, Republic of*

BS-12. Complex Spin Detection Behaviour at the Epitaxial Fe/GaAs Interface Following Post-growth Annealing. *C. Shen*[1], T. Trypiniotis[1] and C. Barnes[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

BS-13. Magnetic field controlled threshold resistive switching in magnetic granular systems. *A.M. Sahadevan*[1], A. Kalitsov[1], S.N. Jammalamadaka[1], K. Gopinadhan[1], C.S. Bhatia[1], G. Xiong[1] and H. Yang[1] *1. Department of Electrical and Computer Engineering, NUSNNI-Nanocore, National Univ Singapore, Singapore, Singapore*

BS-14. Tunable positive magnetoresistance effect of Co-doped amorphous carbon films. Y. Jiang[1], J. Gao[1] and *Z. Wu*[1] *1. Physics, Hongkong University, Hong Kong, China*

BS-15. Frequency-dependence of magneto-conductance of Co doped amorphous carbon films. *H. Hsu*[1], C. Ko[1], W. Liao[1], P. Chuang[2], C. Lee[2] and H. Su[3] *1. Department of Applied Physics, National Pingtung University of Education, Pingtung, Taiwan; 2. Department of Engineering and System Science, National Tsing-Hua University, HsinChu, Taiwan; 3. Industrial Application Office, National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

MONDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session BT
MULTIFERROIC MATERIALS I (Poster Session)

Claudia Felser, Chair

BT-01. Investigation of magnetic ordering in $Bi_4Ti_3O_{12}$-n $BiFeO_3$ solid solutions. *P.R. Srinivasan*[1], S. Vitta[2] and V. Kalidhindi B. R.[1] *1. Materials Research Centre, Indian Institute of Science Bangalore, Bangalore, Karnataka, India; 2. Department of Metallurgical engineering and Materials Science, Indian Institute of Bombay, Mumbai, Maharashtra, India*

BT-02. Structure and magnetism of $BaTi_{1-x}Fe_xO_3$ multiferroics. V. Nguyen[1,3], *H.M. Nguyen*[1,2], P. Chuang[2], J. Zhang[5], D. Tran[1], C. Hu[2,4], T. Chen[2,4], H. Yang[5], D. Vu[1], C. Lee[2,4] and V. Le[1] *1. Vietnam Academy of Science and Technology, Hanoi, Viet Nam; 2. Department of Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan; 3. Faculty of Physics, College of Science, Thai Nguyen University, Thai Nguyen, Viet Nam; 4. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 5. Department of Physics, National Sun Yat-Sen University, Kaohsiung, Taiwan*

BT-03. Conductivity across barriers as origin of high-temperature dielectric response in $BaTiO_3$ and (Ba,Ti) doped $BiFeO_3$ multiferroic ceramics. *T. Wang*[1], C. Tu[1,2] and K. Wu[2] *1. Graduate Institute of Applied Science and Engineering, Fu Jen Catholic University, Taipei County, Taiwan; 2. Department of Physics, Fu Jen Catholic University, New Taipei City, Taiwan*

BT-04. Photovoltaic Phenomena in $BiFeO_3$ Multiferroic Ceramics. . *Jou*[1], T. Wang[2], . Chen[1], . Yen[1], C. Tu[2] and Y. Yao[2] *1. Department of Physics, Fu Jen Catholic University, Taipei, Taiwan; 2. Graduate Institute of Applied Science and Engineering, Fu Jen Catholic University, Taipei, Taiwan*

BT-05. Fabrication of highly ordered ferromagnetic BiFeO3 nanotubes by AAO template method. *L. Oliveira*[1] and K.R. Pirota[1] *1. Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas, Campinas, Brazil*

BT-06. Sputter-prepared $BiFeO_3$(001) films on $L1_0$ FePt(001)/glass substrates. *H.W. Chang*[1], F.T. Yuan[2], C.W. Shih[3], C.R. Wang[1], W.C. Chang[3] and S.U. Jen[4] *1. Department of Physics, Tunghai University, Taichung, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan; 3. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 4. Institute of Physics, Academia Sinica, Taipei, Taiwan*

BT-07. Annealing temperature dependence of exchange bias in $BiFeO_3$/CoFe bilayers. *T. Yu*[1], H. Naganuma[2], W. Wang[1], X. Han[2] and Y. Ando[1] *1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

BT-08. Correlation of spin and structure in doped Bismuth ferrite nanoparticles. *J. Lin*[1,2], T. Tite[1], Y. Tang[1], C. Lue[2], Y. Chang[1] and J. Lin[1] *1. CCMS, NTU, Taipei, Taiwan; 2. Phyics, NCKU, Tainan, Taiwan*

BT-09. Magnetoelectric effects in BiFeO3/CoFe2O4 nano-composites. *N. Aimon*[1], D. Kim[1], H. Choi[1] and C. Ross[1] *1. MIT, Cambridge, MA*

BT-10. Strain relaxation in Bi0.9Pb0.1FeO3/SrRuO3/SrTiO3 heterostructure. M. Bohra[1], *H. Chou*[1], H.J. Yeh[1] and C.P. Wu[1] *1. Physics, Natl Sun Yat-Sen University, Kaohsiung, Taiwan*

BT-11. Indication of Magnetoelectric Properties in $BiFeO_3$/(00*l*)$SrFe_{12}O_{19}$ Bilayers. *Y. Yasukawa*[1], X. Liu[1] and A. Morisako[1] *1. Information Engineering, Shinshu University, Nagano, Nagano, Japan*

BT-12. Ferromagnetism in Multiferroic $BiFeO_3$: Facts and Artifacts. *R. Palai*[1] and H. Huhtinen[2] *1. Dept. of Physics, University of Puerto Rico, San Juan; 2. Department of Physics, University of Turku, Turku, Finland*

BT-13. Structural transformation in Pb-doped BiFeO3 (00l) epitaxial thin films. *M. Bohra*[1], C.P. Wu[1], Y.H. Yeah[1] and H. Chou[1] *1. Department of Physics, National Sun Yat-Sen University, Kaohsiung, Kaohsiung, Taiwan*

BT-14. Multiferroic behaviour of disordered bismuth-substituted zinc ferrite. *S. Mito*[1], H. Takagi[1], A.V. Baryshev[1] and M. Inoue[1]*1. Toyohashi University of Technology, Toyohashi, Japan*

BT-15. Crystal structure and magnetic properties of La and Ba codoped $Bi_{0.8}La_{0.2-x}Ba_xFeO_3$ ($0 \le x \le 0.2$) multiferroics. J. Ge[1], G. Cheng[1], J. Du[1] and *X. Wu*[1]*1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China*

MONDAY
AFTERNOON
1:00

SAGUARO BALLROOM

Session BU
MAGNETOCALORIC PROPERTIES II (Poster Session)

Victorino Franco, Chair

BU-01. Magnetocaloric Effect in Gd/Fe Heterostructures. C. Bauer[1], D.D. Belyea[1], P.B. Jayathilaka[1] and *C.W. Miller*[1]*1. Applied Physics, University of South Florida, Tampa, FL*

BU-02. Improved magnetocaloric properties in partially Co-substituted $Gd_{65}Fe_{20-y}Co_yAl_{10}X_5$ (X = Si, B) melt-spun ribbons. *I. Skorvanek*[1], J. Marcin[1], J. Kovac[1], Z. Sniadecki[2] and B. Idzikowski[2]*1. Magnetism, Institute of Experimental Physics Slov. Acad. Sci., Kosice, Slovakia; 2. Institute of Molecular Physics, Poznan, Poland*

BU-03. Magnetocaloric powder composite from alloys of the series $Gd_{1-x}Pr_xNi_2$ to be used in an Ericsson-cycle magnetic refrigerator. *A.M. Carvalho*[1], A.G. Mendes[2] and A.A. Coelho[2]*1. Materials Metrology, INMETRO, Duque de Caxias, RJ, Brazil; 2. Applied Physics, UNICAMP, Campinas, SP, Brazil*

BU-04. Large magnetocaloric effect and refrigerant capacity in Gd-Co-Ni metallic glasses. X. Zhong[1], P. Tang[1], Z. Liu[1], D. Zeng[1], Z. Zheng[1], H. Yu[1], W. Qiu[1] and *H. Zhang*[2]*1. School of Materials Science and Engineering, South China University of Technology, Guangzhou, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

BU-05. The effect of Fe/Al-ratio on the thermal properties and magnetocaloric effect of $Gd_{55}Fe_xAl_{45-x}$ (x=15-35) glassy alloy ribbons. *F. Yuan*[1], Q. Li[1] and B. Shen[1]*1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences, Ningbo 315201, Zhejiang, China*

BU-06. The magnetocaloric effect and critical behavior in amorphous $Gd_{60}Co_{40-x}Mn_x$ *Z. Zhigang*[1], Z. Xichun[1], Y. Hongya[1], L. Zhongwu[1] and Z. Dechang[1]*1. School of Materials Science & Engineering, South China University of Technology, Guangzhou, Guangdong, China*

BU-07. Withdrawn

BU-08. Large Cryogenic Magnetocaloric Effect in Superparamagnetic DyCuAl Nanoparticles at 1 T Magnetic Field. *X. Liu*[1,2], Q. Zhang[2], J. Jiang[2], D. Geng[2], Z. Zhang[2] and S. Or[1]*1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China; 2. Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*

BU-09. Isothermal Entropy Changes in Nanocomposite $Co:Ni_{67.7}Cu_{32.3}$ *S.A. Michalski*[1], R. Skomski[1], X. Li[1], D. Le Roy[1], T. Mukherjee[1], C. Binek[1] and D.J. Sellmyer[1]*1. Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska-Licoln, Lincoln, NE*

BU-10. The magnetic and magnetocaloric properties of $NdFe_{12-x}Mo_x$ compounds. Y. Xia[1], *H. Du*[1], J. Xu[1] and J. Yang[1]*1. School of Physics, Peking University, Beijing, China*

BU-11. Magnetocaloric effect in SmCo2-xFex alloys. *L.A. Burrola*[1], C. Grijalva[1], C. Santillán[1] and J.A. Matutes[1]*1. Centro de Investigación en Materiales Avanzados, Chihuahua, Chihuahua, Mexico*

BU-12. Large refrigerant capacity of RGa (R=Tb and Dy) compounds. X. Zheng[1], J. Chen[1], J. Shen[2], Z. Xu[1], J. Wu[2], F. Hu[1], J. Sun[1] and *B. Shen*[1]*1. State key laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Key Laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China*

BU-13. Magnetic phase transition, magnetocaloric effect and magnetotransport in Tb_3Co. B. Li[1], *W.J. Ren*[1], Y. Zhang[1], Z. Wang[1], J. Li[1], J. Yang[1] and Z. Zhang[1]*1. Shenyang national laboratory for materials science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China*

BU-14. Anomalous magnetic ground state in PrSi evidenced by the magnetocaloric effect. *J.L. Snyman*[1] and A.M. Strydom[1]*1. Physics Department, University of Johannesburg, Johannesburg, Gauteng, South Africa*

BU-15. Neutron diffraction and magnetization studies on the effect of Cr disorder in $Cr_{1-x}Te$. *E.E. Rodriguez*[1], V. Provenzano[2], O. Gourdon[3] and R. Shull[2]*1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Metallurgy, National Institute of Standards and Technology, Gaithersburg, MD; 3. Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, TN*

MONDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session BV
PERMANENT-MAGNET PROCESSING AND APPLICATIONS (Poster Session)

Ming Yue, Chair

BV-01. Precise Measurement of Magnetization Characteristics in High Pulsed Field. Y. Nakahata[1,2], B.E. Borkowski[1,2], H. Shimoji[1,2], K. Yamada[3,1], T. Todaka[2] and *M. Enokizono*[2] *1. Regional Technological Collaboration Promotion Bureau, Oita Prefectural Organization for Industry Creation, Oita, Japan; 2. Oita University, Oita, Japan; 3. Saitama University, Saitama, Japan*

BV-02. The study of permanent magnet vibration-to-electric generation for human vibration. *Z. Wang*[1], B. Wang[1,2], N. Zhang[1], L. Wang[1], Q. Li[1] and W. Yan[1] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin, China; 2. International Center for Materials Physics, Academia Sinic, Shenyang, Liaoning, China*

BV-03. Characteristic analysis and comparison of axial flux machines according to magnetization pattern for 500W-class wind power generator application. S. Jang[1], *Y. Park*[1], K. Ko[1] and J. Choi[1] *1. Electrical Engineering, Chungnam National University, Daejoen, Korea, Republic of*

BV-04. Wide Aperture Permanent Magnet Solenoid. *B.W. Hoff*[1], C.H. Chen[2], J.C. Horwath[3], M.D. Haworth[1], P.J. Mardahl[1] and S.L. Heidger[1] *1. Directed Energy Directorate, Air Force Research Laboratory, Kirtland AFB, NM; 2. GE Global Research, Niskayuna, NY; 3. Propulsion Directorate, Air Force Research Laboratory, Wright-Patterson AFB, OH*

BV-05. Improvement of the corrosion resistance of the Nd-Fe-B sintered magnets by Cu nanoparticles doping. C. Sun[1], W. Liu[1], H. Sun[1], *M. Yue*[1], D. Zhang[1] and J. Zhang[1] *1. Beijing University of Technology, Beijing, China*

BV-06. Effect of hydriding degree on the microstructure and magnetic properties of NdFeB magnets. *S. Guo*[1,2], Y. Liu[1,2], B. Chen[1,2], C. Yan[1,2], D. Lee[1,2] and A. Yan[1,2] *1. Key Laboratory of Magnetic materials and Devices, Ningbo Institute of Materials Technology and Engineering, Chiense Academy of Sciences, Ningbo, Zhejiang, China; 2. Zhejiang province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Materials Technology and Engineering, Chiense Academy of Sciences, Ningbo, Zhejiang, China*

BV-07. Corrosion protection of Nd-Fe-B sintered magnets by surface phosphate treatment. *L. Qiao*[1], J. Zheng[1], W. Cai[1], S. Che[1] and L. Jiang[1] *1. College of Chemical Engineering and Materials Science, Zhejiang University of Technology, Hangzhou, China*

BV-08. Rotor Losses Minimization Techniques using Combination of Double Different Layer Sleeve of High Speed PM Machines based on Electromagnetic Field Theory. S. Jang[1], *J. Ahn*[1], K. Ko[1], S. Lee[2] and Y. Lee[3] *1. Dept. of Electrical Engineering, Chungnam National university, Daejun, Korea, Republic of; 2. Korea Institute of Industrial Technology Gwangju Research Center, Gwangju, Korea, Republic of; 3. Korea Institute of Science and Technology, Seoul, Korea, Republic of*

BV-09. Design of Permanent Magnet Eddy Current Brakes for an Electromagnetic Launch System. *S. Zhou*[1,2], H. Yu[1], M. Hu[1] and L. Huang[1] *1. Research Center for Motion Control of MOE, School of electrical Engineering, Southeast University, Nanjing, Jiangsu, China; 2. School of Electrical Information and Automation, Qufu Normal University, Rizhao, Shandong, China*

BV-10. Electromagnetic-thermal-mechanical coupled analysis of dual mechanical port machine for wind power application. X. Sun[1], *M. Cheng*[1], S. Zhu[1] and J. Zhang[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

BV-11. Research on a Permanent Magnet Tubular Linear Generator. *H. Yu*[1], B. Yuan[1], M. Hu[1], L. Huang[1] and S. Zhou[1] *1. Research Center for Motion Control of MOE, Southeast University, Nanjing, jiangsu, China*

BV-12. Magnet Eddy Current Loss Analysis of Interior Permanent Magnet Synchronous Motor for railway vehicles. *C. Park*[1,2], H. Lee[2], B. Lee[2] and J. Lee[3] *1. Electrical Engineering Department, Hanyang University, Seoul, Korea, Republic of; 2. Korea Raillroad Research Institute, Uiwang-si, Gyeonggi-do, Korea, Republic of; 3. Division of Electrical & Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of*

BV-13. Core-loss reduction on the permanent magnet for a traction motor with concentrated winding. C. Park[1] and *H. Lee*[1] *1. High-Speed Railroad System Research Team, Korea Railroad Research Institute, Uiwang, Korea, Republic of*

BV-14. Field Weakening Capability Investigation of an Axial Flux PMSM with Radially Sliding Permanent Magnets Used for Electric Vehicles. *J. Zhao*[1], P. Zheng[2], X. Liu[1] and C. Tong[2] *1. School of Automation, Beijing Institute of Technology, Beijing, China; 2. Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China*

BV-15. Improved Analytical models for Predicting the Electromagnetic Field Distribution in Brushless Permanent-magnet Machines. *W. Yuanyuan*[1], D. Zhiquan[1], W. Xiaolin[1], L. Xing[1] and M. Xiaohan[1] *1. Jiangsu Key Laboratory of New Energy Generation and Power Conversion, Nanjing, China*

MONDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session BW
EXCHANGE BIAS AND HEUSLER ALLOYS (Poster Session)

Chris Palmstrom, Co-Chair
Atsufumi Hirohata, Co-Chair

BW-01. Spin reorientation in Ni/NiO Core-shell Nanowires. *Y. Huang*[1] and C. Lai[1] *1. Materials Science and Engineering, National Tsing-Hua University, Hsinchu, Taiwan*

BW-02. Effect of the exchange bias angle on the magnetoimpedance response in multilayered $(FeNi/IrMn)_5$ films. *C. Garcia*[1,2], J.M. Florez[2,3], P. Vargas[3] and C.A. Ross[2] *1. Physics, Bogazici University, Istanbul, Turkey; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 3. Dpto de Fisica, Universidad Técnica Federico Santa María, Valparaiso, Chile*

BW-03. Underlayer controlled exchange bias in room-temperature deposited Ta/FeMn/NiFe thin films. F. Yuan[1], *J. Hsu*[1], P. Sharma[3], C. Tsai[2] and Y. Lin[2] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Materials Sciences and Engineering, National Taiwan University, Taipei, Taiwan; 3. School of Physics adn materials Science, Thapar University, Patiala, India*

BW-04. Exchange bias in sputtered $FM/BiFeO_3$ (FM: Fe, Co, and NiFe) thin films. *H.W. Chang*[1], F.T. Yuan[2], C.W. Shih[3], W.L. Li[1], C.R. Wang[1], W.C. Chang[3] and S.U. Jen[4] *1. Department of Physics, Tunghai University, Taichung, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan; 3. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 4. Institute of Physics, Academia Sinica, Taipei, Taiwan*

BW-05. Current-induced switching of exchange bias in nano-scaled magnetic tunnel junctions with SAF pinned layer. C. Chao[1], C. Kuo[1], L. Horng[1], M. Tsunoda[2], M. Takahashi[2] and *J. Wu*[1] *1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

BW-06. Antiferromagnetic exchange coupling in Fe_3O_4 / Fe (001) epitaxial films grown by a conventional sputtering technique. K. Miura[1], *H. Yanagihara*[1], M. Myoka[1] and E. Kita[1] *1. Inst. Appl. Phys., U. Tsukuba, Tsukuba, Japan*

BW-07. Spin transport in lateral spin-valve devices with single-crystalline Heusler compounds. *N. Hashimoto*[1], S. Oki[1], S. Yamada[1], Y. Maeda[1], T. Kimura[2,3], M. Miyao[1,3] and K. Hamaya[1,4] *1. Department of Electronics, Kyushu University, Fukuoka, Japan; 2. INAMORI Frontier Research Center, Kyushu University, Fukuoka, Japan; 3. CREST, Japan Science and Technology Agency, Tokyo, Japan; 4. PRESTO, Japan Science and Technology Agency, Tokyo, Japan*

BW-08. Synthesis of half metallic nanowires in anodized alumina membrane by annealing. *S. Min*[1], J. Lim[2], L. Malkinski[1] and J.B. Wiley[2] *1. Advanced Materials Research Insitute(AMRI), The University of New Orleans, New Orleans, LA; 2. Department of Chemistry, University of New Orleans, New Orleans, LA*

BW-09. Nucleation of magnetic nano domains in CMR-manganites. T. Koyama[1], *Y. Togawa*[2,3], K. Takayanagi[2], M. Kobayashi[1], K. Harada[1] and S. Mori[1,3] *1. Department of Materials Science, Osaka Prefecture University, Sakai, Osaka, Japan; 2. Nanoscience and Nanotechnology Research Center, Osaka Prefecture University, Sakai, Osaka, Japan; 3. CREST, Japan Science and Technology Corporation (JST), Tokyo, Osaka, Japan*

BW-10. Spin polarization ratio and exchange bias properties of (111) Fe_4N thin films. *X. Li*[1], M.S. Osofsky[2], K.L. Jensen[2] and J. Wang[1] *1. The Center for Micromagnetics and Information Technologies, Department of Electrical and computer engineering, University of Minnesota, Minneapolis, MN; 2. Naval Research Laboratory, Washington, DC*

BW-11. High Temperature Magnetic Behavior of Heusler Alloy Thin Films and Nanowires (Co2XAl, X = Fe or Mn). *K.R. Sapkota*[2,1], P. Gyawali[1], I.L. Pegg[2,1] and J. Philip[2,1] *1. Vitreous State Laboratory, Catholic University of America, Washington, DC; 2. Physics Department, Catholic University Of America, Washington, DC*

BW-12. Spin dependent transport at Fe_3O_4/graphene interface. Z. Liao[1,2], *H. Wu*[1] and I. Shvets[1] *1. Physics, Trinity College Dublin, Dublin, Ireland; 2. State Key Laboratory for Mesoscopic Physics, Department of Physics, Peking University, Beijing, Beijing, China*

BW-13. Study of Powder Magnetoresistance in Magnetite. *R.J. Sáenz*[1], C.R. Santillán[1] and J.A. Matutes[1] *1. Integración y diseño de Materiales Compuestos, Centro de Investigación en Materiales Avanzados,S.C., Chihuahua, Chihuahua, Mexico*

BW-14. Band structure calculations of Co2FeGa1-xGex Heusler alloys. *V. Sankar*[1], O. Mryasov[2], A. Srinivasan[3], S. Faleev[2], Y. Takahashi[4] and K. Hono[4] *1. University of Notre Dame, Midwest Institute for Nanoelectronics (MIND), South Bend, IN; 2. Materials for Information Center, University of Alabama, Tuscaloosa, AL; 3. Department of Physics, Indian Institute of Technology, Guwahati, Assam, India; 4. Magnetic Materials Center (MMC), Nationsl Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan*

BW-15. Co2MnZ (Z = Al, Ga) compounds: Structural, electronic, and magnetic properties. *R.R. Mebsout[1]1. Physics Departement, Modelling and Simulation in Materials Science Laboratory (LMSSM), Sidi Bel Abbes, Algeria*

TUESDAY MORNING 8:30 GRAND CANYON 6

Session CA
SYMPOSIUM ON ROOM TEMPERATURE SEMICONDUCTOR SPINTRONICS
Berry Jonker, Chair

8:30

CA-01. Graphene spintronics. ***(Invited)*** *N. Tombros[1]1. Physics of Nanodevices, Zernike Institute for Advanced Materials, Groningen, Netherlands*

9:06

CA-02. Single spin readout and control of nanopositioned defects in diamond. ***(Invited)*** *J. Wrachtrup[1,2]1. University of Stuttgart, Stuttgart, Germany; 2. 3rd Institute of Physics, Stuttgart University, Stuttgart, Germany*

9:42

CA-03. Electrical injection and detection of spin accumulation in Si at 500 K with magnetic metal/SiO_2 contacts. ***(Invited)*** *C.H. Li[1]1. Code 6361, Naval Research Laboratory, Washington, DC*

10:18

CA-04. Spin injection, detection and modulation in (Mn)Ge. ***(Invited)*** *K. Wang[1]*, F. Xiu[1] and Y. Zhou[1]*1. Electrical Engineering, UCLA, Los Angeles, CA*

10:54

CA-05. Electric field control of Spin waves in BiFeO3: towards magnonic analog and digital logic devices. ***(Invited)***
P. Rovillain[1], R. de Sousa[2], Y. Gallais[1], A. Sacuto[1], D. Colson[3], A. Forget[3], M. Bibes[4], A. Barthé lé my[4] and *M. Cazayous[1]1. Laboratoire Matériaux et Phénomènes Quantiques Université Paris 7, PAris, France; 2. Department of Physics and Astronomy, University of Victoria, Victoria, BC, Canada; 3. Service de Physique de l'Etat Condensé, CEA Saclay, IRAMIS, SPEC (CNRS URA 2464), Gif sur Yvette, France; 4. Unité Mixte de Physique CNRS/Thales, Palaiseau, France*

TUESDAY MORNING 8:30 GRAND CANYON 7

Session CB
AMORPHOUS ALLOYS II
Sybille Flohrer, Chair

8:30

CB-01. Changes in Structural and Magnetic Properties on Crystallization of Fe-rich FeSiBPCu Nano hetero-amorphous Alloys. *A. Makino[1]*, M. Yokoyama[1], S. Kim[1] and P. Sharma[1]*1. Institute for Materials Research, IMR, Sendai, Miyagi, Japan*

8:42

CB-02. Domain structure and magnetization loss in a toroidal core based on an Fe-based amorphous alloy. *D. Azuma[1,2]*, R. Hasegawa[2], S. Saito[3] and M. Takahashi[4]*1. Hitachi Metals, Ltd., Yasugi-shi, Shimane-ken, Japan; 2. R&D, Metglas, Inc, Conway, SC; 3. Electeric engineering, Graduated school of engineering, Tohoku University, Sendai, Miyagi, Japan; 4. New industry creation hatchery center, Graduated school of engineering, Tohoku University, Sendai, Miyagi, Japan*

8:54

CB-03. Effect of P to B concentration ratio on soft magnetic properties in FeSiBPCu alloys.F. Kong[1], H. Men[1] and *B. Shen[1]1. Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China*

9:06

CB-04. Microstructure and Magnetic Anisotropy in Amorphous and Nanocrystalline Materials. ***(Invited)*** *M. Ohnuma[1]1. National Institute for Materials Science, Tsukuba, Japan*

9:42

CB-05. Secondary Crystallization in $(Fe_{65}Co_{35})_{79.5+x}B_{13}Nb_{4-x}Si_2Cu_{1.5}$ and $(Fe_{65}Co_{35})_{83}B_{10}Nb_4Si_2Cu_1$ Nanocomposite Alloys.
S.J. Kernion[1], V. Keylin[2], J. Huth[2] and M.E. McHenry[1]*1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Magnetics Technology Center, Division of Spang & Company, Pittsburgh, PA*

9:54

CB-06. In-situ Investigation of Phase Formation in Nanocrystalline $(Co_{97.5}Fe_{2.5})_{89}Zr_7B_4$ Alloy by High Temperature XRD.
S.J. Kernion[1], P.R. Ohodnicki Jr.[2] and M.E. McHenry[1]*1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Chemistry and Surface Science Division, National Energy Technology Laboratory, Pittsburgh, PA*

10:06

CB-07. High temperature properties of (Fe81Co19)84Ta9B7 alloy for high frequency applications. *Z. Turgut*[1,2], E. Michel[1,3], J.C. Horwath[1], L. Semiatin[1] and M.S. Lucas[1,4]*1. Air Force Research Laboratory, Wright Patterson Air Force Base, OH; 2. UES Inc., Dayton, OH; 3. Wright State University, Dayton, OH; 4. UTC Inc., Dayton, OH*

10:18

CB-08. Soft magnetic properties of bulk FeCoMoPCBSi glassy core prepared by copper mold casting. *M. Zhang*[1], F. Kong[1], C. Chang[1] and B. Shen[1]*1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology & Engineering, Chinese Academy of Sciences, Ningbo 315201, China*

10:30

CB-09. Influence of Nb Content on Nanocrystallization and High Temperature Magnetic Properties of FeCo Based High Induction Alloys.R.K. Roy[1], S.J. Kernion[2], S. Shen[2] and *M.E. McHenry*[2]*1. Material Science and Technology Division, National Metallurgical Laboratory, Jamshedpur, Jharkhand, India; 2. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

10:42

CB-10. Microstructure and magnetic properties of nanostructured FeCo alloys prepared by severe plastic deformation. *N. Poudyal*[1], C. Rong[1], Y. Zhang[2], D. Wang[1], M.J. Kramer[2] and J. Liu[1]*1. Physics, University of Texas at Arlington, Arlington, TX; 2. Materials Science and Engineering, Ames Laboratory, Iowa State University, Ames, IA*

10:54

CB-11. Nanoheteromicrostructure and soft magnetic properties of Co and Ni substituted FeSiBCuP nanocrystalline alloys. *N. Lupu*[1,2], S. Corodeanu[1], Y. Zhang[2], A. Makino[2] and H. Chiriac[1]*1. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania; 2. Institute for Materials Research, Tohoku University, Sendai, Japan*

11:06

CB-12. Vector magnetic properties of Fe-based amorphous sheets under alternating flux condition. *S. Ueno*[1], T. Todaka[1] and M. Enokizono[1]*1. Faculty of Engineering, Oita University, Oita, Japan*

11:18

CB-13. Analysis of heating effects (magnetic hyperthermia) in FeCrSiBCuNb nanocrystalline wires. *C. Gomez-Polo*[1], S. Larumbe[1], J. Pé rez-Landazábal[1] and J. Pastor[1]*1. Universidad Publica de Navarra, Pamplona, Spain*

TUESDAY MORNING 8:30

GRAND CANYON 8

Session CC
MAGNETIC TUNNEL JUNCTION I: MgO, OTHER

Dimitri Houssammedine, Chair

8:30

CC-01. Elucidation of transport behavior in bcc-FeCo/MgO(001)/FeCo magnetic tunnel junction by spin-resolved photoemission. ***(Invited)*** *S. Andrieu*[1], F. Bonell[1], T. Hauet[1], F. Montaigne[1], F. Bertran[2], P. Lefevre[2], A. Taleb[2] and L. Calmels[3]*1. Nancy University / CNRS, Insitut Jean Lamour, Vandoeuvre, France; 2. CASSIOPEE, SOLEIL synchrotron, Saclay, France; 3. CEMES, Toulouse, France*

9:06

CC-02. Enhancement of perpendicular magnetic anisotropy in FeB free layers using a thin MgO cap layer. *H. Kubota*[1], S. Ishibashi[2], T. Saruya[1], T. Nozaki[1], A. Fukushima[1], K. Yakushiji[1], K. Ando[1], Y. Suzuki[2,1] and S. Yuasa[1]*1. National Institute of Advance Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan*

9:18

CC-03. Co-tunneling, Kondo Effect and Impurity-Caused Spin-Flips in CoPt Discontinuous Magnetic Tunnel Junctions. *D. Ciudad*[1,2], Z.C. Wen[3], A.T. Hindmarch[1], E. Negusse[4], D.A. Arena[4], X.F. Han[3] and C.H. Marrows[1]*1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Francis Bitter Magnet Lab, Massachusetts Institute of Technology (MIT), Cambridge, MA; 3. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Science, Beijing, China; 4. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY*

9:30

CC-04. Spin Related Quantum Well Effect in Fully Epitaxial Cr/ultrathin-Fe/MgO/Fe Magnetic Tunnel Junctions. *P. Sheng*[1], T. Nozaki[1] and Y. Suzuki[1]*1. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan*

9:42

CC-05. Ab-initio justification of correlation between perpendicular magnetic anisotropy and Bloch states spin filtering in MgO-based tunnel junctions. *H. Yang*[1], M. Chshiev[1] and B. Dieny[1]*1. SPINTEC, UMR CEA/CNRS/UJF-Grenoble 1/Grenoble-INP, INAC, 38054, Grenoble, France*

9:54

CC-06. Tunnel Magnetoresistance in Magnetic Tunnel Junctions with Low Energy $Mg_{1-x}Zn_xO$ Barriers. *Y. Kurosaki*[1], M. Yamada[1], D. Sato[1], A. Nishide[1], H. Yamamoto[1] and J. Hayakawa[1] *1. Central Research Laboratory, Hitachi Ltd., Tokyo, Japan*

10:06

CC-07. Effect of crystalline structures on perpendicular anisotropy of CoFeB in MgO based magnetic tunnel junction. *T. Ochiai*[1], Y. Lee[1], C. Yoshida[1], K. Tsunoda[1], M. Aoki[1] and T. Sugii[1] *1. Ultra-Low Voltage Device Project, Low-power Electronics Association & Project(LEAP), Tsukuba-shi, Ibaraki-ken, Japan*

10:18

CC-08. Composition dependence of tunnel magnetoresistance effect using high-perpendicular magnetic anisotropy Mn-Ga ordered alloys. *T. Kubota*[1], M. Araidai[1], S. Mizukami[1], X. Zhang[1], H. Naganuma[2], M. Oogane[2], Y. Ando[2], M. Tsukada[1] and T. Miyazaki[1] *1. WPI Advanced Institute for Materials Research, Tohoku university, Sendai, Miyagi, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan*

10:30

CC-09. Finite tunnel magnetoresistance at the compensation point of $Sm_{1-x}Gd_xAl_2$, A ferromagnetic electrode with zero magnetization. *K. Dumesnil*[1], M. Da Silva[1], C. Dufour[1], M. Hehn[1], D. Pierre[1], D. Lacour[1], F. Montaigne[1], G. Lengaigne[1] and S. Robert[1] *1. Institut Jean Lamour, Vandoeuvre les Nancy, France*

10:42

CC-10. Room-temperature magnetoresistance in CoFeB/polycrystalline SrTiO3/CoFeB magnetic tunnel junctions deposited by ion beam sputtering. *E. Hassen*[1], B. Viala[1], M. Cyrille[1], M. Cartier[1], O. Redon[1] and P. Lima[2] *1. CEA-Léti, Minatec Campus, 17 rue des Martyrs, 38054 Grenoble, France; 2. SPTS, Process Technology Systems, Newport, NP18 2TA, United Kingdom*

10:54

CC-11. Interfacial oxidation effects on the inverse tunneling magnetoresistance and abnormal bias dependence of Fe4N/Fe3O4/AlOx/Fe junctions. *H. Xiang*[1], F. Shi[1], M.S. Rzchowski[2], P.M. Voyles[1] and Y. Chang[1] *1. Materials Science, University of Wisconsin Madison, Madison, WI; 2. Department of Physics, University of Wisconsin Madison, Madison, WI*

11:06

CC-12. Shot noise studies of individual and series arrays of magnetic tunnel junctions. *R. Stearrett*[1], A. Gokce[1], X. Kou[1], J.Q. Xiao[1], E.R. Nowak[1] and C. Nordman[2] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Nonvolatile Electronics, Eden Prairie, MN*

11:18

CC-13. Spin filter functionality in magnetic oxides on silicon: Electronic structure and spin transport. *M. Müller*[1], C. Caspers[1], H. Doganay[1], A.X. Gray[2], A.M. Kaiser[1,2], M. Luysberg[1], A. Gloskovskii[3], W. Drube[4], C.S. Fadley[2] and C.M. Schneider[1] *1. Peter Grünberg Institute, Research Center Jülich, Jülich, Germany; 2. Department of Physics, University of California Davis, Davis, CA; 3. Analytic and Anorganic Chemistry, Johannes Gutenberg University, Mainz, Germany; 4. DESY Photon Science, DESY, Hamburg, Germany*

TUESDAY MORNING 8:30

GRAND CANYON 9-11

Session CD
SPIN WAVES I
Steve Russek, Chair

8:30

CD-01. Breaking the diffraction limit dynamically: Optical observation of single nanomagnet dynamics in dense arrays. ***(Invited)*** Z. Liu[1], R. Brandt[1], Y. Yahagi[1], B. Hansen[2], B.D. Harteneck[3], J. Bokor[3], A.R. Hawkins[2] and *H. Schmidt*[1] *1. School of Engineering, UC Santa Cruz, Santa Cruz, CA; 2. ECEn, Brigham Young University, Provo, UT; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA*

9:06

CD-02. Vortex dynamics and core reversal by spin waves in metallic double point contact nanopillars. *G. Hrkac*[1], L. Saharan[1], J. Kim[3], T. Devolder[3], C. Chappert[3], M. Manfrini[2] and T. Schrefl[4] *1. Department of Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. IMEC, Leuven, Belgium; 3. University of Applied Science, St Poelten, Austria; 4. 2Institut d'Electronique Fondamentale, Université Paris-Sud, Paris, France*

9:18

CD-03. Vortex mode dispersion relations in a 2-D array of interacting disks. *F. Montoncello*[1] and L. Giovannini[1] *1. Department of Physics-CNISM, University of Ferrara, Ferrara, Italy*

9:30

CD-04. Topological and uniform applied field induced magnonic band gaps in zigzag shaped magnonic waveguides. *M. Dvornik*[1] and V.V. Kruglyak[1] *1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom*

9:42

CD-05. Hot Spin-Wave Resonators and Scatterers. *C.L. Ordóñez-Romero*[1], O. Kolokoltsev[2] and N. Qureshi[2]*1. Solid State Department, IFUNAM, Mexico City, Distrito Federal, Mexico; 2. Centro de Ciencias Aplicadas y Desarrollo Tecnologico, Universidad Nacional Autonoma de Mexico, Mexico City, Distrito Federal, Mexico*

9:54

CD-06. Increasing efficiency of microwave to propagating spin wave conversion at nanoscale.E. Ahmad[1], *Y. Au*[1], O. Dmytriiev[1], T. Davison[1] and V.V. Kruglyak[1]*1. School of Physics, University of Exeter, Exeter, United Kingdom*

10:06

CD-07. Static and dynamic properties of cobalt nanocylinders.Y. Roussigne[1], *S. Cherif*[1], K. Bouziane[2], A. Stashkevich[1], M. Vasquez Villalabeitia[3], M. Britel[4] and M. Cherkaoui[5]*1. LSPM (CNRS-UPR 3407), Université Paris 13, 99 avenue Jean-Baptiste Clément, 93430, Villetaneuse, France; 2. UIR, Technopolis Rabat-Shore, Rocade Rabat-Salé, 11100 Sala el Jadida, Rabat, Morocco; 3. ICMM, CSIC, Campus de Cantoblanco, 28049, Madrid, Spain; 4. LTI-National School of Applied Sciences, Tangier, Morocco; 5. Georgia Institute of Technology, 225 North Avenue NW, GA 30332, Atlanta, GA*

10:18

CD-08. Frequency tuning of ultrafast magnetization oscillations by varying the iron content of FePt alloys. *R. Brandt*[1], F. Ganss[2], T. Senn[3], M. Albrecht[2] and H. Schmidt[1]*1. School of Engineering, UC Santa Cruz, Santa Cruz, CA; 2. Institute of Physics, Chemnitz University of Technology, Chemnitz, Germany; 3. Institute of Nanometer Optics and Technology, Helmholtz Center Berlin for Materials and Energy, Berlin, Germany*

10:30

CD-09. Photo-Magnonics in Spin-Wave Meta Materials. *B. Lenk*[1], F. Garbs[1], J. Panke[1], H. Ulrichs[2] and M. Mü nzenberg[1]*1. I. Institute of Physics, Georg-August-University of Goettingen, Goettingen, Germany; 2. Institute for Applied Physics, University of Münster, Münster, Gabon*

10:42

CD-10. Spatial Coherence and Vortices in Magnon Bose-Einstein Condensate.P. Nowik-Boltyk[1], *O. Dzyapko*[1], V.E. Demidov[1], S.O. Demokritov[1] and N.G. Berloff[2]*1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Department of Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge, United Kingdom*

10:54

CD-11. Observation of spin wave cooling effect.*(Invited)* *T. An*[1,2], K. Uchida[1,2], K. Harii[1,2], Y. Kajiwara[1,2], K. Yamaguchi[1,2] and E. Saitoh[1,2]*1. The Institute for Materials Research, Tohoku University, Sendai, Japan; 2. CREST, Japan Science and Technology Agency, Tokyo, Japan*

TUESDAY MORNING 8:30

GRAND CANYON 2-3

Session CE
NANOPARTICLE CHARACTERIZATION I

Andrew Pratt, Chair

8:30

CE-01. Room-temperature tunnel magnetoresistance in self-assembled chemically-prepared nanoparticles superlattices. *J. Dugay*[1], R. Tan[1], A. Meffre[1], T. Blon[1], L. Lacroix[1], J. Carrey[1], P.F. Fazzini[1], S. Lachaize[1], B. Chaudret[1] and M. Respaud[1]*1. LPCNO, Toulouse, France*

8:42

CE-02. Effective Energy Barrier Distribution for Mixed Oxide Magnetic Nanoparticles: Isolated Particles and Periodic 3-dimensional Arrays.M. Okuda[1], J. Eloi[1], A. Sarua[1] and *W. Schwarzacher*[1]*1. H H Wills Physics Lab, University of Bristol, Bristol, United Kingdom*

8:54

CE-03. Mossbauer and X-ray Spectromicroscopy Studies of Hematite (α-Fe_2O_3) Nanocubes. *J. Jalli*[1], Y. Hong[1], C. Kim[2], C. Kim[2], J. Park[1], J. Lee[1], G.S. Abo[1], A. Romero-Herreros[3] and A.F. Rodriguez[3]*1. Department of Electrical and Computer Engineering and MINT Center, The University of Alabama, Tuscaloosa, AL; 2. Department of Nano and Electronic Physics, Kookmin University, Seoul, Korea, Republic of; 3. Departament de Física Fonamental and Institut de Nanociència i, Universitat de Barcelona, Barcelona, Spain*

9:06

CE-04. Optical and Electrical Investigation of Bismuth Telluride Nanoplates. *M. Eginligil*[1], W. Zhang[2], V. Truong[1], A. Kalitsov[1], X. Lu[2] and H. Yang[1]*1. Department of Electrical and Computer Engineering, NUSNNI-Nanocore, National University of Singapore, Singapore, Singapore; 2. Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore, Singapore*

9:18

CE-05. Evidence for Highly Suppressed Magnetostructural Transition Temperature in Nanostructured FeRh. *R. Barua*[1], F. Jimenez-Villacorta[1], H. Jiang[3], J.E. Shield[3], D. Heiman[2] and L.H. Lewis[1] *1. Department of Chemical Engineering, Northeastern University, Boston, MA; 2. Department of Physics, Northeastern University, Boston, MA; 3. Department of Mechanical Engineering, University of Nebraska, Lincoln, NE*

9:30

CE-06. Magnetic anisotropy in Nanomagnets. *F. Moro*[1], J. van Slageren[2], J. McMaster[1], R. de Miguel[3], C.G. Moreno[3], A. Lostao[3], F. Luis[3], S. Tang[1], E. Lester[1], T. Stamatatos[4], A. Tasiopoulos[5], G. Christou[6], Y. Krupskaya[7], V. Kataev[7], D. Sells[8], F. Tuna[8], E. McInnes[8], D.P. Mills[1], W. Lewis[1], A.J. Blake[1], S.T. Liddle[1], M.G. Lopez[1], A. La Torre[1], C.G. Garcia[9] and A.N. Khlobystov[1] *1. University of Nottingham, Nottingham, United Kingdom; 2. University of Stuttgart, Stuttgart, Germany; 3. University of Zaragoza, Zaragoza, Spain; 4. University of Patras, Patras, Greece; 5. University of Cyprus, Nicosia, Greece; 6. University of Florida, Gainesville, FL; 7. IFW, Dresden, Germany; 8. University of Manchester, Manchester, United Kingdom; 9. University of Valencia, Valencia, Spain*

9:42

CE-07. Manipulation of magnetic domain walls in nanowires and nanoparticles. ***(Invited)*** *E.Y. Vedmedenko*[1] *1. IAP, University of Hamburg, Hamburg, Germany*

10:18

CE-08. Nano-particle Magnetism with a Dispersion of Particle Sizes. *M. El-Hilo*[1] and R.W. Chantrell[2] *1. Physics, University of Bahrain, Sakhir, Bahrain; 2. Physics, University of York, York, United Kingdom*

10:30

CE-09. Size and surface effects on the magnetic properties of NiO nanoparticles. *M.P. Proenca*[1,2], C.T. Sousa[1], A.M. Pereira[1], P.B. Tavares[3], J. Ventura[1], M. Vazquez[2] and J.P. Araujo[1] *1. Dep. Física e Astronomia, IFIMUP and IN - Institute of Nanoscience and Nanotechnology, Porto, Portugal; 2. Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain; 3. Dep. Química, CQ-VR, Univ. Trás-os-Montes e Alto Douro, Vila Real, Portugal*

10:42

CE-10. Superferromagnetism: magnetic order from structural disorder. *Y.G. Pogorelov*[1], G.N. Kakazei[1,2], N.I. Nurgazizov[3] and H.G. Silva[4] *1. IFIMUP/IN, Physics Department, University of Porto, Porto, Porto, Portugal; 2. Institute of Magnetism, National Academy of Sciences of Ukraine, Kiev, Kiev, Ukraine; 3. Physics and Surface Chemistry Laboratory, Kazan Physico-Technical Institute, Kazan, Kazan, Russian Federation; 4. Centro de Geofísica, University of Évora, Évora, Alentejo, Portugal*

TUESDAY MORNING 8:30

GRAND CANYON 4-5

Session CF
HEAT ASSISTED MEDIA AND RECORDING

Christopher Morrison, Chair

8:30

CF-01. FePt graded media obtained by ion irradiation. *F. Albertini*[1], A. di Bona[2], P. Luches[2], S. D'Addato[2,3], G. Gazzadi[2], F. Casoli[1], P. Lupo[1] and S. Valeri[2,3] *1. IMEM-CNR, Parma, Italy; 2. CNR - Istituto di Nanoscienze, Centro di ricerca S3, Modena, Italy; 3. Dipartimento di Fisica, Università di Modena e Reggio Emilia, Modena, Italy*

8:42

CF-02. Columnar grain growth of L10-FePt thin films. *E. Yang*[1,2], H. Ho[2,3], D.E. Laughlin[2,3] and J. Zhu[1,2] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 3. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

8:54

CF-03. Investigation of lattice dynamics and nanoscale thermal transport in FePt/Ag heat assisted magnetic recording (HAMR) media films using psec time-resolved x-ray diffraction. D. Xu[1,2], *C. Sun*[1], D.L. Brewe[1], S. Han[3], J. Chen[2], S.M. Heald[1] and G. Chow[2] *1. Advanced Photon Source, Argonne Nat'l Lab, Argonne, IL; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. Department of Physics Education, Chonbuk National University, Jeonju, Korea, Republic of*

9:06

CF-04. Fine control of nanogranular microstructure of FePtAg-C films for perpendicular magnetic recording. *P. Alagarsamy*[1,2], Y.K. Takahashi[1] and K. Hono[1] *1. Magnetic Materials Center, National Institute for Materials Science, Tsukubha, Ibaraki, Japan; 2. Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India*

9:18

CF-05. High density temperature assisted recording on granular FePtAgC media. *O. Mosendz*[1], S. Pisana[1], J. Reiner[1], B. Stype[1] and D. Weller[1] *1. Hitachi San Jose Research Center, San Jose, CA*

9:30

CF-06. The Impact of Deposition Temperature on the A1 to $L1_0$ Transformation in FePt Films. B. Wang[1] and *K. Barmak*[1] *1. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:42

CF-07. The Ultimate Limit of Magnetic Recording. ***(Invited)*** *H. Richter*[1], A. Lyberatos[2], U. Nowak[3], R.F. Evans[4] and R.W. Chantrell[4] *1. Research, HitachiGST, San Jose, CA; 2. Materials Science, University of Crete, Heraklion, Greece; 3. Physics, University Konstanz, Konstanz, Germany; 4. Physics, University of York, York, United Kingdom*

10:18

CF-08. Inversion of the induced anisotropy gradient in FePtCu films. *R.K. Dumas*[1], B.J. Kirby[2], Y. Fang[3], C. Zha[3], V. Bonanni[3], J. Nogué s[3,4] and J. Åkerman[1,3] *1. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 2. Center for Neutron Research, NIST, Gaithersburg, MD; 3. Materials Physics, Royal Institute of Technology (KTH), Stockholm-Kista, Sweden; 4. ICREA and CIN2(ICN-CSIC), Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain*

10:30

CF-09. Design of recording system for heat assisted magnetic recording. *V. Lomakin*[1], Q. Ding[1], M.A. Escobar[1], M.V. Lubarda[1], Y. Fainman[1], E.E. Fullerton[1], S. Li[1] and R. Chang[1] *1. Center for Magnetic Recording Research, Department of Electrical and Computer Engineering, University of California, San Diego, La Jolla, CA*

10:42

CF-10. New Computational Approach for Heat Assisted Magnetic Recording. *P. Huang*[1] and R.H. Victora[1] *1. Electrical and Computer Engineering Department, University of Minnesota, Minneapolis, MN*

10:54

CF-11. Application of the Grain Flipping Probability (GFP) model to Heat Assisted Magnetic Recording simulations. S. Shafiee[1], *K. Chan*[1], M. Elidrissi[1], K. Eason[1], R. Radhakrishnan[1] and Y. Guan[2] *1. Data Storage Institute, A*STAR, Singapore, Singapore; 2. Nanyang Technological University, Singapore, Singapore*

11:06

CF-12. Application of Landau-Lifshitz-Bloch dynamics to grain switching in HAMR. *T. McDaniel*[1] *1. Model_Physics, Volcano, CA*

11:18

CF-13. Critical peak temperature and minimum reversal field in heat assisted magnetic recording (HAMR). *S. Mukherjee*[1] *1. Carnegie Mellon University, Pittsburgh, PA*

TUESDAY MORNING 8:30

GRAND CANYON 12-13

Session CG
MAGNETOCALORIC PROPERTIES I
Ivan Skorvanek, Chair

8:30

CG-01. From first-order magneto-elastic to magneto-structural transition in $(Mn,Fe)_{1.95}P_{0.50}Si_{0.50}$ compounds. *H. Nguyen*[1], L. Zhang[1], Z. Ou[1] and E. Brück[1] *1. Fundamental Aspects of Materials and Energy, Faculty of Applied Sciences, Delft University of Technology, Delft, Netherlands*

8:42

CG-02. Self-Similarity in $(dM/dT)_H$ Curves for Magnetocaloric Materials with Ferro-to-Paramagnetic Phase Transitions. *Y. Jin*[1], S. Gu[1], L.H. Bennett[1], E. Della Torre[1], V. Provenzano[2] and Q. Zhao[1] *1. Electrical and Computer Engineering, George Washington University, District of Columbia, DC; 2. National Institute of Standards and Technology, Gaithersburg, MD*

8:54

CG-03. $Gd_5Ge_2(Si,Sn)_2$: giant isothermal variation of the entropy and small adiabatic variation of the temperature. *A.M. Carvalho*[1], M.E. Soffner[2], A.M. Mansanares[2], A.A. Coelho[2], J.G. Tedesco[2], M.M. Pires[2], S. Gama[3] and A.O. Guimarães[4] *1. Materials Metrology, INMETRO, Duque de Caxias, Brazil; 2. Applied Physics, UNICAMP, Campinas, SP, Brazil; 3. UNIFESP, Diadema, SP, Brazil; 4. UENF, Campos dos Goytacazes, RJ, Brazil*

9:06

CG-04. Magnetocaloric materials with first-order transition: a comprehensive study of thermal and magnetic hystereses. ***(Invited)*** *K.P. Skokov*[1], J.D. Moore[1], J. Liu[1], V.V. Khovaylo[1], K.H. Müller[1] and O. Gutfleisch[1] *1. Institute for Metallic Materials, Leibniz Institute for Solid State and Materials Research, Dresden, Germany*

9:42

CG-05. Table-like magnetocaloric effect and enhanced refrigerant capacity in clathrate-based composite materials. A. Chaturvedi[1], S. Stefanoski[1], M.H. Phan[1], G.S. Nolas[1] and *H. Srikanth*[1] *1. Department of Physics, University of South Florida, Tampa, FL*

9:54

CG-06. Enhancement of the magnetocaloric effect in composites: Experimental validation. S.C. Paticopoulos[1], R. Caballero-Flores[1], *V. Franco*[1], J.S. Blázquez[1], A. Conde[1], K.E. Knipling[2] and M.A. Willard[2] *1. Condensed Matter Physics, Sevilla University, Sevilla, Spain; 2. Multifunctional Materials Branch, U.S. Naval Research Laboratory, Washington, DC*

10:06

CG-07. Magnetocaloric effect in thin film La(0.56)Sr(0.44)MnO3 alloy and superlattice structures. *D.D. Belyea*[1], T.S. Santos[2] and C.W. Miller[1] *1. Physics, University of South Florida, Tampa, FL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL*

10:18

CG-08. Magnetic properties of Y0.9 Gd0.1Fe2 D4.2 compound under continuous magnetic field up to 31 tesla. V. Paul Boncour[1], *M. Guillot*[2] and T. Mazet[3] *1. CNRS- Paris XII University, Thiais, France; 2. CNRS- Joseoh Fourier UnivUniversity, Grenoble, France; 3. Nancy University, Nancy, France*

10:30

CG-09. Direct calorimetric measurements of isothermal entropy change on single crystal W-type $BaCo_xZn_{2-x}Fe_{16}O_{27}$ hexaferrites at the spin reorientation transition. *M. LoBue*[1], F. Mazaleyrat[1], V. Loyau[1], A. Pasko[1], V. Basso[2], C.P. Sasso[2] and M. Küpferling[2] *1. SATIE, ENS de Cachan, CNRS, Cachan, France; 2. INRiM, Torino, Italy*

10:42

CG-10. Magnetocaloric Effect of NiFeCoCrPdx High Entropy Alloys. *D.D. Belyea*[1], C.A. Bauer[1], M. Lucas[2], E. Michel[2,3], J. Horwath[2,4] and C.W. Miller[1] *1. Physics, University of South Florida, Tampa, FL; 2. Air Force Research Laboratory, Wright-Patterson AFB, OH; 3. UTC Inc., Dayton, OH; 4. Wright State University, Dayton, OH*

10:54

CG-11. Influence of Ni and Mn Additions on Magnetocaloric Response in γ-$(Fe_{70-X}Ni_{30+X})_{89-Y}Mn_YZr_7B_4$ alloys. *J.J. Ipus*[1] and M.M. McHenry[1] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

11:06

CG-12. Spin and Lattice Contributions to the Isothermal Entropy Change. *T. Mukherjee*[1], R. Skomski[1], S. Michalski[1], D.J. Sellmyer[1] and C. Binek[1] *1. Physics and Astronomy, University of Nebraska, Lincoln, Linolcn, NE*

11:18

CG-13. Energy conversion efficiency analysis using thermomagnetic properties of ferromagnetic materials. *C. Hsu*[1], S.M. Sandoval[1], K.P. Wetzlar[1] and G.P. Carman[1] *1. Mechanical and Aerospace Engineering, UCLA, Los Angeles, CA*

TUESDAY MORNING 8:30

GRAND CANYON 1

Session CH
SENSORS I
Ranko Heindl, Chair

8:30

CH-01. Enabling highly accurate magnetoelastic resonance sensors by substantially reducing the influence of external magnetic fields by an anti-symmetric bias-field. *B. Bergmair*[1,2], T. Huber[1,2], F. Bruckner[2], C. Vogler[2] and D. Suess[2] *1. Institute of Analysis and Scientific Computing, Vienna University of Technology, Vienna, Austria; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

8:42

CH-02. Reducing the effect of 1/f noise in MgO magnetic tunnel junctions. *H. Duan*[1], A. Gupta[1], H. Tseng[2], Y. Li[2] and R.B. van Dover[1] *1. Materials Science and Engineering, Cornell University, Ithaca, NY; 2. School of Applied and Engineering Physics, Cornell University, Ithaca, NY*

8:54

CH-03. The Effect of Interfacial Stresses on the out-of-plane anisotropy of continuous CoCrPt Thin Films. *N.J. Jones*[1], C.L. Ondeck[4], V. Sokalski[1], M.E. McHenry[1,3] and D.E. Laughlin[1,2] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA; 3. Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA; 4. Biomedical Engineering, Duke University, Durham, NC*

9:06

CH-04. Submicron Size Epitaxial Graphene Devices for Magnetosensing Applications. V. Panchal[1], *O. Kazakova*[1], A. Tzalenchuk[1], K. Cedergren[2], S. Kubatkin[2] and R. Yakimova[3] *1. NPL, Teddington, Middlesex, United Kingdom; 2. CTH, Göteborg, Sweden; 3. Linköping University, Linköping, Sweden*

9:18

CH-05. Array of 12 Coils to Measure the Position, Alignment, and Sensitivity of Magnetic Sensors over Temperature. *H. Husstedt*[1], U. Ausserlechner[2] and M. Kaltenbacher[1] *1. Applied Mechatronics, Alps-Adriatic University Klagenfurt, Klagenfurt, Austria; 2. Sense and Control, Infineon Technologies Austria AG, Villach, Austria*

9:30

CH-06. Withdrawn

9:42

CH-07. Steel Stress Monitoring Sensors Based on Elasto-Magnetic Effect and Using Magneto-Electric Laminated Composites. *Y. Duan*[1], R. Zhang[1], Y. Zhao[1], S. Or[2] and K. Fan[3] *1. College of Civil Engineering and Architecture, Zhejiang University, Hangzhou, Zhejiang, China; 2. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong; 3. School of Information Engineering, Wuyi University, Jiangmen, Guangdong, China*

9:54

CH-08. Biosensing Based on Magnetically Induced Motion of Superparamagnetic Beads. *S. Gessesse*[1], I. Giouroudi[2] and J. Kosel[1] *1. Division of Physical Sciences and Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. Institute of Sensor and Actuator Systems, Vienna University of Technology, Vienna, Austria*

10:06

CH-09. Integration of Thin Film Giant Magneto Impedance Sensor and Surface Acoustic Wave Transponder. *N. M. H. Salem*[1], B. Li[1], I. Giouroudi[2] and J. Kosel[1] *1. Physical Science and Engineering Division, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. Institute of Sensor and Actuator Systems, Vienna University of Technology, Vienna, Austria*

10:18

CH-10. Planar Hall effect sensors with shape-induced effective single domain behavior. *V. Mor*[1], O. Sinwani[1], M. Schultz[1], A. Grosz[2], E. Paperno[2] and L. Klein[1] *1. Department of Physics, Nano-magnetism Research Center, Institute of Nanotechnology and Advanced Materials, Bar-Ilan University, Ramat Gan, Israel; 2. Electrical & Computer Engineering Department, Ben-Gurion University of the Negev, Beer Sheva, Israel*

10:30

CH-11. Thermally assisted switching on intermediate timescales in magnetic tunnel junctions. *L. Breth*[1,2], D. Suess[2], R. Heer[1], T. Dimopoulos[1] and H. Brückl[1] *1. Health and Environment, Austrian Institute of Technology, Vienna, Austria; 2. Solid State Physics, Vienna University of Technology, Vienna, Austria*

10:42

CH-12. Planar Hall effect sensors with patterned voltage leads and improved resolution. *V. Mor*[1], M. Schultz[1], A. Grosz[2], E. Paperno[2] and L. Klein[1] *1. Department of Physics, Nano-magnetism Research Center, Institute of Nanotechnology and Advanced Materials, Bar-Ilan University, Ramat Gan, Israel; 2. Electrical & Computer Engineering Department, Ben-Gurion University of the Negev, Beer Sheva, Israel*

10:54

CH-13. A study on the sensitivity of a spin valve with a Conetic-based free layer. *J. Son*[1], S. Kim[1], S. Lee[1], J. Ko[1] and J. Hong[1] *1. Materials Science and Engineering,, Yonsei university, Seoul, Korea, Republic of*

11:06

CH-14. Modelling and optimization of submicron Hall sensors for the detection of superparamagnetic beads. *A. Manzin*[1], V. Nabaei[2,1] and O. Kazakova[3] *1. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 2. Dipartimento di Ingegneria Elettrica, Politecnico di Torino, Torino, Italy; 3. National Physical Laboratory, Teddington, United Kingdom*

11:18

CH-15. Design and testing of piezoelectric energy harvester for powering wireless sensors of electric line monitoring system. *J. Qiu*[1], Y. Wen[1], P. Li[1] and J. Yang[1] *1. ChongQing University, ChongQing, China*

TUESDAY MORNING 8:00

SAGUARO BALLROOM

Session CP
COMPLEX OXIDES: SUPERCONDUCTIVITY AND MAGNETISM (Poster Session)

Suzanne te Velthuis, Chair

CP-01. Critical magnetic fields in the rutheno-cuprate Ru(1-x)NbxSr2Eu1.4Ce0.6Cu2O10. *M.E. Botello*[1], O.E. Ayala-Valenzuela[2], M. Jaime[2] and J. Matutes-Aquino[1] *1. CIMAV, Chihuahua, Mexico; 2. NHMFL, Los Alamos National Laboratory, Los Alamos, NM*

CP-02. Thickness dependence of critical current density in GdBCO thin films with $BaSnO_3$ addition. *D.H. Tran*[1], W.B. Putri[1], C. Wie[1], B. Kang[1], N. Lee[2], W. Kang[2], D. Kim[3] and W. Seong[4] *1. Department of Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of; 2. Department of Physics, Sungkyunkwan University, Suwon, Korea, Republic of; 3. Department of Physics, Yeongnam University, Gyeongsan, Korea, Republic of; 4. Convergence Technology Laboratory, Korea Institute of Science and Technology, Seoul, Korea, Republic of*

CP-03. The scaling analysis on effective activation energy $U_{eff}(T,B,J)$ in $HgBa_2CaCu_3O_{8+\delta}$ B. Lv[1], R. Xie[1], H. Shao[1] and *X. Wu*[1] *1. Physics, National Lab of Solid State Microstructures, Department of Physics, Nanjing University, Nanjing, Jiangsu, China*

CP-04. Dynamically induced Fermi arcs and pockets: A model for the pseudogap in underdoped cuprates. *H. Choi*[1] and S. Hong[1] *1. Physics, SKKU, Suwon, Korea, Republic of*

CP-05. A study on the extensive nano-twinning obtained in YBa2Cu3O7-δ Superconductors fabricated by Preform Optimized Infiltration Growth Process. *D.N. Kumar*[1], M.P. Swarup Raju[1] and S. Vummethala[1] *1. School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

CP-06. Temperature-dependent Raman scattering of double perovskite Ba2FeReO6 and Sr2CrReO6. *A.F. García-Flores*[1], U.F. Kaneko[1], E. Granado[1] and J. Gopalakrishnan[2,3] *1. Instituto de Física "Gleb Wataghin," Universidade Estadual de Campinas, Campinas, SP, Brazil; 2. Center for Superconductivity Research, University of Maryland, Maryland, MD; 3. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India*

CP-07. Structural and magnetic phase transition of mixed olivines $Li_xFe_{1-y}Ni_yPO_4$ by lithium deintercalation. *I. Lee*[1], C. Kim[1], S. Kim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of*

CP-08. Photo carrier induced effects on the magnetic ground state of La(2)CuO(4). *A. Suter*[1], E. Morenzoni[1], T. Prokscha[1], Z. Salman[1], B.M. Wojek[2,1], E. Stilp[2,1], S. Das[3], C. Bernhard[3], G. Logvenov[4,5], A. Gozar[4] and I. Bozovic[4] *1. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Physik-Institut, Universität Zürich, Zürich, Switzerland; 3. Physics Department, University of Fribourg, Fribourg, Switzerland; 4. Brookhaven National Laboratory, Upton, NY; 5. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany*

CP-09. Structural, magnetic, and specific heat investigations on polycrystalline MnCr2O4. *Z. Yang*[1] *1. Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China*

CP-10. Effect of oxygen off-stoichiometry on magnetic and magneto-transport in under-doped LCMO nanomanganites. *Y. Bitla*[1] and S.N. Kaul[1] *1. School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

CP-11. Ziz-zag Interface and Strain-influenced Ferromagnetism in Epitaxial $Mn_3O_4/La_{0.7}Sr_{0.3}MnO_3$ Thin Films grown on MgO (100) and $SrTiO_3$ (100) substrates. *D. Mukherjee*[1], R. Hyde[1], N. Bingham[1], M. Phan[1], H. Srikanth[1], P. Mukherjee[1] and S. Witanachchi[1] *1. Department of Physics and Center for Integrated Functional Materials (CIFM), University of South Florida, Tampa, FL*

CP-12. Structure and properties of epitaxial perovskite Pb(Zr0.52Ti0.48)O3/ La0.7Sr0.3MnO3 heterostructures.C. Zou[1,2], *Y. Chen*[1], B. Peng[1], W. Zhang[1] and R. Li[2] *1. University of Electronic Science and Technology of China, Chengdu, China; 2. Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, China*

CP-13. Size effect on the structural, magnetic and magnetotransport properties of electron doped manganite $La_{0.15}Ca_{0.85}MnO_3$R. Thomas[2], G. Das[2], R. Mondal[2], R.N. Mahato[1], R. Nirmala[2], A.V. Morozkin[3], J. Lamsal[4], W.B. Yelon[4,5], *A.K. Nigam*[6] and S.K. Malik[1] *1. International Institute of Physics (IIP)-UFRN, Natal, Brazil; 2. Indian Institute of Technology Madras, Chennai, India; 3. Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation; 4. University of Missouri-Columbia, Columbia, MO; 5. Missouri University of Science and Technology, Rolla, MO; 6. Tata Institute of Fundamental Research, Mumbai, India*

CP-14. Impact of Fe doping on radiofrequency magnetotransport in $La_{0.7}Sr_{0.3}Mn_{1-x}Fe_xMnO_3$S. Barik[1] and *M. Ramanathan*[1] *1. Physics, National university of Singapore, Singapore, Singapore*

CP-15. Magnetic properties of 1D-Ising chain CoV2O6. *B. Kim*[1], B. Kim[1], K. Kim[1], H. Choi[1], S. Park[1], Y. Jung[1] and B. Min[1] *1. Physics, Pohang University of Science and Technology, Pohang, Korea, Republic of*

TUESDAY MORNING 8:00 — SAGUARO BALLROOM

Session CQ
COMPLEX OXIDES: MANGANITES AND COBALTITES
(Poster Session)

Sami El-Khatib, Chair

CQ-01. control of magnetic and transport properties in Nd0.45Sr0.55MnO3 films through epitaxial strain. *Y. Zhang*[1], H. Meng[1], X. Wang[1], Y. Zhu[1] and Z. Zhang[1] *1. Institute of metal research, Shenyang, China*

CQ-02. Nanometer size effects on magnetic order in $La_{1-x}Ca_xMnO_3$ (*x* = 0.5 and 0.6) manganites, probed by ferromagnetic resonance. *A.I. Shames*[1], E. Rozenberg[1], E. Sominski[2] and A. Gedanken[2] *1. Physics, Ben Gurion University of the Negev, Be'er-Sheva, Israel; 2. Department of Chemistry and Center for Advanced Materials and Nanotechnology, Bar-Ilan University, Ramat-Gan, Israel*

CQ-03. Electron resonance and magnetic response of low-doped $La_{0.88}Ca_{0.12}MnO_3$ and $La_{0.9}Sr_{0.1}MnO_3$ manganite single crystals. *E. Rozenberg*[1], A.I. Shames[1], M.I. Tsindlekht[2], I. Felner[2] and Y.M. Mukovskii[3] *1. Physics, BGU of the Negev, Beer-Sheva, Israel; 2. Racach Institute of Physics, Hebrew University, Jerusalem, Israel; 3. Physics, Moscow Steel and Alloys Institute, Moscow, Russian Federation*

CQ-04. Magnetic tunability and photovoltaic response in $La_{0.8}Hf_{0.2}MnO_3$/Nb-$SrTiO_3$ heteroepitaxial junctions. *Z. Wu*[1], L. Wang[1] and J. Gao[1] *1. Physics, The University of Hong Kong, Hong Kong, Hong Kong*

CQ-05. Electron spin resonance and magnetization studies on Bi0.5Ca0.5Mn0.95TM0.05O3 (TM = Cr, Fe, Co and Ni).D. Vijayan[1], J. Kurian[1] and *R. Singh*[1] *1. School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India*

CQ-06. Phase coexistence and magnetocaloric effect in $Sm_{1-x}Sr_xMnO_3$ (x = 0.42, 0.44, 0.46) manganites. *N.S. Bingham*[1], T.L. Phan[2], M.H. Phan[1], S.C. Yu[2] and H. Srikanth[1] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Department of Physics, Chungbuk National University, Cheongju, Korea, Republic of*

CQ-07. The magnetic field-induced positive magnetoresistance effect in buffer layer modified manganite-based heterojunctions.W. Gao[1], W. Lü [1], A. Wei[1], J. Sun[1], J. Wang[1], F. Hu[1], *J. Shen*[2] and B. Shen[1] *1. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Science, Beijing, Beijing, China; 2. Technical Institute of Physics and Chemistry, Chinese Academy of Science, Beijing, Beijing, China*

CQ-08. Large magnetocaloric effect for magnetic refrigeration from 210 to ~275 K in $La_{0.7}Ca_{0.3}Mn_{1-x}Co_xO_3$ *Y. Zhang*[1], T. Phan[1], P. Zhang[1] and S. Yu[1] *1. Department of Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of*

CQ-09. Strain effect caused by substrates on phase separation and transport properties in $Pr_{0.7}(Ca_{0.8}Sr_{0.2})_{0.3}MnO_3$ thin films.Y. Zhao[1], J. Wang[1], *F. Hu*[1], L. Chen[1], J. Sun[1] and B. Shen[1] *1. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

CQ-10. Double Exchange Interaction between Mn3+ and Ru4+ ions in La1-xSrxMn1-xRuxO3. *Y. Ying*[1,2], J. Zheng[1], L. Qiao[1], S. Che[1], L. Jiang[1], L. Pi[2], L. Ling[2] and Y. Zhang[2] *1. College of Chemical Engineering and Materials Science, Zhejiang University of Technology, Hangzhou, China; 2. High Magnetic Field Laboratory, University of Science and Technology of China, Hefei, China*

CQ-11. Hall effect in $La_{1-x}Ca_xMnO_3$ (x=0.23, 0.3). *Y.M. Mukovskii*[1], I.I. Lobanova[1], M.A. Anisimov[2], S.V. Demishev[2], N.E. Sluchanko[2], N.A. Kozlovskaya[1] and V.V. Glushkov[2] *1. Theoretical Physics and Quantum Technologies, National Science and Technology University (MISiS), Moscow, Russian Federation; 2. A.M.Prokhorov General Physics Institute of RAS, Moscow, Russian Federation*

CQ-12. Influences of leakage currents on the transport properties and photoelectric effects in $Pr_{0.7}Sr_{0.3}MnO_3$/Nb:$SrTiO_3$ heterojunctions.J. Wang[1], *Z. Wu*[1] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China*

CQ-13. Structural, transport, magnetic properties and band structure calculations of Nd doped two dimensional compound Sr_2CoO_4 *Q. Yao*[1], H. Kimura[1], X. Wang[2], K. Konstantinov[2] and H. Zhao[1] *1. Multifunctional Materials Group, Optical and Electronic Materials Unit, National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan; 2. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong 2500, NSW, Australia*

CQ-14. Structure and properties of novel cobaltates $Ln_{0.30}CoO_2$ (Ln=La, Pr, and Nd). *K. Knizek*[1], Z. Jirak[1], J. Hejtmanek[1], M. Marysko[1] and J. Bursik[2] *1. Institute of Physics ASCR, 162 00 Prague 6, Czech Republic; 2. Institute of Inorganic Chemistry ASCR, 250 68 Rez near Prague, Czech Republic*

CQ-15. Magnetic and Magnetotransport Properties of Misfit Cobaltate $Ca_3Co_{3.93}O_{9+\delta}$ *J. Hejtmánek*[1], K. Kní zek[1], M. Maryško[1], Z. Jirák[1], D. Sedmidubský[2], O. Jankovský[2], . Huber[2], B. Lenoir[3] and P. Masschelein[3] *1. Magnetics and Superconductors, Institute of Physics of the ASCR, v.v.i, Cukrovarnická 10, 162 00 Praha 6, Prague, Czech Republic; 2. Inorganic Chemistry, Institute of Chemical Technology Prague,Technická 5, 166 28 Prague 6, Prague, Czech Republic; 3. CP2S, Institut Jean Lamour, UMR 7198, CNRS–Nancy Université–UPVM, Ecole Nationale Supérieure des Mines de Nancy, Parc de Saurupt, 54042 Nancy Cedex, Nancy, France*

TUESDAY MORNING 8:00

SAGUARO BALLROOM

Session CR
STRONGLY CORRELATED SYSTEMS II (Poster Session)

Takao Mori, Chair

CR-01. Magnetic transitions in erbium at high pressures. *S.A. Thomas*[1], G.M. Tsoi[1], L.E. Wenger[1], Y.K. Vohra[1] and S.T. Weir[2] *1. Physics, University of Alabama at Birmingham, Birmingham, AL; 2. Lawrence Livermore National Laboratory, Livermore, CA*

CR-02. Electric-currents-induced reemergent metal-insulator transition, step-like resistance jump and negative differential resistance in $Nd_{0.7}Sr_{0.3}MnO_3$ thin films. J. Wang[1], *Z. Wu*[1] and J. Gao[1] *1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China*

CR-03. FMR study of Ni nanowire arrays with tailored strength of interaction. *A. Srivastava*[1,2], J. Vargas[1], J. Hee[1,3], J.B. Wiley[1,3] and S. Leonard[1,2] *1. Advanced Material Research Institute, University of New Orleans, New Orleans, LA; 2. Physics Department, University of New Orleans, New Orleans, LA; 3. Chemistry Department, University of New Orleans, New Orleans, LA*

CR-04. Influence of ferroelectric poling induced strain on magnetic and electric properties in tetravalent cation-doped $La_{0.9}Hf_{0.1}MnO_3$ films. *Z. Wu*[1], L. Wang[1], E. Guo[1] and J. Gao[1] *1. Physics, The University of Hong Kong, Hong Kong, Hong Kong*

CR-05. Effects of High Pressures on Magnetism in $ErCo_2$ *M. Míšek*[1], J. Prokleška[1], V. Sechovský[1], A.F. Kusmartseva[2], K.V. Kamenev[2] and J. Kamarád[3] *1. DCMP, Charles University in Prague, Prague, Czech Republic; 2. CSEC, The University of Edinburgh, Edinburgh, United Kingdom; 3. Institute of Physics ASCR, Prague, Czech Republic*

CR-06. Magnetic and charge ordering properties of Bi0.6-x(RE)xCa0.4MnO3 (0.0≤x≤0.6) perovskite manganites. K. Yadav[1], M.P. Singh[3], H.K. Singh[2], F.S. Razavi[3] and *G.D. Varma*[1] *1. Physics, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India; 2. National Physical Laboratory, New Delhi, India; 3. Physics, Brock University, St Catharines, ON, Canada*

CR-07. A Theoretical Derivation of Analytic Free Surface Expression for the Magnetic Liquid's Conical Meniscus Phenomenon. *H. Choi*[1] *1. School of Electrical Engineering, Kyungpook national university, Sangju, Korea, Republic of*

CR-08. Neutron scattering measurements in $RbMnF_3$: a test of spin-wave theories at low temperatures and critical behavior near T_N *N. Bykovetz*[1], A. Hoser[2], J. Klein[3], c. Lin[1] and M. Seehra[4] *1. Department of Physics, Temple University, Philadelphia, PA; 2. Institute for Complex Magnetic Materials, Helmholtz-Zentrum Berlin (HZB), Berlin, Germany; 3. Department of Physics and Astronomy, University of Pennsylvania, Philadelphia, PA; 4. Department of Physics, West Virginia University, Morgantown, WV*

CR-09. The crystal growth and evolution of magnetism and superconductivity in Pd-doped $CeRhIn_5$ and Ce_2RhIn_8 *M. Kratochvilova*[1], K. Uhlirova[1,2], J. Prokleska[1], M. Misek[1,3], A. Rudajevova[1] and V. Sechovsky[1] *1. Department of Condensed Matter Physics, Charles University, Faculty of Mathematics and Physics, Praha, Czech Republic; 2. Magnetic and Superconducting Materials, Leiden Institute of Physics, Leiden, Netherlands; 3. Institute of Physics, Academy of Sciences of the Czech Republic, Praha, Czech Republic*

CR-10. Magnetostochastic resonance under colored noise condition. *M. Trapanese*[1] *1. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Università di Palermo, Palermo, Italy*

CR-11. The valence electronic structure of multiferroic BiFeO3 from high energy X-ray photo-electron spectroscopy and first principles theory. *R. Knut*[1], S. Faleev[2], D. Mazumdar[2], O.N. Mryasov[2], A. Gupta[2] and O. Karis[1] *1. Physics and Astronomy, Uppsala, Uppsala, Sweden; 2. MINT center, MINT Center University of Alabama, Tuscaloosa, AL*

CR-12. Random magnet with competing anisotropies in $Fe_xNi_{1-x}F_2$ alloys. *F.A. Perez*[1], T.A. Johnson[1] and D. Lederman[1] *1. Phyisics, West virginia University, Morgantown, WV*

CR-13. Chiral Spin Liquid Phase in Weakly-Coupled Helimagnetic Spin Chains. F. Cinti[2], *A. Cuccoli*[1,3] and A. Rettori[1,3] *1. Department of Physics and Astronomy, University of Firenze, Sesto Fiorentino, AR, Italy; 2. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 3. Unita' di Firenze, CNISM-Consorzio Nazionale Interuniversitario Fisica della Materia, Firenze, Italy*

CR-14. Exchange Anisotropy Tuning in Cluster Glass AgMn Alloys. *F. Jimenez-Villacorta*[1], T. Sepehrifar[1], J.L. Marion[1] and L.H. Lewis[1] *1. Department of Chemical Engineering, Northeastern University, Boston, MA*

CR-15. c-axis anisotropic transport study of layered manganite based on micro-fabricated devices. *A.A. Omrani*[1,2], A. Kis[2] and H.M. Rø nnow[1] *1. Physics, EPFL, Lausanne, Vaud, Switzerland; 2. Microtechnique, EPFL, Lausanne, Vaud, Switzerland*

TUESDAY MORNING 8:00

SAGUARO BALLROOM

Session CS
MAGNETIZATION SWITCHING AND DYNAMICS (Poster Session)

Andrei Kirilyuk, Chair

CS-01. Magneto-optical Four Wave Mixing in Garnet Thin Films. *M. Barthelemy*[1], M. Vomir[1], M. Sanches Piaia[1], M. Albrecht[1] and J. Bigot[1] *1. Institut de Physique et Chimie des Matériaux, CNRS-Université de Strasbourg, Strasbourg, France*

CS-02. Deflagration in Magnetism. *J. Tejada*[1], S. Velez[1], J. Hernandez[1], F. Macia[1] and A. Hernandez-Minguez[1] *1. Department of Fundamental Physics, University of Barcelona, Barcelona, Spain*

CS-03. Dependence of the damping parameter on Ga concentration in Fe_1−x Ga_x thin films. *M.L. Schneider*[1], P.S. Burns[1], A. McClure[2] and Y.U. Idzerda[2] *1. Physics and Astronomy, University Montana, Missoula, MT; 2. Physics, Montana State University, Bozeman, MT*

CS-04. Random Magnetization Dynamics at Elevated Temperatures. *I.D. Mayergoyz*[1], G. Bertotti[2], C. Serpico[3], Z. Liu[4] and A. Lee[4] *1. Department of Electrical and Computer Engineering, UMIACS and AppEl Center, University of Maryland College Park, College Park, MD; 2. INRiM, Torino, Italy; 3. Dipartimento di Ingegneria Elettrica, Università di Napoli Federico II, Napoli, Italy; 4. Department of Electrical and Computer Engineering, University of Maryland College Park, College Park, MD*

CS-05. Spin-torque diode measurements of MgO-based magnetic tunnel junctions with asymmetric electrodes. *R. Matsumoto*[1], A. Chanthbouala[1], J. Grollier[1], V. Cros[1], A. Fert[1], A. Fukushima[2] and S. Yuasa[2] *1. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 2. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

CS-06. Non-thermal excitation and control of magnetization in Fe/GaAs film by ultrafast laser pulses. *Y. Gong*[1,3], A.R. Kutayiah[1], X.H. Zhang[2], J.H. Zhao[2] and Y.H. Ren[1] *1. Physics and Astronomy, Hunter College of the City University of New York, New York, NY; 2. State Key Laboratory for Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 3. Physics and Astronomy, The Graduate Center of the City University of New York, New York, NY*

CS-07. Mechanism analysis of ultrafast magnetic switching. *J. Li*[1], B. Xu[1], J. Zhang[1] and K. Ye[1] *1. Data Storage Institute, (A-STAR) Agency for Science, Technology and Research, Singapore, Singapore*

CS-08. Static and Dynamic Magnetic properties of epitaxial $Fe_{1,7}Ge$ thin films grown on Ge(111). M. Belmeguenai[1], D. Berling[2], *S. Cherif*[1] and P. Moch[1] *1. LSPM (CNRS-UPR 3407), Université Paris 13, 99 avenue Jean-Baptiste Clément, 93430, Villetaneuse, France; 2. ISMM, (CNRS-LRC 7228), 4 rue des frères Lumière, Université de Haute-Alsace, 68093, Mulhouse, France*

CS-09. Tunable magnetization relaxation in spin valves. *X. Wang*[1] and A. Manchon[1] *1. KAUST, Thuwal, Saudi Arabia*

CS-10. Magnetization reversal in the hundred-nanometer-scaled permalloy hollow cylinders array. *Y. Huang*[1], C. Kou[2], J. Shyu[2], L. Horng[2], C. Lee[3] and J. Wu[2] *1. Graduate Insititute of photonics, National Changhua University of Education, Changhua, Taiwan; 2. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 3. Graduate School of Materials Science, National Yunlin University of Scence and Technology, Douliou, Taiwan*

CS-11. Magnetization switching behavior of Co/Pt multilayer dot by in-plane nanoseconds pulse field. *Y. Suyama*[1], N. Kikuchi[1], S. Okamoto[1] and O. Kitakami[1] *1. IMRAM, tohoku university, Sendai, Japan*

CS-12. Critical slowing down in laser induced demagnetization of Gd. *M. Sultan*[1,2], A. Melnikov[2,3] and U. Bovensiepen[1] *1. Faculty of Physics, University of Duisburg Essen, Duisburg, Germany; 2. Institute of Experimental Physics, Freie University, Berlin, Germany; 3. Fritz-Haber-Institut der Max-Planck Gesellschaft, Berlin, Germany*

CS-13. Insights on all-optical magnetization switching by tailoring optical excitation parameters. M. Cinchetti[1], *S. Alebrand*[1], D. Steil[1], A. Hassdenteufel[1] and M. Aeschlimann[1] *1. Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany*

CS-14. Radial-spin-wave-mode-assisted vortex-core magnetization reversals. *M. Yoo*[1], J. Lee[2] and S. Kim[1] *1. National Creative Research Initiative Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Eng., Seoul Natl Univ, Seoul, Korea, Republic of; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

CS-15. Ferromagnetic resonance in exchange biased ferromagnetic/compensated antiferromagnetic bilayers. *A.L. Dantas*[1], L.L. Oliveira[1,2], M.L. Silva[3] and A.S. Carriço[2] *1. Departamento de Física, Universidade do Estado do Rio Grande do Norte, Mossoro, RN, Brazil; 2. Departamento de Fisica, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil; 3. Campus Simões Filho, Instituto Federal de Educação, Ciência e Tecnologia da Bahia, Pitanguinhas Simões Filho, BA, Brazil*

TUESDAY MORNING 8:00

SAGUARO BALLROOM

Session CT
OTHER MAGNETIC MATERIALS II (Poster Session)

Oleg Mryasov, Co-Chair
Felix Jimenez Villacorta, Co-Chair

CT-01. Ultrahard Magnets. *P.K. Sahota*[2,1], Y. Liu[1], R. Skomski[1], P. Manchanda[2,1], R. Zhang[1], G.C. Hadjipanayis[3], A. Kashyap[2] and D.J. Sellmyer[1] *1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Physics, The LNM Institute of Information Technology, Jaipur, Rajasthan, India; 3. Department of Physics, University of Delaware, Newark, DE*

CT-02. Effects of doped nanometer particle on magnetic properties and microstructure of 2:17-type Sm(CobalCu0.09Fe0.09Zr0.03)7.69 magnet. *J. Huang*[1], D. Zhang[1,2], M. Yue[1], W. Liu[1], J. Zhang[1] and Y. Qiang[2] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China; 2. Physics Department, University of Idaho, Moscow, ID*

CT-03. Structures and magnetic properties of Sm_5Fe_{17} melt-spun ribbons. *T. Saito*[1], H. Miyoshi[1] and D. Nishio-Hamane[2] *1. Chiba Institute of Technology, Chiba, Japan; 2. The University of Tokyo, Kashiwa, Japan*

CT-04. Magnetic properties and crystal structure of melt spun $Sm(Co, M)_7$ (M=Al and Si) ribbons.C. Hsieh[1], *C. Shih*[1], Z. Liu[1], W. Chang[1], H. Chang[2] and A. Sun[3] *1. National Chung Cheng University, Chia-Yi, Taiwan; 2. Tunghai University, Taichung, Taiwan; 3. Yuan Ze University, Taoyuan, Taiwan*

CT-05. Fabrication of anisotropic $SmCo_5$-FeNi and $SmCo_5$-CoFe hard-soft nanocomposites by electroless plating.M. Lamichhane[1], *S.R. Mishra*[1], N.V. Vuong[2] and J.P. Liu[2] *1. Physics, The University of Memphis, Memphis, TN; 2. Physics, University of Texas, Arlington, TX*

CT-06. Magnetic anomalies in single crystalline Tb5Si3.K.K. Iyer[1], K. Mukherjee[1], P.L. Paulose[1], *E.V. Sampathkumaran*[1], Y. Xu[2] and W. Lö ser[3] *1. DCMPMS, Tata Institute of Fundamental Research, Mumbai, India; 2. State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Shaanxi, China; 3. IFW Dresden, Leibniz-Institut für Festkörper- und Werkstoffforschung, Dresden, Germany*

CT-07. Complex magnetism in the intermetallic compound $Tb_2Mn_3Si_5$: A high magnetic field study.N.M. Xia[2], Z.W. Ouyang[2], J. Chen[2], S.S. Sheng[2], Y.Y. Wu[2], Z.C. Xia[2], L. Li[2], G.H. Rao[3], A.V. Morozkin[4], *R. Nirmala*[1] and S.K. Malik[5] *1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, China; 3. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 4. Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation; 5. 5Departamento de Física Teórica e Experimental, Natal-RN, Brazil*

CT-08. Body center tetragonal iron compounds with perpendicular crystalline anisotropy. *N. Ji*[1] and J. Wang[1] *1. U of Minnesota, Minneapolis, MN*

CT-09. Structure and magnetic properties of melt-spun Nd(Fe,Mo)12 ribbons and their nitrides. *J. Han*[1], Z. Lin[1], M. Xing[1], Y. Yang[1], J. Yang[1], Q. Xu[1] and Y. Yang[1] *1. Peking University, Beijing, China*

CT-10. Effects of Nitrogen Deficiency on Magnetostructural Properties of Antiperovskite Manganese Nitrides. *D. Kasugai*[1], A. Ozawa[1], T. Inagaki[1] and K. Takenaka[1] *1. Department of Crystalline Materials Science, Nagoya University, Nagoya, Japan*

CT-11. Magnetic anisotropy of diluted Fe and FeCo alloys with 5d atoms. *L. Ke*[1], V. Antropov[1] and M. van Schilfgaarde[2] *1. Ames Laboratory, Ames, IA; 2. Arizona state university, Tempe, AZ*

CT-12. Structures and Magnetic Properties of Fe_{x}Co_{1-x} and W doped Fe_{x}Co_{1-x} Alloys. *M. Nguyen*[1,2], X. Zhao[1,2], M. Ji[1,2], C. Wang[1,2] and K. Ho[1,2] *1. Ames Laboratory, Ames, IA; 2. Physics, Iowa State University, Ames, IA*

CT-13. Combinatorial search of rare-earth-free permanent magnets: magnetic and microstructural properties of Fe-Co-W thin films. *T. Gao*[1], I. Takeuchi[1], Y. Wu[2], M.J. Kramer[2], I.E. Anderson[2], B. McCallum[2], K.W. Dennis[2], K. Wang[3] and L. Benderksy[3] *1. University of Maryland, College Park, MD; 2. Ames Laboratory, Iowa State University, Ames, IA; 3. National Institute of Standards and Technology, Gaithersburg, MD*

CT-14. Structural Properties and Magnetic Phase Transition in $HoNi_2Mn$ (^{57}Fe). *J. Wang*[1,2], S.J. Campbell[3], M. Hofmann[4], M. Hoelzel[4,5], R. Zeng[1], S.X. Dou[1] and S.J. Kennedy[2] *1. Institute for Superconducting & Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Bragg Institute, ANSTO, Sydney, NSW, Australia; 3. School of Physical, Environmental and Mathematical Sciences, UNSW@ADFA, Canberra, ACT, Australia; 4. Technische Universität München, FRM II, München, Germany; 5. Fachbereich Materialwissenschaften, Technische Universität Darmstadt, Darmstadt, Germany*

CT-15. Magnetic and Magnetocaloric Properties of the New Rare Earth - Transition Metal Intermetallic Compound $Gd_3Co_{29}Ge_4B_{10}$ *M.P. Hill*[1], I. Dubenko[2], T. Samanta[2] and N. Ali[2] *1. Physics & Engineering Physics, Southeast Missouri State University, Cape Girardeau, MO; 2. Physics, Southern Illinois University-Carbondale, Carbondale, IL*

TUESDAY MORNING 8:00

SAGUARO BALLROOM

Session CU
OTHER MAGNETIC MATERIALS III (Poster Session)

Margaret Hill, Co-Chair
Hendrik Ohldag, Co-Chair

CU-01. Activation Volumes in Epitaxial Co2FeSi Thin films. J. Sagar[1], H. Sukegawa[2], *A. Hirohata*[3,4], S. Mitani[2] and K. O'Grady[1] *1. Physics, The University of York, York, North Yorkshire, United Kingdom; 2. Magnetic Materials Centre, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan; 3. Electronics, The University of York, York, North Yorkshire, United Kingdom; 4. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan*

CU-02. Structural, magnetic and electron transport properties of MnBi:Fe thin films. *P.R. Kharel*[1,2], V.R. Shah[1], X.Z. Li[1], R. Skomski[1,2] and D.J. Sellmyer[1,2] *1. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE*

CU-03. Structure and magnetic properties of MnxBi100-x (x=48, 50, 55, 60) compounds. W. Geng[1], *D. Zhang*[1,2], M. Yue[1], W. Liu[1], J. Zhang[1] and Y. Qiang[2] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, Beijing, China; 2. Physics Department, University of Idaho, Moscow, ID*

CU-04. Preparation and magnetic properties of high purity low temperature phase MnBi. Y. Yang[1], X. Ma[1], X. Chen[1], R. Wu[1], J. Wei[1], G. Lian[1], Y. Zhang[1], Y. Yang[1] and *J. Yang*[1] *1. Peking University,School of Physics, Beijing, China*

CU-05. Spin reorientation transition and hard magnetic properties of MnBi intermetallic compound. *K. Suzuki*[1], X. Wu[1], T. Shoji[2] and A. Kato[3] *1. Department of Materials Engineering, Monash University, Clayton, VIC, Australia; 2. Metallic & Inorganic Material Engineering Div., Toyota Motor Corporation, Toyota, Aichi, Japan; 3. Advanced Material Engineering Div., Toyota Motor Corporation, Susono, Shizuoka, Japan*

CU-06. Theoretical investigation on the magnetic phase stability of Fe-doped Bi tellurides. *M. Kim*[1] and J. Song[2] *1. Division of Energy System Research, Ajou University, Suwan, Korea, Republic of; 2. Department of Physics and Astronomy, Northwestern University, Evanston, IL*

CU-07. Thermoelectric efficiency of topological insulators in a magnetic field. *O. Tretiakov*[1], A. Abanov[1] and J. Sinova[1] *1. Texas A&M Univ, College Station, TX*

CU-08. High Field (14Tesla) Magneto Transport and Heat Capacity of Sm/PrFeAsO and FeTe. *R.S. Meena*[1,2], S.K. Singh[1], A. Kumar[1], R. Jha[1], K.V. Rao[2] and V.S. Awana[1] *1. Quantum Phenomena and Applications, National Physical Laboratory, Delhi, New Delhi, India; 2. Deparment of Physics, University of Rajasthan, Jaipur, Rajasthan, India*

CU-09. Synthesis, structure, and magnetic analysis of the cubic defect spinel $ZnMnO_3$ *M.S. Seehra*[1], J.D. Rall[1], S. Thota[2] and J. Kumar[3] *1. Department of Physics, West Virginia University, Morgantown, WV; 2. Indian Institute of Technology, Guwahati, India; 3. Indian Institute of Technology, Kanpur, India*

CU-10. Field-induced Magnetic Transition in Cobalt-Ferrite. *M. Kriegisch*[1], W. Ren[2], R. Sato-Turtelli[1] and R. Groessinger[1] *1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Shenyang National Laboratory for Materials Science, Magnetism and Magnetic Materials Division, Shenyang, China*

CU-11. Mg doping induces changes in magnetization and band gap of $Zn_{.98-x}Co_{.02}Mg_xO$ nanoparticles. *A.L. LaJoie*[1], A. Thurber[1], J. Chess[1], D. Tenne[1] and A. Punnoose[1] *1. Physics, Boise State University, Boise, ID*

CU-12. Impacts of electron correlation in anion p-orbitals on electronic structure and magnetism of nitrogen or carbon doped zinc oxide. Y. Zhang[1], H. Liu[2] and *X. Zuo*[1] *1. College of Information Technical Science, Nankai University, Tianjin, China; 2. Office of International Academic Exchanges, Nankai University, Tianjin, China*

CU-13. Study on rare-earth doped type-I germanium clathrates. X. Zhu[1], *N. Chen*[1], L. Liu[2] and Y. Li[3] *1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. Department of Physics, University of Science and Technology Beijing, Beijing, China; 3. Department of Engineering Science and Materials, University of Puerto Rico at Mayaguez, Mayaguez*

CU-14. First Principles Study of the Magnetic Properties of BN Graphene Nanoribbon. *J. Rufinus*[1] *1. Science Division, Widener University, Chester, PA*

CU-15. Magnetic properties of ferromagnetic carbon materials. *T. Saito*[1], S. Yoshii[2] and D. Nishio-Hamane[3] *1. Chiba Institute of Technology, Chiba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Institute for Solid State Physics, Tokyo University, Kashiwa, Japan*

TUESDAY MORNING 8:00

SAGUARO BALLROOM

Session CV
BORIDES I
(Poster Session)

Oliver Gutfleisch, Co-Chair
Mathew Willard, Co-Chair

CV-01. The partitioning of Dy and Tb in NdFeB magnet: a first-principles study. *X. Liu*[1] and Z. Altounian[1] *1. physics department, McGill University, Montreal, QC, Canada*

CV-02. Enhancing the perpendicular anisotropy of NdDyFeB films by Dy diffusion process. W. Gong[1], W. Liu[1], S. Guo[1], Z. Wang[1], *Y. Zhang*[1], J. Feng[1], W. Cui[1] and Z. Zhang[1] *1. Shenyang National Laboratory for Materials Science and International Centre for Materials Physics, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, Liaoning, China*

CV-03. Effect of sintering conditions on the magnetic and microstructural properties of Nd-Fe-B sintered magnets doped with DyF_3 powders. *S. Park*[1], T. Kim[1], S. Lee[1], S. Namkung[2] and T. Jang[2] *1. Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Hybrid Engineering, Sunmoon university, Asan, Korea, Republic of*

CV-04. Magnetic properties of Dy-diffused Nd-Fe-B powder prepared by crystallization from amorphous state. H. Fukunaga[1], *I. Yamamoto*[1], M. Nakano[1] and T. Yanai[1] *1. Graduate School of Engineering, Nagasaki University, Nagasaki 852-8521, Japan*

CV-05. Magnetic properties and microstructure of Nd-Fe-B sintered magnets with DyH_x addition. *Y. Liu*[1,2], S. Guo[1,2], X. Liu[1,2], D. Lee[1,2] and A. Yan[1,2] *1. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China; 2. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China*

CV-06. Recycling sintered Nd-Fe-B magnets using hydrogen processing. *K. Güth*[1], L. Schultz[1] and O. Gutfleisch[1] *1. IFW Dresden, Dresden, Saxony, Germany*

CV-07. Microstructural evaluation for Dy-free Nd-Fe-B sintered magnets with high coercivity. *R. Goto*[1], M. Matsuura[2], S. Sugimoto[1,2], N. Tezuka[1], Y. Une[3] and M. Sagawa[3] *1. New Industry Creation Hatchery Center (NICHe), Tohoku university, Sendai, Japan; 2. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. Interemetallics Co., ltd., Kyoto, Japan*

CV-08. Design and Fabrication of high coercivity sintered permanent magnets without heavy rare earth additions. *B. Chen*[1,2], X. Liu[1,2], S. Guo[1,2], C. Yan[1,2], R. Chen[1,2], Y. Liu[1,2], D. Lee[1,2] and A. Yan[1,2] *1. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China; 2. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China*

CV-09. Effect of Co addition on the magnetic properties and microstructure of $Nd_{9.5}Fe_{bal}Nb_{2.5}Zr_{0.5}Co_XB_{15}$ (X=0, 10, 20) bulk magnets. *Z. Liu*[1,2], W.C. Lin[1], C.W. Shih[1], C.C. Hsieh[1], H.W. Chang[4], W.C. Chang[1] and A.R. Yan[2,3] *1. Department of Physics, National Chung Cheng University, ChiaYi, Taiwan; 2. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, China; 3. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, China; 4. Department of Physics, Tunghai University, Taichung, Taiwan*

CV-10. Diffusion of Nd-rich phases in the spark plasma sintered and hot deformed nanocrystalline NdFeB magnets. Y. Huang[1], *Z. Liu*[1], X. Zhong[1], H. Yu[1], X. Gao[2], J. Zhu[2] and D. Zeng[1] *1. School of Materials Science and Engineering, South China University of Technology, Guangzhou, Guangdong, China; 2. State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, China*

CV-11. Investigation of easy axis orientation of Nd–Fe–B melt-spun ribbons produced by hot rolling and influence of Ti–C addition. *Y. Nakanishi*[1], M. Takezawa[1], Y. Morimoto[1], J. Yamasaki[1] and M. Yagi[2] *1. Department of Applied Science for Integrated System Engineering, Faculty of Engineering, Kyushu Institute of Technology, Kitakyushu, Japan; 2. Sojo University, Kumamoto, Japan*

CV-12. Magnetic domain observation of Nd-Cu diffusion Nd-Fe-B sub-micron grain sized magnet by Kerr effect microscopy. *M. Takezawa*[1], Y. Nagashima[1], Y. Kimura[1], Y. Morimoto[1], J. Yamasaki[1], N. Nozawa[2], T. Nishiuchi[2] and S. Hirosawa[2] *1. Kyushu Institute of Technology, Kitakyushu, Japan; 2. Hitachi Metals, Ltd, Osaka, Japan*

CV-13. Effects of Ga Addition on Structural and Magnetic Properties of Nd-Fe-B-Ti-C Nanocomposite Magnets. Q. Wu[1,2], T. Yu[3], S. Guo[1], X. Feng[1], M. Pan[2], P. Zhang[2], B. Han[3], H. Ge[2] and *A. Yan*[1] *1. Ningbo Institute of Material Technology&Engineering Chinese Academy of Sciences, Ningbo, China; 2. College of Materials Science and Engineering, China Jiliang University, Hangzhou, Zhejiang province, China; 3. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

CV-14. Effects of magnetic solidification on rod-shaped Nd-Fe-Ti-Zr-Cr-C-B magnets with various diameters. *C. Wang*[1,2], W. Lin[1], C. Hsieh[1], W. Chang[1], H. Chang[3] and A. Sun[4] *1. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. College of Materials Science and Engineering, Fuzhou University, Fuzhou, Fujian, China; 3. Department of Physics, Tunghai University, Taichung, Taiwan; 4. Department of Chemical Engineering and Materials Science, Yuan Ze University, Chung-Li, Taiwan*

CV-15. Coercivity enhancement in HDDR-processed Nd-Fe-B magnet by Zn-diffusion doping treatment combined with hot press. *T. Nishiuchi*[1], N. Nozawa[1], S. Hirosawa[1], H. Sepehri-Amin[2], T. Ohkubo[2] and K. Hono[2] *1. Magnetic Materials Research Laboratory, Hitachi Metals, Ltd., Osaka, Japan; 2. Magnetic Materials Unit, National Institute for Materials Science, Tsukuba, Japan*

TUESDAY MORNING 8:00

SAGUARO BALLROOM

Session CW
ORDERED ALLOYS AND BORIDES (Poster Session)

Thomas Woodcock, Co-Chair
Nora Dempsey, Co-Chair

CW-01. Effect of strained state on the magnetic properties of (001)-oriented L10-FePt films on different substrate. A. Zhang[1,2], Z. Chen[1], J. Ge[1], M. Yang[1], W. Zou[1], J. Du[1], *X. Wu*[1], S. Zhang[3] and S. Zhou[3] *1. National Laboratory of Solid State Microstructures & Department of Physics, Nanjing University, Nanjing, China; 2. College of Science, Hohai University, Nanjing, China; 3. Department of Physics and Surface Physics Laboratory (National Key Laboratory), Fudan University, Shanghai, China*

CW-02. Promotion of perpendicular anisotropy for $L1_0$-FePt by rapid thermal processing. *L. Wang*[1] and C. Lai[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

CW-03. Reducing the Switching Field of L10-FePt by Graded Order Parameter. Z. Lu[1], J. Guo[1], *S. Kang*[2], R. Xiong[3], G.J. Mankey[4] and W.H. Butler[4] *1. School of Materials and Metallurgy, Wuhan University of Science and Technology, Wuhan, Hubei, China; 2. School of Physics, Shandong University, Jinan, Shandong, China; 3. School of Physics and Technology, Wuhan University, Wuhan, Hubei, China; 4. Department of Physics, University of Alabama, Tuscaloosa, AL*

CW-04. Magnetic properties and microstructure of perpendicular FePt (B-Ag) granular films. *J. Tsai*[1], J. Huang[1], L. Chen[1] and C. Lin[1] *1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

CW-05. Effect of intrinsic tensile stress on (001) orientation of single-layered FePt thin films on glass substrates. *S. Hsiao*[1], S. Liu[2], S. Chen[2], F. Yuan[3] and H. Lee[1] *1. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 2. Materials science and engineering, Feng Chia University, Taichung, Taiwan; 3. Institute of Applied Physics and Center for Nanostoage, National Taiwan University, Taipei, Taiwan*

CW-06. Effect of oxygen stoichiometry on microstructural and magnetic properties of FePt/TaO_x bilayer. G. Li[1], C. Leung[2], Y. Chen[3], *K. Lin*[3] and P. Pong[1] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong; 2. Department of Applied Physics, Hong Kong Polytechnic University, Hong Kong, Hong Kong; 3. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

CW-07. Enhancement in coercivity of PLD-fabricated Fe-Pt thick film magnets by reducing droplets. M. Nakano[1], *D. Urakawa*[1], T. Yanai[1] and H. Fukunaga[1] *1. Graduate school of Engineering, Nagasaki University, Nagasaki 852-8521, Japan*

CW-08. Effect of laser wavelength and magnetic field on phase structure and magnetic properties of pulse-laser-deposited FePt films. *H.W. Chang*[1], C.R. Wang[1], C.W. Yuan[1], C.W. Shih[2], F.T. Yuan[3] and W.C. Chang[2] *1. Department of Physics, Tunghai University, Taichung, Taiwan; 2. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 3. Department of Physics, National Taiwan University, Taipei, Taiwan*

CW-09. Stabilization of perpendicular magnetic anisotropy $L1_1$ CoPtCu thin film on glass substrate by Pt(111) underlayer. *C. Huang*[1], L. Li[1], A. Sun[1], F. Yuan[2] and J. Hsu[2] *1. Department of Chemical Engineering and Materials Science, Yuan-Ze university, Taoyuan, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan*

CW-10. Effect of high temperature annealing on ion-irradiation induced magnetization in FeRh thin films. *A. Tohki*[1], S. Kosugi[1], K. Aikoh[1], K. Kume[2], T. Batchuluun[2], R. Ishigami[2], T. Matsui[3] and A. Iwase[1] *1. Department of Materials Science, Osaka Prefecture University, Sakai-shi, Japan; 2. The Wakasa Wan Energy Research Center, Tsuruga, Fukui, Japan; 3. Research Organization of the 21st Century, Osaka Prefecture University,, Sakai, Osaka, Japan*

CW-11. Origins of Axial Gradient Performance of Hot Deformed Nd-Fe-B Ring Magnets. *W. Yin*[1,2], R. Chen[1,2], X. Tang[1,2], M. Lin[1,2], D. Lee[1,2] and A. Yan[1,2] *1. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China; 2. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China*

CW-12. Improvement in magnetic properties of Nd-Fe-B/α-Fe multi-layered thick film magnets prepared by PLD method. H. Fukunaga[1], *T. Kamikawatoko*[1], M. Nakano[1], T. Yanai[1] and F. Yamashita[2] *1. Nagasaki University, Nagasaki 852-8521, Japan; 2. Rotary Corponent Thechnology Development Division, Minebea Ltd., Shizuoka 437-1193, Japan*

CW-13. Structural and Magnetic Properties of $SmCo_{4-x}Fe_xB$. *E.S. Krage*[1,2], B. Das[1], B. Balasubramanian[1], X. Li[1], R. Skomski[1], Y. Huh[1,2] and D.J. Sellmyer[1] *1. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Physics, South Dakota State University, Brookings, SD*

CW-14. Coercivity enhancement in anisotropic Pr12.5Fe80.8B6.2Nb0.2Ga0.3 powders. Z. Lin[1], J. Han[1], S. Liu[1], M. Xing[1], *J. Yang*[1], Y. Zhang[1] and Y. Yang[1] *1. School of Physics, Peking University, Beijing, China*

CW-15. Microstructural study of PrFeB-based sintered magnets with alloying elements by transmission electron microscopy. T. Mendes[1], .A. Pé rigo[2], C.R. Afonso[3], *S.C. Silva*[1] and H. Takiishi[1] *1. Nuclear and Energy Research Institute - IPEN, São Paulo, Brazil; 2. Technological Research Institute - IPT, São Paulo, Brazil; 3. National Laboratory of Synchrotron Light - LNLS, São Paulo, Brazil*

TUESDAY AFTERNOON 1:30

GRAND CANYON 6

Session DA
SYMPOSIUM ON PERPENDICULAR MAGNETIC ANISOTROPY FOR SPINTRONICS

Eric Fullerton, Chair

1:30

DA-01. Tunnel Magnetoresistance and Spin Torque Switching in MgO-based Magnetic Tunnel Junctions with a Co/Ni Multilayer Electrode. ***(Invited)*** *T. Moriyama*[1], T.J. Gudmundsen[1], P.Y. Huang[1], L. Liu[1], D.A. Muller[1], D.C. Ralph[1] and R.A. Buhrman[1] *1. Physics, Cornell Univ, Ithaca, NY*

2:06

DA-02. Spin-transfer pulse switching in all perpendicular spin-valve nanopillars*. ***(Invited)*** *H. Liu*[1], D. Bedau[1], J.Z. Sun[2], J.A. Katine[3], E.E. Fullerton[4], S. Mangin[5] and A.D. Kent[1] *1. Physics, New York University, New York, NY; 2. IBM T. J. Watson Research Center, Yorktown Heights, NY; 3. San Jose Research Center, Hitachi-GST, San Jose, CA; 4. CMRR, University of California, San Diego, La Jolla, CA; 5. Nancy-Université, Vandoeuvre Cedex, France*

2:42

DA-03. Sub-volume thermal excitation and optimal perpendicular magnetic anisotropy for spin-torque switched magnetic tunnel junctions in memory. ***(Invited)*** *J. Sun*[1], R.P. Robertazzi[1], J. Nowak[1], P.L. Trouilloud[1], G. Hu[1], D.W. Abraham[1], M.C. Gaidis[1], S.L. Brown[1], E.J. O'Sullivan[1], W.J. Gallagher[1] and D.C. Worledge[1] *1. IBM-MagIC MRAM Alliance, IBM T. J. Watson Research Center, Yorktown Heights, NY*

3:18

DA-04. Toward ultra low power spintronics nanodevices with perpendicular anisotropy. ***(Invited)*** *D. Ravelosona*[1], N. Lei[1], N. Nguyen[1], S. Ahn[1], W. Lin[1], G. Agnus[1], S. Eimer[1], N. Vernier[1], W. Zhao[1], J. Kim[1], T. Devolder[1], J. Klein[1], P. Lecoeur[1] and C. Chappert[1] *1. Institut d'Electronique Fondamentale, UMR CNRS8622, Orsay, France*

3:54

DA-05. Spin-Orbit torques in ferromagnetic thin films. ***(Invited)*** *M. Miron*[1,2], K. Garello[2], G. Gaudin[1], P. Zermatten[1], M.V. Costache[2], S. Auffret[1], S. Bandiera[1], B. Rodmacq[1], A. Schuhl[1] and P. Gambardella[2] *1. SPINTEC, Grenoble, France; 2. Catalan Institute of Nanotechnology, Barcelona, Spain*

TUESDAY AFTERNOON 1:30

GRAND CANYON 7

Session DB
SPIN WAVES II
Andrei Slavin, Chair

1:30

DB-01. Amplification of Surface Spin Waves in Ferrite Thin Films through Interfacial Spin Scattering. ***Z. Wang***[1], Y. Sun[1], M. Wu[1], V. Tiberkevich[2] and A. Slavin[2] *1. Department of Physics, Colorado State Univeristy, Fort Collins, CO; 2. Department of Physics, Oakland University, Rochester, MI*

1:42

DB-02. Identification and selection rules of the spin-wave eigen-modes in a normally magnetized nano-pillar. *V.V. Naletov*[1,2], G. de Loubens[1], O. Klein[1], J. Grollier[3], N. Locatelli[3] and V. Cros[3] *1. Service de Physique de l'État Condensé, CEA Saclay, 91191 Gif-Sur-Yvette, France; 2. Physics Department, Kazan Federal University, 420008 Kazan, Russian Federation; 3. Unité Mixte de Physique CNRS/Thales and Université Paris Sud 11, 91767 Palaiseau, France*

1:54

DB-03. Electric-field-induced spin wave generation using multiferroic magnetoelectric cells. *S. Cherepov*[1], P. Khalili Amiri[1], J.G. Alzate[1], K. Wong[1], M. Lewis[1], P. Upadhyaya[1], J. Nath[1], M. Bao[1], J.L. Hockel[2], A. Bur[2], T. Wu[2], G.P. Carman[2], A. Khitun[1] and K.L. Wang[1] *1. Electrical Engineering, UCLA, Los Angeles, CA; 2. Mechanical and Aerospace Engineering, UCLA, Los Angeles, CA*

2:06

DB-04. Nonlinear Amplification and Mixing of Spin Waves: Experiment and Theory. ***(Invited)*** *R. Camley*[1], Y. Khivintsev[1,2], J. Marsh[1], V. Zagarodnii[1,3], I. Harward[1], P. Krivosik[1], J. Lovejoy[1] and Z. Celinski[1] *1. University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Saratov Branch of Kotel'nikov IRE RAS, Saratov, Russian Federation; 3. Taras Shevchenko Nation University of Kyiv, Kyiv, Ukraine*

2:42

DB-05. Collective vortex-gyration modes in magnonic cystals. *D. Han*[1] and S. Kim[1] *1. National Creative Research Initiative Center for Spin Dynamics and Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Eng., Seoul Natl Univ, Seoul, Korea, Republic of*

2:54

DB-06. Nanoscale spin wave localization using ferromagnetic resonance force microscopy. *H. Chia*[1,2], L.M. Belova[3] and R.D. McMichael[1] *1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD; 2. Maryland Nanocenter, University of Mayland, College Park, MD; 3. Department of Materials Science and Engineering, Royal Institute of Technology, Stockhom, Sweden*

3:06

DB-07. Amplification of Spin Waves by the Spin Seebeck Effect.E.P. Hernandez[1], A. Azevedo[1] and *S.M. Rezende*[1] *1. Departamento de Fisica, Universidade Federal de Pernambuco, Recife, PE, Brazil*

3:18

DB-08. Excitation of short-wavelength spin waves in tapered magnonic waveguides. *V.E. Demidov*[1], M.P. Kostylev[2], K. Rott[3], J. Muenchenberger[3], G. Reiss[3] and S.O. Demokritov[1] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. University of Western Australia, Crawley, WA, Australia; 3. Bielefeld University, Bielefeld, Germany*

3:30

DB-09. Collective spin wave modes in a two-dimensional array of magnetic nano-dots.R.V. Verba[1], G.A. Melkov[1], *V.S. Tiberkevich*[2] and A.N. Slavin[2] *1. Faculty of Radiophysics, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; 2. Department of Physics, Oakland University, Rochester, MI*

3:42

DB-10. Controlled enhancement of spin-current emission by three-magnon splitting. *H. Kurebayashi*[1], O. Dzyapko[2], V.E. Demidov[2], D. Fang[1], A.J. Ferguson[1] and S.O. Demokritov[2] *1. University of Cambridge, Cambridge, United Kingdom; 2. University of Muenster, Muenster, Germany*

3:54

DB-11. Magneto-acoustic pulses in Nickel films generated with a femtosecond laser excitation. *J. Kim*[1], M. Vomir[1] and J. Bigot[1] *1. Institut de Physique et Chimie des Matériaux de Strasbourg, CNRS - Université de Strasbourg, Strasbourg, France*

4:06

DB-12. Measurements of spin-wave mode linewidth in individual nanomagnets of varying size. *H.T. Nembach*[1], J.M. Shaw[1] and T.J. Silva[1] *1. Electromagnetics Division, National Institute of Standards and Technology, Boulder, CO*

4:18

DB-13. Electrical detection of spin wave quantization in ferromagnetic nanowires. *M. Jamali*[1], J. Kwon[1], A. M. Sahadevan[1], S. Mukherjee[1] and H. Yang[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

TUESDAY AFTERNOON 1:30

GRAND CANYON 8

Session DC
DOMAIN WALLS AND VORTICES II

Kyung-Jin Lee, Chair

1:30

DC-01. Domain wall dynamics in an artificial multiferroic under non-uniform stress. *M.T. Bryan*[1], J. Dean[1] and D.A. Allwood[1] *1. Materials Science and Engineering, University of Sheffield, Sheffield, South Yorkshire, United Kingdom*

1:42

DC-02. Probing the Non-Adiabaticity of the Spin-Torque via Direct Imaging of Current Induced Vortex Domain Wall Excitations. *A. Bisig*[1,2], J. Rhensius[3,4], C. Moutafis[1,3], J. Heidler[1], G. Killiani[3], T. Tyliszczak[6], L.J. Heyderman[4], B. Van Waeyenberge[5], H. Stoll[2], G. Schü tz[2] and M. Klä ui[1,7] *1. SwissFEL, Paul Scherrer Institut, Villigen, Switzerland; 2. Moderne Magnetische Materialien, Max-Planck-Institut für Intelligente Systeme, Stuttgart, Germany; 3. Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 4. Labor für Mikro- und Nanotechnologie, Paul Scherrer Institut, Villigen, Switzerland; 5. Department of Solid State Sciences, Ghent University, Ghent, Belgium; 6. Advanced Light Source, LBNL, Berkeley, CA; 7. Institut für Physik, Johannes Gutenberg-Universität Mainz, Mainz, Germany*

1:54

DC-03. Role of Spin Diffusion on Current-driven Domain Wall Motion. *A. Manchon*[1] and K. Lee[2] *1. Materials Science and Eng., KAUST, Thuwal, Saudi Arabia; 2. Materials Science and Eng., Korea University, Seoul, Korea, Republic of*

2:06

DC-04. Coupling parameters and selection rules for spin-transfer induced dynamics of two coupled vortices. *N. Locatelli*[1], A. Khvalkovskiy[2], P. Bortolotti[1], G. Avanesyan[3], J. Grollier[1], V. Cros[1], K. Zvezdin[3], V. Naletov[4], G. De Loubens[4], O. Klein[4] and A. Fert[1] *1. Unité Mixte CNRS/Thales/Univ. Paris Sud, Palaiseau, France; 2. Grandis, Inc., Milpitas, CA; 3. A. M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russian Federation; 4. Service de Physique de l'Etat Condensé, CEA Saclay, Gif-sur-Yvette, France*

2:18

DC-05. Reliable energy-efficient information recording by tailored orthogonal pulse currents in vortex-core cross-point architecture. *Y. Yu*[1], K. Lee[1], H. Jung[1], Y. Choi[1], J. Lee[1], M. Yoo[1], D. Han[1], M. Im[2], P. Fischer[2] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul Natl Univ, Seoul, Korea, Republic of; 2. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA*

2:30

DC-06. Joule heating effect as additional source of domain wall motion in NiFe nanostrips. *J. Torrejon*[1], J. Curiale[1,2], G. Malinowski[1], A. Thiaville[1], D. Lacour[3], F. Montaigne[3] and M. Hehn[3] *1. Laboratoire de Physique des Solides, (Univ Paris Sud, CNRS), Orsay (Paris), France; 2. Laboratoire de Photonique et Nanostructures, CNRS, Marcoussis, France; 3. Institut Jean Lamour, Univ Nancy I, Vandoeuvre-lés-Nancy, France*

2:42

DC-07. Vortex dynamics in interacting ferromagnetic structures. ***(Invited)*** *A. Vogel*[1] *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

3:18

DC-08. Domain Wall Motion by the Magnonic Spin Seebeck Effect. *D. Hinzke*[1], U. Ritzmann[1] and U. Nowak[1] *1. University of Konstanz, Konstanz, Germany*

3:30

DC-09. Highly Efficient Spin-Torque-Assisted Domain Wall Depinning in $L1_0$FePt. *K. Huang*[1], T. Koyama[2], K. Ueda[2], D. Chiba[2], T. Ono[2] and C. Lai[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan*

3:42

DC-10. Toward ultrafast current assisted domain wall motion. *E. Murè*[1], J.H. Franken[1], S.J. Schellekens[1], H.J. Swagten[1] and B. Koopmans[1] *1. Applied Physics, Tu/e, Eindhoven, Netherlands*

3:54

DC-11. Roles of field and current in thermally activated domain wall motion in submicron-wide magnetic strips with perpendicular magnetic anisotropy. *S. Emori*[1] and G.S. Beach[1] *1. Materials Science and Engineering, MIT, Cambridge, MA*

4:06

DC-12. Manipulation of domain walls using a spin-polarized scanning tunneling tip. *R. Wieser*[1], T. Stapelfeldt[1], E.Y. Vedmedenko[1] and R. Wiesendanger[1] *1. University of Hamburg, Hamburg, Germany*

4:18

DC-13. Field Frequency Tuning of the Velocity of Geometrically Confined Domain Walls. *M. Negoita*[1], T.J. Hayward[1] and D.A. Allwood[1] *1. Department of Material Science and Engineering, University of Sheffield, Sheffield, United Kingdom*

TUESDAY AFTERNOON 1:30

GRAND CANYON 9-11

Session DD
ORDERED ALLOYS

Chih-Huang Lai, Co-Chair
Kazuhiro Hono, Co-Chair

1:30

DD-01. Magnetic Anisotropy in FePt - Effect of Chemical Disorder and Lattice Distortion. *C.J. Aas*[1], L. Szunyogh[2] and R.W. Chantrell[1] *1. Dept of Physics, University of York, York, United Kingdom; 2. Dept of Theoretical Physics, Budapest University of Technology and Economics, Budapest, Hungary*

1:42

DD-02. Electronic structure and magnetic anisotropy in FePt alloys out of $L1_0$ ordering. *Y. Kota*[1] and A. Sakuma[1] *1. Department of Applied Physics, Tohoku University, Sendai, Japan*

1:54

DD-03. Tailoring Magnetocrystalline Anisotropy of FePt by applied strain: first principles calculation. *P. Lukashev*[1,3] and R.F. Sabirianov[2,3] *1. Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE; 2. Physics, University of Nebraska at Omaha, Omaha, NE; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska - Lincoln, Lincoln, NE*

2:06

DD-04. Magnetic anisotropy and order parameters for $L1_0$ type FePt polycrystalline films with (001) preferred grain orientation. *D. Inoue*[1,2], T. Shimatsu[1], Y. Inaba[1,2], H. Aoi[1], S. Okamoto[3] and O. Kitakami[3] *1. RIEC, Tohoku University, Sendai, Japan; 2. Fuji Electric Co., Ltd., Matsumoto, Japan; 3. IMRAM, Tohoku University, Sendai, Japan*

2:18

DD-05. $L1_0$ ordered phase formation in FePt, FePd, CoPt, and CoPd alloy thin films epitaxially grown on MgO(001) single-crystal substrates. *M. Ohtake*[1], S. Ouchi[1], F. Kirino[2] and M. Futamoto[1] *1. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Graduate School of Fine Arts, Tokyo National University of Fine Arts and Music, Tokyo, Japan*

2:30

DD-06. Granular $L1_0$ FePt-SiN_x-C nanocomposite films with large coercivity and small isolated grains for perpendicular recording application. *K. Dong*[1], H. Li[1], Y. Peng[2], G. Ju[2], G. Chow[1] and J. Chen[1] *1. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Seagate Techonology, Fremont, CA*

2:42

DD-07. Addition of Au to reduce ordering temperature of very thin Fe/Pt bi-layered films on MgO underlayer. *M. Tanaka*[1], K. Murata[1] and S. Nakagawa[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

2:54

DD-08. Accelerating phase transformation of L1$\underline{0}$ FePt by pre-formation of AgPt meta-stable phase. *W. Wen*[1] and C. Lai[1] *1. MSE, National Tsing Hua University, Taiwan, Hsin-chu, Taiwan*

3:06

DD-09. Magnetic reversal characteristics of $L1_0$-FePt dots. *J. Liao*[1], J. Hsiao[1], D. Gilbert[2], Y. Huang[1], H. Hou[1], L. Wang[1], I. Liu[1], K. Liu[2] and C. Lai[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Physics Department, University of California, Davis, CA*

3:18

DD-10. Withdrawn

3:30

DD-11. Core-Shell type L10- FePt/A1-FePt and L10-FePt/Co exchange spring nanocomposites. *D.G. Niarchos*[1], T. Speliotis[1], G. Gainnopoulos[1] and G. Hadjipanayis[2] *1. Institute of Materials Science, NCSR Demokritos, Aghia Paraskevi, Attikis, ATTIKIS, Greece; 2. Physics and Astronomy, University of Delaware,, NEWARK, DE*

3:42

DD-12. Crystallographic study of high K_u metastable $Co_{50}Pt_{50}$ ordered structure. *F. Yuan*[1], J. Hsu[1], Y. Lin[2], S.N. Hsiao[3] and C.S. Ku[3] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Materials Science & Engineering, National Tawian University, Taipei, Taiwan; 3. National Synchrotron Radiation, Hsin-Chu, Taiwan*

3:54

DD-13. Fabrication of $L1_0$-MnAl perpendicularly magnetized thin films for perpendicular magnetic tunnel junctions. *M. Hosoda*[1], M. Oogane[1], M. Kubota[1], T. Kubota[2], H. Saruyama[1], S. Iihama[1], S. Mizukami[2], H. Naganuma[1] and Y. Ando[1] *1. Department of Applied Physics, Tohoku Univ., Sendai, Miyagi, Japan; 2. WPI-AIMR, Tohoku Univ., Sendai, Miyagi, Japan*

4:06

DD-14. Thickness-Dependent Magnetic Anisotropy in Ferromagnetic $L1_0$ MnAl Thin Films. *Y. Cui*[1], W. Yin[2], J. Lu[2] and S.A. Wolf[1,2] *1. Department of Physics, University of Virginia, Charlottesville, VA; 2. Department of Materials Science and Engineering, University of Virginia, Charlottesville, VA*

4:18

DD-15. Ab initio study on magnetic anisotropy of L10-ordered alloy FeNi.S. Ozaki[1], Y. Kuwahara[1], M. Tsujikawa[2], Y. Miura[1,2], K. Abe[1,2] and *M. Shirai*[1,2] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan*

TUESDAY AFTERNOON 1:30

GRAND CANYON 2-3

Session DE
HEUSLER ALLOYS
Paul Crowell, Chair

1:30

DE-01. Spin-dependent transport properties of fully epitaxial magnetic tunnel junctions of CoFe/MgO/CoFe ultrathin layer/Co_2MnSi. *H. Liu*[1], T. Taira[1], Y. Honda[1], K. Matsuda[1], T. Uemura[1], Y. Miura[2] and M. Shirai[2] *1. Division of Electronics for Informatics, Hokkaido Univ., Sapporo, Japan; 2. Research Institute of Electrical Communication, Tohoku Univ., Sendai, Japan*

1:42

DE-02. Large Current-Perpendicular-to-Plane Giant Magnetoresistance Effect Using Half Metallic $Co_2Fe_{0.4}Mn_{0.6}Si$ Heusler Alloy. *M. Oogane*[1], J. Sato[1], H. Naganuma[1] and Y. Ando[1] *1. Tohoku Univ., Sendai, Japan*

1:54

DE-03. CPP-GMR using $Co_2Mn(Ga_{0.25}Ge_{0.75})$ Heusler alloy. *N. Hase*[1], B. Varaprasad[2], Y.K. Takahashi[2] and K. Hono[2,1] *1. University of Tsukuba, Tsukuba, Ibaraki, Japan; 2. National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

2:06

DE-04. Fabrication of epitaxial magnetic tunnel junctions with a Co_2MnSi thin film and a MgO barrier on Ge(001) substrates via a MgO interlayer. *G. Li*[1], T. Taira[1], H. Liu[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

2:18

DE-05. Spincaloritronic effects in Heusler compound Co_2MnSi thin films. *S. Bosu*[1], Y. Sakuraba[1], K. Uchida[1], K. Saito[1], E. Saitoh[1] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan*

2:30

DE-06. Anisotropic magnetoresistance in Heusler compounds epitaxial films:A fingerprint of half-metallcity/non-half-metallicity.F. Yang[1], *Y. Sakuraba*[1] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

2:42

DE-07. Magnetodynamics in $Co_{1-x}Fe_xS_2$: A view from magnetic resonance. *B. Kaster*[1], M. Pechan[1], M. Manno[2], A. Baruth[2] and C. Leighton[2] *1. Physics, Miami University, Oxford, OH; 2. Materials Science, University of Minnesota, Minneapolis, MN*

2:54

DE-08. Exchange stiffness and magnetic anisotropy of Cu_2MnAl thin films grown onto sapphire and MgO substrates.M. Belmeguenai[1], *S. Cherif*[1], K. Westerholt[2] and P. Moch[1] *1. LSPM (CNRS-UPR 3407), Université Paris 13, 99 avenue Jean-Baptiste Clément, 93430, Villetaneuse, France; 2. Experimentalphysik/Festkörperphysik, Ruhr-Universität Bochum, 44780, Bochum, Germany*

3:06

DE-09. Epitaxial Co_2FeSi Heusler alloy films on GaAs substrates with different substrate orientation. *J. Herfort*[1], B. Jenichen[1], T. Hentschel[1] and A. Trampert[1] *1. Paul-Drude-Institute, Berlin, Germany*

3:18

DE-10. Atomic resolution structural study of the Heusler electrodes in Co2(Fe,Mn)Si/Ag/Co2(Fe,Mn)Si Spin Valves. *V.K. Lazarov*[1], L. Lari[1], J. Sato[2], J. Sizeland[1], P.J. Hasnip[1], M. Oogane[2], A. Hirohata[3] and Y. Ando[2] *1. Physics, University of York, York, United Kingdom; 2. Applied Physics, Tohoku University, Sendai, Japan; 3. Electronics, University of York, York, United Kingdom*

3:30

DE-11. Withdrawn

3:42

DE-12. Proximity effects of antiphase boundaries. *S.R. Gopala Pillai*[1], . Wu[1] and I.V. Shvets[1] *1. Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), Trinity College,University of Dublin, Dublin, Dublin, Ireland*

3:54

DE-13. Enhanced Coercivity of Half-metallic $La_{0.7}Sr_{0.3}MnO_3$ Enhanced by Both Ru Doping and Anisotropic Epitaxial Strain. *K. Shigematsu*[1], A. Chikamatsu[1], Y. Hirose[1,2], T. Fukumura[1] and T. Hasegawa[1,2] *1. Chemistry, The University of Tokyo, Tokyo, Japan; 2. Kanagawa Academy of Science and Technology (KAST), Kawasaki, Japan*

4:06

DE-14. Structural and magnetic properties of Mn_2TiSn Alloy. Y. Huh[1,3], *P. Kharel*[2,3], V.R. Shah[3], R. Skomski[2,3], E.S. Krage[1,3] and D.J. Sellmyer[2,3] *1. Physics, South Dakota State University, Brookings, SD; 2. Physics and Astronomy, University of Nebraska, Lincoln, NE; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE*

4:18

DE-15. CVD synthesis of polycrystalline Fe_3O_4 thin films by using the cyclohexadiene iron tricarbonyl liquid precursor. *R. Mantovan*[1], S. Vangelista[1], S. Cocco[1], A. Lamperti[1] and O. Salicio[1] *1. CNR-IMM MDM Laboratory, Agrate Brianza (MB), Italy*

TUESDAY AFTERNOON 1:30

GRAND CANYON 4-5

Session DF
FERROMAGNETIC SEMICONDUCTORS II

Xinyu Liu, Chair

1:30

DF-01. Giant anomalous Hall effect in diluted magnetic topological insulator with carrier independent ferromagnetic order. ***(Invited)*** *K. He*[1], C. Chang[1,2], J. Zhang[2], Z. Zhang[2], M. Liu[2], K. Li[1], X. Feng[1,2], L. Wang[1], X. Chen[2], X. Dai[1], Z. Fang[1], X. Qi[3], S. Zhang[3], Y. Wang[2], X. Ma[1] and Q. Xue[2,1] *1. State Key Laboratory for Surface Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. State Key Laboratory for Low-Dimensional Quantum Physics, Department of Physics, Tsinghua University, Beijing, China; 3. Deparment of Physics, Stanford University, Stanford, CA*

2:06

DF-02. Electric Field Controlled Ferromagnetism in High Curie Temperature Mn0.05Ge0.95 Quantum Dots. *F. Xiu*[1] *1. Electrical Engineering, Iowa State University, Ames, IA*

2:18

DF-03. (In,Fe)As: A new Fe-based n-type electron-induced ferromagnetic semiconductor. *P. Nam Hai*[1], L. Duc Anh[1] and M. Tanaka[1] *1. Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan*

2:30

DF-04. Rare-Earth Nitrides: Intrinsic Ferromagnetic Semiconductors. *J. Trodahl*[1], B. Ruck[1], F. Natali[1], N. Plank[1] and C. Meyer[2] *1. Victoria University, Wellington, New Zealand; 2. Neel Institute, Grenoble, France*

2:42

DF-05. Ns-scale magnetization reversal in (Ga,Mn)As using electrical field gating. P. Balestriere[1], T. Devolder[1], J. Kim[1], *D. Ravelosona*[1], V. Novak[2], J. Wunderlich[3] and T. Jungwirth[2] *1. Université paris-Sud, ORSAY Cedex, France; 2. Institute of Physics, Praha, Czech Republic; 3. Hitachi Cambridge Laboratory, Cambridge, United Kingdom*

2:54

DF-06. Enhancing the Curie Temperature of Ferromagnetic Semiconductor (Ga,Mn)As to 200 K via Nanostructure Engineering. L. Chen[1], X. Yang[1], F. Yang[1], *J. Zhao*[1], J. Misuraca[2], P. Xiong[2] and S. von Molnár[2] *1. State Key Laboratory For Superlattices And Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 2. Department of Physics, Florida State UniversityFlorida, Tallahassee, FL*

3:06

DF-07. MBE growth and magnetic properties of (Ga,Mn)As/GaAs nanowires. J. Sadowski[1,2], *A. Siusys*[2], P. Dziawa[2], A. Reszka[2], B.J. Kowalski[2], P. Dluzewski[2] and T. Story[2] *1. MAX-Lab, Lund University, Lund, Sweden; 2. Institute of Physics, Polish Academy of Sciences, Warsawa, Poland*

3:18

DF-08. Origin of uniaxial magnetic anisotropy in (Ga,Mn)As. *M. Birowska*[1], C. Sliwa[2], K. Milowska[1], J.A. Majewski[1] and T. Dietl[1,2] *1. Institute of Theoretical Physics, University of Warsaw, Warsaw, Poland; 2. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland*

3:30

DF-09. Anisotropy variations in Mn-graded GaMnAs. *J. Leiner*[1], B.J. Kirby[2], K. Tivakornsasithorn[1], X. Liu[1], J.K. Furdyna[1] and M. Dobrowolska[1] *1. University of Notre Dame, Notre Dame, IN; 2. National Institute of Standards & Technology, Gaithersburg, MD*

3:42

DF-10. Magnetism of dilute Mn in GaN: from paramagnetism to ferromagnetism. *T. Devillers*[1], W. Stefanowicz[2], B. Faina[1], A. Navarro-Quezada[1], T. Li[1], A. Grois[1], M. Rovezzi[1,4], F. d'Acapito[4], D. Sztenkiel[2], R. Jakiela[2], A. Meingast[5], G. Kothleitner[5], M. Sawicki[2], T. Dietl[2,3] and A. Bonanni[1] *1. Institute for semiconductor and solid state physics, Johannes Kepler University, Linz, Austria; 2. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland; 3. Institute of Theoretical Physics, University of Warsaw, Warszawa, Poland; 4. Italian Collaborating Research Group, BM08 "GILDA" - ESRF, Grenoble, France; 5. Institute for Electron Microscopy – FELMI, Graz University of Technology, Graz, Austria*

3:54

DF-11. Intrinsic ferromagnetism in (In,Fe)As and its dependence on Fe concentration. *L.D. Anh*[1], P.N. Hai[1] and T. Masaaki[1] *1. Department of Electrical Engineering and Information Systems, The university of Tokyo, Tokyo, Japan*

4:06

DF-12. Room temperature ferromagnetism in transparent conducting Fe-doped In2O3 films. *M. Osofsky*[1], H. Kim[1], M.M. Miller[1], S.B. Qadri[1], R. Auyeung[1] and A. Pique[1] *1. code 6364, Naval Research Laboratory/SSD, Washington, DC*

4:18

DF-13. Lattice location of transition metals in dilute magnetic semiconductors. ***L.M. Pereira***[1,2], U. Wahl[3], A. Vantomme[1] and J.P. Araujo[2] *1. Instituut voor Kern- en Stralingsfysica and INPAC, Katholieke Universiteit Leuven, Leuven, Belgium; 2. IFIMUP and IN-Institute of Nanoscience and Nanotechnology, University of Porto, Porto, Portugal; 3. Instituto Tecnologico e Nuclear, UFA, Lisbon, Portugal*

TUESDAY AFTERNOON 1:30

GRAND CANYON 12-13

Session DG
MAGNETIC MICROSCOPY I
Benjamin McMorran, Chair

1:30

DG-01. Three-dimensional imaging of magnetic domains. ***(Invited)*** *R. Schäfer*[1], C. Grü nzweig[2], I. Manke[3], N. Kardjilov[3], A. Hilger[3], S. Shin[4] and B.C. De Cooman[4] *1. Institute for Metallic Materials, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 2. Paul Scherrer Institut, CH-Villigen-PSI 5232, Switzerland; 3. Institute of Applied Materials, Helmholtz Centre Berlin for Materials and Energy (HZB), Berlin 14109, Germany; 4. Materials Design Laboratory, Graduate Institute of Ferrous Technology Pohang University of Science and Technology, Pohang, Korea, Republic of*

2:06

DG-02. Scanned Magnetic Perturbation Imaging. *V.P. Bhallamudi*[1,2], A.J. Berger[1], D.E. Labanowski[2], D. Stroud[1] and P. Hammel[1] *1. Physics, The Ohio State University, Columbus, OH; 2. Electrical and Computer Engineering, The Ohio State University, Columbus, OH*

2:18

DG-03. First-Principles study of magnetic exchange interactions in scanning probe microscopy. *C. Lazo*[1] and S. Heinze[1] *1. Institute of Theoretical Physics and Astrophysics, University of Kiel, Kiel, Germany*

2:30

DG-04. Vector analysis of static magnetic field by adjusting measuring axis for Near-field magnetic force microscopy. *H. Saito*[1], Z. Li[2], R. Ito[1], G. Egawa[1] and S. Yoshimura[1] *1. Graduate School of Engineering and Resource Science, Akita University, Akita, Akita, Japan; 2. Venture Business Laboratory, Akita University, Akita, Akita, Japan*

2:42

DG-05. Influence of magnetic film composition of Fe_xB_{100-x} coated tip on the spatial resolution of magnetic force microscopy. *M. Ohtake*[1], K. Soneta[1] and M. Futamoto[1] *1. Faculty of Science and Engineering, Chuo University, Tokyo, Japan*

2:54

DG-06. Engineering the ferromagnetic domain size for optimized imaging of the pinned uncompensated spins in exchange-biased samples by magnetic force microscopy. *S. Ozer*[1], N.R. Joshi[3], T.V. Ashworth[2], P.G. Stickar[3], S. Romer[3], M.A. Marioni[3] and H.J. Hug[1,3] *1. Physics, Basel University, Basel, Switzerland; 2. NanoScan Ltd., CH-8600 Dubendorf, Switzerland; 3. Empa, Swiss Federal Laboratories for Material Science and Technology, CH-8600 Dubendorf, Switzerland*

3:06

DG-07. Characteristics of MFM Magnetics on High Moment PMR Writers with High Coercivity Probes. *F. Liu*[1], S. Li[1], D. Bai[1], J. Wang[1], Z. Li[1], D. Han[1], T. Pan[1] and S. Mao[1] *1. Western Digital Corporation, Fremont, CA*

3:18

DG-08. Single-atom magnet feature of thulium adatoms on W (110). J.L. Diez-Ferrer[1], D. Coffey[2,3], M. Ciria[2,3] and *J.I. Arnaudas*[1,3] *1. Laboratorio de Microscopías Avanzadas, Instituto de Nanociencia de Aragón, Universidad de Zaragoza, Zaragoza, Spain; 2. Instituto de Ciencia de Materiales de Aragón, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 3. Dept. Física Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain*

3:30

DG-09. Magneto-optical Kerr effect with radially-polarized light. *R. Dost*[1], B. Paul[2], D.A. Allwood[1] and I.G. Hughes[2] *1. Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom; 2. Physics, Durham University, Durham, United Kingdom*

3:42

DG-10. Unique characterization possibilities in the UHV-STXM MAXYMUS using the new surface sensitive TEY-measurement mode and a rotatable magnetic field up to 0.4T. *D. Nolle*[1], M. Weigand[1], E. Goering[1] and G. Schü tz[1] *1. MPI for Intelligent Systems, Stuttgart, Germany*

3:54

DG-11. Electron Beams with Orbital Angular Momentum and Their Application to Magnetic Imaging. *(Invited)* *B. McMorran*[1,2], A. Agrawal[1,3], H. Lezec[1], J.J. McClelland[1] and J. Unguris[1] *1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD; 2. Department of Physics, University of Oregon, Eugene, OR; 3. Maryland NanoCenter, University of Maryland, College Park, MD*

TUESDAY AFTERNOON 1:30 GRAND CANYON 1

Session DH
MAGNETO-ELASTIC MATERIALS I
Miguel Ciria, Chair

1:30

DH-01. Investigation of the Magnetic and Magnetoelastic Properties of Zn Doped Cobalt Ferrite. *D. Das*[1], N. Somaiah[1], T.V. Jayaraman[2] and P.A. Joy[3] *1. School of Engineering Sciences and Technology, University of Hyderabad, Hyderabad, AP, India; 2. Department of Mechanical and Materials Engineering, University of Nebraska, Lincoln, NE; 3. Materials Chemistry Division, National Chemical Laboratory, Pune, Maharashtra, India*

1:42

DH-02. Strain-mediated magnetization rotation in exchange biased antiferromagnetic/ferromagnetic/piezoelectric composites. *G. Lebedev*[1,2], B. Viala[1], T. Lafont[2], D. Zakharov[1,2], O. Cugat[2] and J. Delamare[2] *1. CEA, LETI, MINATEC Campus, Grenoble, France; 2. G2Elab, Grenoble Electrical Engineering Lab, CNRS-UJF-INPG, St Martin d'Hères, France*

1:54

DH-03. Observation of large magnetostriction in annealed and quenched $Co_{1-x}Fe_x$ thin films. *D.D. Hunter*[1], W. Osborn[2], K. Wang[2], R. Suchoski[1], L. Bendersky[2], S.E. Lofland[3], M. Wuttig[1] and I. Takeuchi[1] *1. Materials Science and Engineering, University of Maryland, College Park, MD; 2. Materials Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, MD; 3. Department of Physics and Astronomy, Rowan University, Glassboro, NJ*

2:06

DH-04. Temperature dependence of magnetoelastic properties of $Fe_{100-x}Si_x$ ($5<x<20$). *G. Petculescu*[1], P.K. Lambert[2], A.E. Clark[3], K.B. Hathaway[4], Q. Xing[5], T.A. Lograsso[5], J.B. Restorff[6] and M. Wun-Fogle[6] *1. Physics, Univ Louisiana Lafayette, Lafayette, LA; 2. University of Maryland, College Park, MD; 3. Clark Associates, Adelphi, MD; 4. G. J. Associates, Annapolis, MD; 5. Division of Materials Sciences and Engineering, Ames Laboratory, Ames, IA; 6. Carderock Division, Naval Surface Warfare Center, W. Bethesda, MD*

2:18

DH-05. Behavior of Magnetic Field Annealed Galfenol Steel. *M.D. Brooks*[1], E. Summers[1], M. Wun-Fogle[2] and J. Restorff[2] *1. Materials Science, ETREMA Products, Inc., Ames, IA; 2. Naval Surface Warfare Center, Bethesda, MD*

2:30

DH-06. Structure and magnetostriction of quenched Fe1-xGax (x = 0.15-0.30) alloys. *X. Zhu*[1], J. Liu[1] and C. Jiang[1] *1. Materials science and engineering School, Beihang University, Beijing, China*

2:42

DH-07. Temperature dependence of magnetization and magnetostriction in $Fe_{81}Ga_{19}$ alloy. *J. Liu*[1] and C. Jiang[1] *1. School of Materials Science and Engineering, Beihang University, Beijing, China*

2:54

DH-08. Structural and Magnetic Characterization of Electrodeposited Magnetostrictive $Fe_{1-x}Ga_x$/Cu Multilayered Nanowires.K. Reddy[1], J. Park[3], S. Na[3], M. Maqableh[2], A. Flatau[3] and *B. Stadler*[1,2] *1. Chemical Engineering and Materials Science, University of Minnesota - Twin Cities, Minneapolis, MN; 2. Electrical and Computer Engineering, University of Minnesota - Twin Cities, Minneapolis, MN; 3. Aerospace Engineering, University of Maryland, College Park, MD*

3:06

DH-09. The compositional dependence of surface magnetization processes in Fe-Ga magnetostrictive nanowires. *N. Lupu*[1], A. Pintea[1], M. Lostun[1,2] and H. Chiriac[1] *1. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania; 2. Faculty of Physics, "Alexandru Ioan Cuza" University, Iasi, Romania*

3:18

DH-10. Magnetic domain manipulation in magnetostrictive $Fe_{70}Ga_{30}$ thin films via direct application of strain fields observed with Lorentz Microscopy. *P. Alexander*[1] and J. Cumings[1] *1. Materials Science & Engineering, University of Maryland, College Park, MD*

3:30

DH-11. The compressive stress effect on the magnetostriction and magnetization for Sm-Dy-Fe composites. *B. Wang*[1], Z. Wang[1], Y. Hao[2], L. Weng[1], W. Huang[1] and W. Yan[1] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin, China; 2. Department of Physics,College of Science, Tianjin University of Science & Technology, Tianjin, China*

3:42

DH-12. Anomalous lattice softening of Ni-Mn-Ga austenite due to magneto-elastic coupling. *O. Heczko*[1], H. Seiner[2], J. Kopecek[1], P. Sedlak[2] and M. Landa[2] *1. Institute of Physics ASCR, Prague, Czech Republic; 2. Institute of Thermomechanics ASCR, Prague, Czech Republic*

3:54

DH-13. Co- and In- doped NiMnGa multifunctional alloys: giant effects under high pressure and high magnetic field. *S. Fabbrici*[1], J. Kamarad[2], Z. Arnold[2], F. Casoli[1], A. Paoluzi[1], L. Righi[3], D. Serrate[4], P. Algarabel[4], M. Doerr[5], E. van Elferen[6] and F. Albertini[1] *1. IMEM-CNR, Parma, Italy; 2. Institute of Physics, AS CR, Prague, Czech Republic; 3. University of Parma, Chemistry dep., Parma, Italy; 4. University of Zaragoza, Inst. de Ciencia de Materiales de Aragon, Zaragoza, Spain; 5. Tech University of Dresden, Inst. Festkorperphys, Dresden, Germany; 6. Radboud University of Nijmegen, High Field Magnet Lab, Nijmegen, Netherlands*

4:06

DH-14. In situ tailoring of magnetization configuration in ferromagnetic films under external stress. *W. Karboul Trojet*[1], D. Faurie[1], Y. Roussigné [1] and S. Cherif[1] *1. Laboratoire des sciences et procédées des materiaux LSPM, Villetaneuse, France*

4:18

DH-15. Model and experimental research on magneto-thermo-mechanical characterization of Terfenol-D.L. Wang[1], *B. Wang*[1,2], Z. Wang[1], L. Weng[1], W. Huang[1] and W. Yan[1] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin 300130, China; 2. International Center for Materials Physics, the Academy of Sciences, Shenyang 110015, China*

TUESDAY AFTERNOON 1:00 — SAGUARO BALLROOM

Session DP
HARD-MAGNETIC OXIDE AND $L1_0$ NANOSTRUCTURES (Poster Session)

Damien Le Roy, Chair

DP-01. Microstructures and magnetic properties of L10 FePt films deposited onto NaCl-type films.S. Chen[1], *T. Sun*[2] and P. Kuo[3] *1. Department of Materials Engineering and Center for Thin Film Technologies and Applications, Ming Chi University of Technology, Taipei, Taiwan; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan*

DP-02. Effects of phase distribution and grain size on the effective anisotropy and coercivity of Nanocomposite PtCo Permanent Alloy. *T. Liu*[1], W. Li[1], W. Sun[1] and Z. Guo[1] *1. Division of Functional Material, Central Iron & Steel Research Institute, Beijing, China*

DP-03. Formation mechanism and magnetic properties of cubic and cuboctahedron FePt Nanoparticles. *B. Baoru*[1,2], L. JingJing[1,2], H. Xianghua[1,2], .J. Ping[1,3] and D. Juan[1,2] *1. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China; 2. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China; 3. Department of Physics, University of Texas at Arlington, Arlington, TX*

DP-04. Magnetic domain observation of FePt/MgO/FePt trilayer circular dots. *H. Iwama*[1], S. Matsumoto[1], S. Wakamatsu[1], K. Sugawara[1], K. Sato[1], M. Doi[1] and T. Shima[1] *1. Tohoku Gakuin University, Tagajo, Japan*

DP-05. Magnetization processes in micron-scale (CoFe/Pt)n multilayers with perpendicular anisotropy: First-order reversal curves measured by extraordinary Hall effect. *Z. Diao*[1,2], N. Decorde[1,2], P. Stamenov[1,2], K. Rode[1,2], G. Feng[1,2] and J. Coey[1,2] *1. Physics, Trnity College Dublin, Dublin, Ireland; 2. CRANN, Trinity College Dublin, Dublin, Ireland*

DP-06. Ultrathin M-type Strontium ferrite hexagonal platelets synthesized via CTAB-assisted chemical co-precipitation technique.D.Y. Chen[1], Y.Y. Meng[1], *D.C. Zeng*[1], Z.W. Liu[1], X.C. Zhong[1], H.Y. Yu[1] and W.Q. Qiu[1] *1. South China University of Technology, Guangzhou, China*

DP-07. Particle Size Dependent Structural and Magnetic Properties of CoCrFeO4 Nanoparticles.S.E. Shirsath[1], *V.S. Shinde*[2], R.H. Kadam[3], A. Ghasemi[4] and A. Morisako[5] *1. Department of Physics, Vivekanand College, Aurangabad, Maharashtra, India; 2. Department of Chemistry, Shree Shivaji College, Omerga, Osmanabad, Maharashtra, India; 3. Materials Research Laboratory, Srikrishna Mahavidyalaya Gunjoti, Gunjoti, Omerga, Osmanabad, Maharashtra, India; 4. Materials Engineering Department, Malek Ashtar University of Technology, Shahin Shahr, Iran, Islamic Republic of; 5. Spin Device Technology Centre, Faculty of Engineering, Shinshu University, Nagano, Japan*

DP-08. The comparison between magnetic and reflection loss characteristics of substituted strontium ferrite and nanocomposites of ferrite/carbon nanotubes.A. Ghasemi[1], X. Liu[1] and *A. Morisako*[1] *1. Shinshu University, Nagano, Japan*

DP-09. Tailoring the exchange spring behaviour for the hard soft ferrite nanocomposite $SrFe_{12}O_{19}/CoFe_2O_4$ *D. Roy*[1], K.V. Sreenivasulu[1] and P. Kumar[1] *1. Department of Physics, Indian Institute of Science, Bangalore, India*

DP-10. Size effects on magnetic properties of nanocrystalline Sr2CuCo2Fe24O41 prepared by Co-precipitation method. *P. Kuruva*[1], K. Sadhana[1] and S. Srinath[1] *1. School of Physics, University of Hyderabad, Hyderabad, India*

DP-11. Screen-printing of ferrite magnetic nanoparticles produced by carbon combustion synthesis of oxides.C. Dannangoda[1], E. Galstyan[2], *D. Litvinov*[3] and K. Martirosyan[1] *1. Physics, University of Texas at Brownsville, Brownsville, TX; 2. Texas Center for Superconductivity, University of Houston, Houston, TX; 3. Department of Electrical and Computer Engineering, University of Houston, Houston, TX*

DP-12. Synthesis, Characterization and Functionalization of CoFe2O4 Nanoparticles with Piper hispidinervium C. DC oil. *T.M. Silva*[1], J.L. Lopez Aguilar[1], R. Paniago[2] and H.D. Pfannes[2] *1. Centro de Ciências Biológicas e da Natureza - CCBN, Universidade Federal do Acre - UFAC, Rio Branco, Acre, Brazil; 2. Departamento de Fisica, Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil*

DP-13. Structure and Magnetoelectronic Properties of Nickel and Cobalt Oxide Nanopolymers. *L.A. Pozhar*[1] *1. Department of Physics, University of Idaho, Moscow, ID*

DP-14. Controlled Synthesis of Superparamagnetic Iron-Oxide Nanoparticles by Phase Transformation. *M.A. Laurenzi III*[1] and E.E. Carpenter[2] *1. Physics, Catholic University, Washington DC, DC; 2. Chemistry, Virginia Commonwealth university, Richmond, VA*

DP-15. High temperature magnetic properties of $Co_{1-x}Mg_xFe_2O_4$ nanoparticles prepared by forced hydrolysis method. *A. Franco Jr*[1] and F.C. e Silva[1,2] *1. Instituto de Física, Universidade Federal de Goias, Goiânia, Goias, Brazil; 2. Instituto de Química, Universidade Federal de Goias, Goiânia, Goiás, Brazil*

TUESDAY AFTERNOON 1:00 — SAGUARO BALLROOM

Session DQ
PATTERNED AND MICROWAVE MEDIA (Poster Session)

S. N. (Prem) Piramanayagam, Chair

DQ-01. Fabrication and magnetic properties of CoPt (101) films for bit patterned media with inclined anisotropy toward recording density of 5 Tbit/in^2. *K. Shintaku*[1], S. Chiba[1], T. Kiya[1] and K. Yamakawa[1] *1. Akita Industrial Technology Center, Akita, Akita, Japan*

DQ-02. Fabrication of [001] $L1_0$-FePtRh ferro-antiferromagnetic pattern by flat-patterning method. *T. Hasegawa*[1], T. Tomioka[1], Y. Kondo[2], H. Yamane[1] and S. Ishio[2] *1. Department of Materials Science and Engineering, Akita University, Akita City, Japan; 2. Akita Industrial Technology Center (AIT), Akita, Japan*

DQ-03. Control of Magnetic Properties of MnBiCu Thin Films by Kr^+ Ion Irradiation. *Q. Xu*[1], R. Kanbara[1], T. Kato[1], S. Iwata[1] and S. Tsunashima[2] *1. Department of Quantum Engineering, Nagoya University, Nagoya, Japan; 2. Department of Research, Nagoya Industrial Science Research Institute, Nagoya, Japan*

DQ-04. Fabrication of exchange-coupled Fe/FePt dots by anodized aluminum oxide template. *J. Hsiao*[1], Y. Huang[1], L. Wang[1], J. Liao[1] and C. Lai[1] *1. Materials Science and Engineering, National Tsing-Hua University, Hsinchu, Taiwan*

DQ-05. Time Dependent Estimation of the Switching Field Distribution of Bit Patterned Media with 17- and 35-nm Pitch CoPt Dots. *A. Kikitsu*[1], Y. Isowaki[1], T. Maeda[1] and Y. Kamata[1] *1. Storage Materials & Devices Laboratory, Toshiba Corp., Corporate R&D Center, Kawasaki, Kanagawa, Japan*

DQ-06. Switching properties of exchange coupled magnetic dot arrays for next-generation bit patterned media. *Y. Kondo*[1], T. Kiya[1], T. Hasegawa[2], S. Ishio[2], J. Ariake[1] and N. Honda[3] *1. Akita Industrial Technology Center, Akita, Japan; 2. Faculty of Engineering and Resource Science, Akita University, Akita, Japan; 3. Faculty of Engineering, Tohoku Institute of Technology, Sendai, Japan*

DQ-07. Reduction of Switching Field Distribution in Bit-Patterned Media. *M. Ranjbar*[1,2], S.N. Piramanayagam[1], S. Wong[1], R. Sbiaa[1] and T. Chong[1,2] *1. Data Storage Institute, (A*STAR) Agency for Science, Technology and Research, Singapore, Singapore; 2. Electrical and computer engineering Department, National University of Singapore, Singapore, Singapore*

DQ-08. Switching Field Distribution Analysis on $L1_0$-FePt ECC Bit Patterned Media. *H. Wang*[1], W. Li[2,3], T. Rahman[1], H. Zhao[1], J. Ding[2], Y. Chen[3] and J. Wang[1] *1. Electrical and Computer Engineering, Large Lakes Oberservatory, Minneapolis, MN; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, A*STAR, Singapore, Singapore*

DQ-09. Angular dependence and temperature effect on switching field distribution of Co/Pd based bit patterned media. W. Li[1,2], *X. Huang*[1], J. Shi[2] and J. Ding[1] *1. material science and engineering, National Univ Singapore, Singapore, Singapore; 2. Data Storage Institute, Agency for Science, Technology and Research (A*STAR), Singapore, Singapore*

DQ-10. Scanning magnetoresistance microscope investigation of site specific reversal of graded bit patterned media. *L.V. Chang*[1], P. Ruchhoeft[1], S. Khizroev[2] and D. Litvinov[1] *1. Electrical and Computer Engineering, University of Houston, Houston, TX; 2. Electrical and Computer Engineering, Florida International University, Miami, FL*

DQ-11. A Two-Dimensional Coding for Patterned Media Recording. *G. Kim*[1] and J. Lee[1] *1. Soongsil Univ., Seoul, Korea, Republic of*

DQ-12. Unequal Error Correction Strategy for Multi-track Processing in Bit Patterned Media Systems. *P. Supnithi*[1] and L.M. Myint[2] *1. Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand; 2. School of Management Technology, Shinawatra University, Bangkok, Pathumthani, Thailand*

DQ-13. Computational analysis of microwave assisted magnetization reversal for exchange coupled composite grain. *Y. Furomoto*[1], A. Kato[1], T. Tanaka[1], A. Md Nor[2] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Physics, Malaya University, Kuala Lumpur, Malaysia*

DQ-14. Reduction in switching fields by thermal activation in microwave assisted magnetization reversal. *T. Tanaka*[1], Y. Furomoto[1], A. Kato[1], A. Md Nor[2] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Physics, Malaya University, Kuala Lumpur, Malaysia*

DQ-15. Ferromagnetic resonance properties of granular Co-Cr-Pt films measured using micro-fabricated coplanar waveguides. *T. Kobayashi*[1], N. Ishida[1] and Y. Nozaki[1,2] *1. Dept. of Physics, Keio University, Yokohama, Japan; 2. JST, CREST, Tokyo, Japan*

TUESDAY AFTERNOON 1:00 — SAGUARO BALLROOM

Session DR
MICROMAGNETIC MODELING I (Poster Session)

Xi Chen, Chair

DR-01. Multipole expansion technique for the magnetostatic field computation in patterned magnetic films. *A. Manzin*[1] and O. Bottauscio[1] *1. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy*

DR-02. Model study for spinlogic devices combining micromagnetic simulations with spin transport. *A. Tuggle*[1,2] and C. Mewes[1,2] *1. Center for Materials for Information Technology (MINT), University of Alabama, Tuscaloosa, AL; 2. Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL*

DR-03. Effects of notch shape on the magnetic domain wall motion in nanowires with in-plane or perpendicular magnetic anisotropy. *S. Noh*[1], Y. Miyamoto[2], M. Okuda[2], N. Hayashi[2] and Y.K. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Imaging & Storage Devices Research Division, NHK Science and Technology Research Laboratories, Tokyo, Japan*

DR-04. Effect of Enhanced Damping Caused by Spin-Motive Force on Vortex Dynamics. *J. Moon*[1] and K. Lee[1] *1. Dept. of Mat. Sci. & Eng., Korea University, Seoul, Korea, Republic of*

DR-05. Magnetization dynamics of a ferromagnetic quantum dot under spin bias. Z. Siu[1,3], *M. Jalil*[2,1] and S. Tan[3] *1. NUS Graduate School for Integrative Sciences and Engineering, National Univ Singapore, Singapore, Singapore; 2. Electronic and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, Singapore, Singapore*

DR-06. Revisit of Magnetization Reversal With Spin Transfer Torque in the Finite Temperature. *X. Cheng*[1] *1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore*

DR-07. Modeling of pulsed laser heating in magnetic nanowires. *I. Astefanoaei*[1], I. Dumitru[1] and A. Stancu[1] *1. Department of Physics, Alexandru Ioan Cuza University, Iasi, Romania*

DR-08. Temperature effects in perpendicular spin transfer torque magnetic random access memory. *D. Cimpoesu*[1] and A. Stancu[1] *1. Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania*

DR-09. Tailoring vortex core in confined magnetic nanostructures. A.L. Dantas[1], T.S. Moura[2], F.F. Olivieira[2], *G.G. Rebouças*[3] and A.S. Carriç o[2] *1. Departamento de Física, Universidade do Estado do Rio Grande do Norte, Mossoró, RN, Brazil; 2. Departamento de Física, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil; 3. Departamento de Física, Universidade Federal Rural do Semi-Árido, Angicos, RN, Brazil*

DR-10. Magnetic configuration of nanodots with perpendicular anisotropy. E.R. Novais[1], P. Landeros[2], A.G. Barbosa[3], M.D. Martins[3], F. Garcia[4] and *A.P. Guimaraes*[1] *1. CBPF, Rio de Janeiro, RJ, Brazil; 2. Physics Department, UTFSM, Valparaiso, Chile; 3. CDTN, Belo Horizonte, Brazil; 4. LNLS, Campinas, Brazil*

DR-11. Spin Transfer torques in Antiferromagnets. *H.B. Saidaoui*[1], X. Wang[1] and A. Manchon[1] *1. Physical Sciences, King Abdullah University Of Sciences and Technology, Thuwal, Saudi Arabia*

DR-12. Simulation of a Spin Field Effect Transistor based on magnetic impurity doped ZnO. *R. Ramachandran Thankalekshmi*[1] and A.C. Rastogi[1] *1. Electrical and Computer Engineering, State University of New York, Binghamton University, Binghamton, NY*

DR-13. Ultrafast magnetization switching driven by current pulses in a spin-valve with in-plane and out-of-plane dual polarizers. Z. Hou[1], Z. Song[1], J. Zhang[1] and *Y. Liu*[1] *1. Department of Physics, Tongji University, Shanghai, China*

DR-14. Kinetic Equation Description of Spin Relaxation in Wurtzite Structure. *F. Dogan*[1] and A. Manchon[1] *1. Material Science, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*

DR-15. Magnetostatic interactions between nanowires and nanotubes. *J. Escrig*[1], A. Pereira[1] and D. Altbir[1] *1. Departamento de Física, Universidad de Santiago de Chile, Santiago, Chile*

TUESDAY AFTERNOON 1:00 — SAGUARO BALLROOM

Session DS
MAGNETIZATION DYNAMICS (Poster Session)

Markus Muenzenberg, Chair

DS-01. Ferromagnetic Resonance and Gilbert Damping Behaviors of $Co_{80}Fe_{10}B_{10}$ Thin Films in the Microwave Range. *D. Hung*[1,2], Y. Chiu[2], F. Ahad[2,3] and S. Lee[2] *1. Department of Information and Telecommunications Engineering, Ming Chuan University, Taipei, Taiwan; 2. Institute of Physics and Nano Science and Technology Program, TIGP, Academia Sinica, Taipei, Taiwan; 3. Department of Engineering and System Science, NTHU, Hsinchu, Taiwan*

DS-02. Micromagnetic analysis of the magnetization dynamics in Cobalt nanorings driven by the Oersted field. *E. Martinez*[1] *1. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*

DS-03. Microscopic Dipole-Exchange Theory for Magnonic Crystals: Application to Ferromagnetic Films with Patterned Surfaces. H.T. Nguyen[1] and *M.G. Cottam*[1] *1. Department of Physics and Astronomy, University of Western Ontario, London, ON, Canada*

DS-04. Fractal basin boundaries in magnetization relaxations of nanomagnets subject to weak AC excitations. *C. Serpico*[1], D.P. Ansalone[2], M. d'Aquino[3], G. Bertotti[2] and I.D. Mayergoyz[4] *1. Dip. di Ingegneria Elettrica, Univ. of Naples Federico II, Napoli, Italy; 2. INRIM, Turin, Italy; 3. Dip. per le Tecnologie, Univ. of Naples Parthenope, Naples, Italy; 4. Electrical and Computer Engineering, Univ. of Maryland College Park, College Park, MD*

DS-05. Temperature dependence of the dynamics of a synthetic antiferromagnet. Frequency and time domain investigation. *D. Cimpoesu*[1] and A. Stancu[1] *1. Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania*

DS-06. Broadband Ferromagnetic Resonance Spectroscopy of Permalloy Triangular Nanorings. *J. Ding*[1], M.P. Kostylev[3] and A.O. Adeyeye[1,2] *1. Department of Electrical and Computer Engineering, National Univ Singapore, Singapore, Singapore; 2. Advanced Materials for Micro- and Nano- Systems, Singapore-MIT Alliance, Singapore, Singapore; 3. School of Physics, University of Western Australia, Crawley, WA, Australia*

DS-07. Dynamic hysteresis in single domain particles. *G.T. Landi*[1] and A.D. Santos[1] *1. Departamento de Física dos Materiais e Mecânica, Instituto de Física da Universidade de São Paulo, São Paulo, SP, Brazil*

DS-08. Magnetization dynamics of curved permalloy nanowires. *L. Bocklage*[1], S. Motl-Ziegler[1], J. Topp[1], T. Matsuyama[1] and G. Meier[1] *1. University of Hamburg, Hamburg, Hamburg, Germany*

DS-09. Spin diode effect in spin ice elements. *C. Hu*[1,2] and R.L. Stamps[1,2] *1. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 2. School of Physics, University of Western Australia, Perth, WA, Australia*

DS-10. Spin wave modulation via interference for magnonic logic circuits. *S.S. Mukherjee*[1], J. Kwon[1], M. Jamali[1], M. Hayashi[2] and H. Yang[1] *1. ECE, National University of Singapore, Singapore, Singapore; 2. National Institute of Materials Science, Tsukuba, Japan*

DS-11. Binary data coding with domain wall for spin wave based logic devices. *K. Nagai*[1], Y. Cao[1], T. Tanaka[1] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan*

DS-12. Spin-wave propagation in a two-dimensional magnonic crystal consisting of a rhombic antidot array with circular holes. *G. Gubbiotti*[1,2], S. Tacchi[2], M. Madami[2], G. Carlotti[2], A. Adeyeye[3], B. Botters[4], S. Neusser[4], D. Grundler[4], J. Klos[5], M. Sokolovsky[5] and M. Krawczyk[5] *1. Dipartimento di Fisica, CNR-IOM, Perugia, Italy; 2. Dipartimento di Fisica, Università di Perugia, CNISM, Unità di Perugia, Perugia, Italy; 3. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 4. Lehrstuhl für Physik funktionaler Schichtsysteme, Physik Department, Technische Universität München, München, Germany; 5. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland*

DS-13. Resonant frequency multiplication in microscopic magnetic dots. *R. Gieniusz*[1], V. Bessonov[1], A. Maziewski[1], V.E. Demidov[2], H. Ulrichs[2], S.O. Demokritov[2] and S. Urazhdin[3] *1. University of Bialystok, Bialystok, Poland; 2. University of Muenster, Muenster, Germany; 3. Emory University, Atlanta, GA*

DS-14. Microscopic theory on the Gilbert damping in the inhomogeneous spin dynamics. *N. Umetsu*[1], D. Miura[1] and A. Sakuma[1] *1. Tohoku university, Sendai, Japan*

DS-15. Field and frequency modulations of the FMR behavior of Co nanowire arrays. *M. Pasquale*[1], C.P. Sasso[1], E.S. Olivetti[1] and M. Coisson[1] *1. Elettromagnetismo, INRIM, Torino, Italy*

TUESDAY AFTERNOON 1:00 — SAGUARO BALLROOM

Session DT
CRITICAL PHENOMENA AND SPIN GLASSES (Poster Session)

Jeffrey Lynn, Chair

DT-01. Spin-reorientation in the antiferromagnetic ordering of $LiFe_{1-x}Mn_xPO_4$ investigated with Mössbauer spectroscopy. *W. Kwon*[1], I. Lee[1], C. Rhee[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of*

DT-02. The spin reorientation transition and melting of stripe domains. M. Ambrose[1] and *R. Stamps*[2] *1. School of Physics, University of Western Australia, Crawley, WA, Australia; 2. University of Glasgow, Glasgow, United Kingdom*

DT-03. The scaling hysteresis behavior of double perovskite $Ba_{1.8}La_{0.2}FeMoO_6$ pellet around the Curie temperature. *Y. Zhang*[1], D. Kim[1] and S. Yu[1] *1. Department of Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of*

DT-04. Properties of NaZn13-type LaFe13-xSix (x=1.4, 1.5) compound with the first-order phase transition. *Q. Dong*[1,2], H. Zhang[2], J. Shen[2,3], J. Chen[2], J. Sun[2] and B. Shen[2] *1. Department of Physics, Capital Normal University, Beijing, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 3. Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China*

DT-05. Electron-spin-resonance study of Y-doped $Nd_{0.7}Sr_{0.3}MnO_3$ ceramics. L.T. Phan[1], *P. Zhang*[1], S.C. Yu[1], N.V. Khiem[2] and N.X. Phuc[2] *1. Chungbuk National University, Cheongju, Korea, Republic of; 2. Vietnam Academy of Science and Technology, Hanoi, Viet Nam*

DT-06. Dipolar ordering of two-dimensional spin ensemble. *A.V. Panov*[1] *1. 52-311, Nekrasovskaya st., Vladivostok, Russian Federation*

DT-07. When is disorder important in artificial spin ice? *Z. Budrikis*[1,2], J. Morgan[3], J. Akerman[3,4], A. Stein[5], R. Stamps[1,6], P. Politi[2], S. Langridge[7] and C. Marrows[3] *1. School of Physics, The University of Western Australia, Crawley, WA, Australia; 2. Istituto dei Sistemi Complessi CNR, Florence, Italy; 3. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 4. Instituto de Sistemas Optoelectrónicos y Microtecnología, Madrid, Spain; 5. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY; 6. SUPA, School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 7. ISIS, Rutherford Appleton Laboratory, Chilton, United Kingdom*

DT-08. Role of dipolar interaction in modulating the step-like magnetization of Ca3Co2O6. Y. Xie[1], L. Lin[1], *Z. Yan*[1], K. Wang[1] and J. Liu[1] *1. Department of Physics, Nanjing University, Nanjing, Jiangsu, China*

DT-09. Field dependence of the transverse spin glass phase transition: Quantitative agreement between Monte Carlo simulations and experiments. *D. Ryan*[1], A.D. Beath[1], J.M. Cadogan[2] and J. van Lierop[2] *1. Physics, McGill University, Montreal, QC, Canada; 2. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

DT-10. Spin Scattering Based Magnetoresistance in $Sr_{2-x}La_xFeCoO_6$ (x=1.0,1.25,1.5,2.0) Spin Glass. *R. Pradheesh*[1], H.S. Nair[2], R. Nirmala[1], V. Sankaranarayanan[1] and K. Sethupathi[1] *1. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India; 2. Jülich Center for Neutron Sciences, Forschungszentrum, Garching, Germany*

DT-11. Memory effects in spin glasses: Spontaneous restoration of the original spin configuration rather than preservation in a frozen state. *H. Mamiya*[1] and S. Nimori[1] *1. National Institute for Materials Science, Tsukuba, Japan*

DT-12. Tuning the magnetic ground state in $Li_xNi_{(2-x)}O_2$ *C. Sow*[1] and P. Kumar[1] *1. Department of Physics, Indian Institute of Science, Bangalore, Karnataka, India*

DT-13. Spin Liquid Behaviour and Large Magnetocaloric Effect in Restacked Single Molecular Layers 2D Honeycomb Lattice MnPS3 Nanoparticles. *R. Zeng*[1] *1. University of Wollongong, Wollongong, NSW, Australia*

DT-14. Glassy ferromagnetism and phase separation in Pr0.5Ca0.5CoO3. *M. Marysko*[1], Z. JIrak[1], J. Hejtmanek[1] and K. Knizek[1] *1. magnetic materials and superconductors, Institute of Physics, Praha, Czech Republic*

DT-15. Frustrated anisotropic antiferromagnets with single-ion anisotropy. *A.S. Pires*[1] *1. Physics, Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil*

TUESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session DU
PERMANENT-MAGNET MOTORS AND ACTUATORS (Poster Session)

Christina Chen, Chair

DU-01. Investigation of a 7-Pole/6-Slot Halbach-Magnetized PM Linear Alternator Used for Free-Piston Stirling Engine. *P. Zheng*[1], C. Tong[1], L. Li[1], B. Yu[1] and Q. Zhao[1] *1. Department of Electrical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

DU-02. Optimum design criteria for maximum torque density & minimum torque ripple of flux switching motor using response surface methodology. J. Lee[1], *M. Jun*[1] and H. Kim[1] *1. Electrical Engineering, Hanbat National University, Daejoen, Dukmyung-Dong Yuseong-Gu, Korea, Republic of*

DU-03. A new H-module linear actuator for medical equipment applications. *X. Liu*[1,2], Y. Ye[1] and K. Lu[2] *1. College of electrical engineering, Zhejiang University, Hangzhou, China; 2. Department of Energy Technology, Aalborg University, Aalborg, Denmark*

DU-04. Right Triangle Distribution and Combined Optimization of Maximum Cogging Torque in Few Slots Permanent Magnet Machines. *P. Jin*[1], S. Fang[1] and H. Lin[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

DU-05. Development of a Miniature Fan Motor. *C. Wang*[1], Y. Yao[2], K. Liang[1], C. Huang[1] and Y. Chang[1] *1. Green Energy and Environment Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

DU-06. A Novel Dual-Channel Flux-Switching Permanent Magnet Motor for Hybrid Electric Vehicles. *W. Hua*[1], Y. Zhang[1] and M. Cheng[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

DU-07. Sensor-less pseudo-sinusoidal drive for a permanent-magnet brushless ac motor. T. Chern[1], *L. Liu*[1], P. Pan[1], T. Huang[1], D. Tsay[2] and J. Kuang[2] *1. Department of Electrical Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan; 2. Department of Mechanical and Electro-Mechanical Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan*

DU-08. Design and Analysis of New Fault-tolerant Permanent-Magnet Motors for Four-Wheel-Driving Electric Vehicles. *G. Liu*[1], W. Gong[1], Q. Chen[1] and W. Zhao[1] *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China*

DU-09. Characteristic Analysis & Optimum Design of Permanent Magnet Assisted Synchronous Reluctance Motor for High power.J. Lee[1], *B. Lee*[1] and M. Jun[1] *1. Electrical Engineering, Hanbat National University, Daejeon, Korea, Republic of*

DU-10. Reactance Parameter Calculation and its Application of Permanent Magnet Synchronous Motor Verified by Experiment. *J. Zhang*[1], Y. Luo[1] and H. Li[1] *1. North China Electric Power University, Beijing, China*

DU-11. Torque Calculation of High Speed Permanent Magnet Motor Using Power Factor Angle and Analytical Magnetic Field Computation. *J. Choi*[1], S. Lee[2] and S. Jang[1] *1. Chungnam National University, Dae-jeon, Korea, Republic of; 2. KITECH, Gwangju, Korea, Republic of*

DU-12. Development of a highly efficient BLDC motor utilizing both radial and axial air gap. *K. Kang*[1], G. Jang[1] and S. Sung[1] *1. Dept. of Mechanical Engineering, PREM Lab., Hanyang University, Seoul, Korea, Republic of*

DU-13. Research on the Performances and Parameters of Interior Permanent Magnet Synchronous Machines Used for Electric Vehicles. *J. Zhao*[1], X. Liu[1], Y. Li[1] and P. Zheng[2] *1. School of Automation, Beijing Institute of Technology, Beijing, China; 2. Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China*

DU-14. Electromagnetic Design Analysis and Performance Improvement of AFPM Generator for Small Wind Turbine. *T. Jung*[1] *1. Electrical Engineering, Kyungnam University, Changwong, Kyungnam, Korea, Republic of*

DU-15. Topology selection and design optimization of magnetostrictive inertial actuator. *M. Noh*[1] and Y. Park[1] *1. Mechatronics Engineering, Chungnam National University, Daejeon, Korea, Republic of*

TUESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session DV
SENSORS II
(Poster Session)

Faxian Xiu, Chair

DV-01. Carbon nanotube-based gas sensors using the magnetoimpedance effect.A. Chaturvedi[1], N. Laurita[1], K. Stojak[1], *M. Phan*[1], P. Mukherjee[1] and H. Srikanth[1] *1. Department of Physics, University of South Florida, Tampa, FL*

DV-02. The magnetostrictive material effects on magnetic field sensitivity for magnetoelectric sensor.L. Chen[1], *P. Li*[1], Y. Wen[1] and J. Qiu[1] *1. College of Optoelectronic Engineering, Chongqing University, ChongQing, China*

DV-03. Enhancement of Signal-to-Noise Ratio for Novel PZT/FeNi Magnetoelectric Tube Sensors using Modulation Sensing Technique. *S.M. Gillette*[1], Y. Chen[1], A.L. Geiler[1,2], L. Jiang[3], H. Hao[3], C. Vittoria[1] and V.G. Harris[1,2] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Metamagnetics Inc., Sharon, MA; 3. Baotou Research Institute of Rare Earths, Baotou, Inner Mongolia, China*

DV-04. Microfabrication of magnetostrictive sensor beams based on NiFe film doped with B and Mo for biomedical applications. *A.H. Alfadhel*[1], C. Liang[1], J. Kosel[1] and Y. Gianchandani[2] *1. Division of Physical Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia; 2. Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI*

DV-05. Control of Inplane-Uniaxial Anisotropy of FeSiB Magnetostrictive Thin Film Using a Thermal Expansion Coefficient. *J. Shin*[1], Y. Suwa[1], S. Kim[1], S. Hashi[1] and K. Ishiyama[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

DV-06. A novel permalloy zig-zag structure based magnetic bio-sensor. *T. Ger*[1] and Z. Wei[1] *1. Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan*

DV-07. Liver cancer immunoassay with magnetic nanoparticles and MgO-based magnetic tunnel junction sensors. *Z. Lei*[1], L. Li[1], G. Li[1], C. Leung[2], J. Shi[3], C. Wong[4,5], C. Mak[1], D. Chan[1], N. Chan[6], C. Leung[1], P. Lai[1] and P. Pong[1] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Department of Applied Physics, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; 3. Department of Physics, Hong Kong Baptist University, Hong Kong, Hong Kong; 4. Department of Pathology, The University of Hong Kong, Hong Kong, Hong Kong; 5. State Key Laboratory for Liver Research, The University of Hong Kong, Hong Kong, Hong Kong; 6. Department of Surgery, University of Cambridge, Cambridge, United Kingdom*

DV-08. A new resolver of thin axial design having two phase output.I. Sasada[1] and *K. Tanaka*[1] *1. Applied Science for Electronics and Materials,, Kasuga, Japan*

DV-09. Determining Depth Dependence of Mechanical Properties from Micromagnetic Emissions. *L. Mierczak*[1], Y. Melikhov[1], O. Kypris[2] and D.C. Jiles[2] *1. School of Engineering, Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom; 2. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA*

DV-10. A low-frequency AC current sensor with μ-metal/magnetoelectric laminate composites by exploiting the flux concentration effect. A. Yang[1,2], *P. Li*[1,2], Y. Wen[1,2], J. Zhang[1,2], C. Lu[1,2] and W. He[1,2] *1. The Key Laboratory for Optoelectronic Technology & Systems, Chongqing, China; 2. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

DV-11. Structural Improvement of GMR sensor, consisting of in-plane sensing layer and out-of-plane reference layer. *S. Yoon*[1], Y. Jang[1], S. Lee[1] and B. Cho[1] *1. Material Science and Engineering, GIST, Gwangju, Korea, Republic of*

DV-12. GMI effect of thin magnetic wires at elevated frequencies. M. Ipatov[1], *A.P. Zhukov*[1,2] and V. Zhukova[1] *1. Phys. Mater., UPV/EHU, San Sebastián, Spain; 2. IKERBASQUE,, Basque Foundation for Science, Bilbao, Spain*

DV-13. High frequency magnetooptic magnetometry using AlN/Fe/AlN sandwiches. E. Liskova[1], S. Visnovsky[1], I. Harward[2], Z. Celinski[2], *J. Pistora*[3], M. Lesnak[3], O. Zivotsky[3] and R. Lopusnik[4] *1. Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic; 2. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO; 3. Institute of Physics, VŠB - Technical University of Ostrava, Ostrava, Czech Republic; 4. Seagate Technology, Bloomington, MN*

DV-14. Noise correlation in fundamental mode orthogonal fluxgate. *M. Butta*[1] and I. Sasada[1] *1. Kyushu University, Fukuoka, Japan*

DV-15. Stress-Depth Profiling for Non-Destructive Testing using Magnetic Barkhausen Noise Signals. *O. Kypris*[1], L. Mierczak[2], C.I. Nlebedim[3] and D.C. Jiles[1] *1. Electrical & Computer Engineering, Iowa State University, Ames, IA; 2. Wolfson Centre for Magnetics, School of Engineering, Cardiff University, Cardiff, United Kingdom; 3. Ames Laboratory, US Department of Energy, Ames, IA*

TUESDAY AFTERNOON 1:00 — SAGUARO BALLROOM

Session DW
FERRITE MATERIALS: PROCESSING AND PROPERTIES
(Poster Session)

Yajie Chen, Chair

DW-01. Tailoring the microstructure of NiZn ferrite for power field use. *H. Su*[1], X. Tang[1], H. Zhang[1], Y. Xie[1] and Z. Zhong[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

DW-02. High Frequency Characteristics of FeCoAlO Thin Films Fabricated with Asymmetric Target at Different Ar Gas Flow Rates. F. Zheng[1], F. Luo[1], Y. Lou[1], *J. Bai*[1], D. Wei[2], X. Liu[3] and F. Wei[1] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Lab of Advanced Materials, Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China; 3. Department of Information Engineering, Shinshu University, Nagano, Japan*

DW-03. Grain growth kinetics and magnetic property of MnZn ferrites with V_2O_5/CuO additives. *K. Sun*[1], Z. Yu[1], Y. Liu[1], X. Jiang[1], Z. Lan[1] and M. Han[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

DW-04. The cation distribution and electrical hopping in $Fe_{3-x}Co_xO_4$ (0 ⟨x⟨1.65) ferrite films on MgO substrate grown by molecular beam epitaxy. *D. Lee*[1], C. Cheng[2] and G. Chern[2] *1. Electrical Engineering, Da-Yeh University, Chunghua, Taiwan; 2. Physics, National Chung Cheng University, Chia-Yi, Taiwan*

DW-05. The magnetic Curie temperature and exchange coupling between cations in tetragonal spinel oxide Mn2.5M0.5O4 (M=Co, Ni, Mn, Cr, and Mg) films. K. Kuo[1], *C. Cheng*[1], Y. Liu[1] and G. Chern[1] *1. Taiwan SPIN Research Center and Department of Physics, National Chung Cheng University, Chiayi 62102, Taiwan*

DW-06. Study of NiZn ferrite copper substitution synthesized by hydrothermal method & sintered by Spark Plasma Sintering. *K. Zehani*[1], M. Hosni[2], A. Brosseau[3], A. Megriche[2], V. Loyau[1], M. Lobue[1], E. Labouré [4], A. Mgaidi[2] and F. Mazaleyrat[1] *1. EEA, SATIE Laboratory, Cachan, France; 2. Chimistry, Faculty of Sciences, Tunisia, Tunisia; 3. Physics, PPSM Laboratory, Cachan, France; 4. EEA, LGEP Laboratory, Orsay, France*

DW-07. Enhanced Microwave Absorption Properties of Bowl-Like Fe_3O_4 Hollow Spheres@Reduced Graphene Oxide Composites. H. Xu[1] and *H. Bi*[1,2] *1. College of Chemistry and Chemical Engineering, Anhui University, Hefei, Anhui, China; 2. Department of Medicine, Columbia University, New York, NY*

DW-08. Investigation of magnetic properties of non-magnetic ion (Al, Ga, In) doped $Ba_2Mg_{0.5}Co_{1.5}Fe_{12}O_{22}$ *J. Lim*[1], C. Kim[1], B. Lee[2] and C. Kim[1] *1. Departments of Physics, Kookmin University, Seoul, Korea, Republic of; 2. Department of Physics, Hankuk University of Foreign Studies, Yongin, Kyungki, Korea, Republic of*

DW-09. Polyol synthesis and characterization of nickel and cobalt mixed metal ferrite nanomaterials for biomedical applications. *C. Warren*[1], M.D. Shultz[2,4], F. Corwin[3] and E.E. Carpenter[1] *1. Chemistry, Virginia Commonwealth University, Richmond, VA; 2. Biochemistry and Molecular Biology, Virginia Commonwealth University, Richmond, VA; 3. Radiology, Virginia Commonwealth University, Richmond, VA; 4. Chemistry, Virginia Tech, Blacksburg, VA*

DW-10. RF Heating Characteristics of (NixCo1-x)yZnzFe2O4 Ferrite Nanoparticles. *Z. Jagoo*[1], E. Rebrov[3], Z. Turgut[2] and G. Kozlowski[1] *1. Physics, Wright State University, Dayton, OH; 2. AFRL, Wright Patterson AFB, Dayton, OH; 3. Chemical Engineering, Queen's University, Belfast, United Kingdom*

DW-11. Electromagnetic and Microwave absorbing Properties of Mn-doped Fe3O4 Nanoparticles. R. Yang[1], C. Chang[2], W. Liang[1], M. Wu[2] and *C. Lin*[3] *1. Department of Aerospace andd Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Institute of Physics, Academia Sinica, Nankang, Taiwan; 3. Department of Materials Science and Engineering, Feng Chia University, Taichung, Taiwan*

DW-12. Prominent Narrow Bandwidth Microwave Absorption Property of Fe_3O_4 Nanotubes Embedded in Periodic AAO Membrane. J. Sun[1] and *H. Bi*[1,2] *1. College of Chemistry and Chemical Engineering, Anhui University, Hefei, China; 2. Department of Medicine, Columbia University, New York, NY*

DW-13. Fabrication and Magnetic Properties of YIG Nanotubes. *X. Chen*[1], X. Fan[1] and J.Q. Xiao[1] *1. Physics and Astronomy, University of Delaware, Newark, DE*

DW-14. Withdrawn

DW-15. Evolution of crystallographic texture and magnetic properties of polycrystalline barium ferrite thick films with Bi2O3 additive. D. Chen[1], Y. Liu[1] and *Y. Li*[1] *1. State Key Laboratory of Electronic Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

TUESDAY EVENING 7:00

GRAND CANYON 6

Session XA
RARE EARTH ELEMENTS: GLOBAL SUPPLY AND MAGNETIC APPLICATIONS
Ludwig Schultz, Chair

7:00

XA-01. Rare Earths: From the ground to Gadgets. ***(Invited)*** *S. Lam*[1] *1. Byron Capital Markets Ltd., Toronto, ON, Canada*

7:36

XA-02. Rare earth elements and permanent magnets. ***(Invited)*** *P. Dent*[1] *1. Electron Energy Corp, Landisville, PA*

WEDNESDAY MORNING 8:30

GRAND CANYON 6

Session EA
SYMPOSIUM ON PROGRESS IN ASSISTED WRITE MAGNETIC RECORDING
Barry Stipe, Chair

8:30

EA-01. FePtAg-C media for heat assisted magnetic recording. ***(Invited)*** *O. Mosendz*[1], S. Pisana[1], J. Reiner[1], T. Santos[1], B.C. Stipe[1] and D. Weller[1] *1. Hitachi San Jose Research Center, San Jose, CA*

9:06

EA-02. Fabrication and characterization of energy assisted recording media. ***(Invited)*** *A. Ajan*[1], A. Chernyshov[1], H. Yuan[1], C. Papusoi[1], D. Treves[1], S. Malhotra[1], R. Acharya[1], T. Yamashita[1] and G. Bertero[1] *1. Western Digital Inc., San Jose, CA*

9:42

EA-03. Thermal and Magnetic Considerations in Setting the Separation between Pole Tip and Near Field Transducer for HAMR Heads. ***(Invited)*** S.P. Powell[1], M.J. Chabalko[1], Y. Kong[1], Y. Luo[1], T.E. Schlesinger[1] and *J.A. Bain*[1] *1. ECE, Carnegie Mellon, Pittsburgh, PA*

10:18

EA-04. Thermal issues and their effects on heat assisted magnetic recording system. ***(Invited)*** *B. Xu*[1], Z. Liu[1], C. Chia[1], R. Ji[1], Y. Toh[1], J. Hu[1], J. Li[1], J. Zhang[1] and K. Ye[1] *1. Data Storage Institute, Agency for Science, Technology and Research (A-STAR), Singapore, Singapore*

10:54

EA-05. Thermally Assisted Writing on Granular and Bit Patterned Media. ***(Invited)*** *B. Stipe*[1], J. Katine[1], O. Hellwig[1], G. Zeltzer[1], O. Mosendz[1], S. Pisana[1], J. Reiner[1] and D. Weller[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

WEDNESDAY MORNING 8:30

GRAND CANYON 7

Session EB
SPIN TRANSFER TORQUE OSCILLATORS I

Tom Silva, Chair

8:30

EB-01. Spin-torque-driven microwave emission in nano-oscillators with magnetic perpendicular anisotropy. *Z. Zeng*[1], H. Jiang[1], P. Khalili Amiri[2], K. Wang[2], I. Krivorotov[3], J. Wang[4], J. Katine[5], Y. Huai[6] and J. Langer[7] *1. Department of Physics and Astronomy, University of California, Los Angeles, Los Angeles, CA; 2. Department of Electrical Engineering, University of California, Los Angeles, Los Angeles, CA; 3. Department of Physics and Astronomy, University of California, Irvine, Irvine, CA; 4. Department of Electrical and Computer Engineering, University of Minnesota, Minnesota, MN; 5. Hitachi Global Storage Technologies, San Jose, CA; 6. Avalanche Technology, Fremont, CA; 7. Singulus Technologies, Kahl am Main, Germany*

8:42

EB-02. Phase locking of gyrotropic oscillations and periodic core reversal in nanocontact vortex oscillators. S. Petit-Watelot[1], *J. Kim*[1], A. Ruotolo[2,3], R.M. Otxoa[1], A. Dussaux[3], J. Grollier[3], K. Bouzehouane[3], A. Vansteenkiste[4], B. Van de Wiele[5], T. Devolder[1] and V. Cros[3] *1. Institut d'Electronique Fondamentale, CNRS / Univ. Paris-Sud, Orsay, France; 2. Department of Physics and Material Science, City University of Hong Kong, Kowloon, Hong Kong; 3. Unite Mixte de CNRS/Thales and Univ. Paris-Sud, Palaiseau, France; 4. Department of Solid State Sciences, Ghent University, Ghent, Belgium; 5. Department of Electrical Energy, Systems and Automation, Ghent University, Ghent, Belgium*

8:54

EB-03. Parametric oscillator based on non-linear vortex dynamics in low resistance magnetic tunnel junctions. *S. Martin*[1], N. de Mestier[1], C. Thirion[2], C. Hoarau[2], Y. Conraux[3], C. Baraduc[1] and B. Dieny[1] *1. Spintec, UMR-8191,CEA-INAC/CNRS/UJF-Grenoble1/Grenoble-INP, Grenoble, France; 2. Institut Néel, CNRS and Université Joseph Fourier, Grenoble, France; 3. Crocus-Technology, Grenoble, France*

9:06

EB-04. Spin torque nano-oscillators driven by microwave fields. *(Invited)* *S. Urazhdin*[1], P. Tabor[1], V. Tiberkevich[2] and A. Slavin[2] *1. Physics, Emory University, Atlanta, GA; 2. Physics, Oakland University, Rochester, MI*

9:42

EB-05. Temperature dependence of spin-transfer induced vortex dynamics in magnetic tunnel junctions. *P. Bortolotti*[1], A. Dussaux[1], J. Grollier[1], V. Cros[1], A. Fert[1], A. Fukushima[2], M. Konoto[2], H. Kubota[2], K. Yakushiji[2], S. Yuasa[2] and K. Ando[2] *1. Unité Mixte de Physique CNRS/Thales (UMR137), Palaiseau, France; 2. Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

9:54

EB-06. Intrinsic frequency doubling in an MgO based spin torque oscillator. *P.K. Muduli*[1], O. Heinonen[2,3] and J. Åkerman[1,4] *1. Physics Department, University of Gothenburg, Gothenburg, Sweden; 2. Materials Science Division, Argonne National Laboratory, Lemont, IL; 3. Department of Physics and Astronomy, Northwestern University, Evanston, IL; 4. Materials Physics, Royal Institute of Technology, Stockholm-KISTA, Sweden*

10:06

EB-07. Time Domain Measurements of Stochastic Spin-Torque Oscillator Dynamics. *G.E. Rowlands*[1], P. Khalili Amiri[2], J.A. Katine[3], J. Langer[4], K.L. Wang[2] and I.N. Krivorotov[1] *1. Physics and Astronomy, University of California, Irvine, Irvine, CA; 2. Electrical Engineering, University of California, Los Angeles, Los Angeles, CA; 3. Hitachi Global Storage Technologies, San Jose, CA; 4. Singulus Technologies, Kahl am Main, Germany*

10:18

EB-08. Spin-torque diode spectrum of ferromagnetically coupled (FeB/CoFe)/Ru/(CoFe/FeB) synthetic free layer. *B. Do*[1], T. Taniguchi[1], H. Kubota[1], T. Yozozu[1], H. Imamura[1], K. Yakushiji[1], A. Fukushima[1], S. Yuasa[1] and K. Ando[1] *1. Central 2, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8568, Japan*

10:30

EB-09. Measurement of the spin torque from a nonlocal spin current in a 3-terminal device. *L. Xue*[1], C. Wang[1], Y. Cui[1], L. Liu[1], R.A. Buhrman[1] and D.C. Ralph[1] *1. Cornell Univ, Ithaca, NY*

10:42

EB-10. Oscillatory spin wave influence on threshold currents in STNO pairs. *S. Redjai Sani*[1], S. Mohseni[1], A. Eklund[1], J. Persson[1,3] and J. Åkerman[1,2] *1. Materials Physics, Royal Institute of Technology, Stockholm, Sweden; 2. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 3. NanOsc AB, Kista, Sweden*

10:54

EB-11. Propagation of spin-torque excited spin waves revealed by micro-focused Brillouin light scattering. *M. Madami*[1], S. Bonetti[2], G. Consolo[3,4], S. Tacchi[1], G. Carlotti[1,5], G. Gubbiotti[1,6], F.B. Mancoff[7], M.A. Yar[8] and J. Akerman[2,9] *1. Dipartimento di Fisica, Università di Perugia, CNISM, Unità di Perugia, Perugia, Perugia, Italy; 2. Material Physics, Royal Institute of Technology, Kista, Stockholm, Sweden; 3. Dipartimento di Scienze per l'Ingegneria e l'Architettura, Università di Messina, Messina, Messina, Italy; 4. Dipartimento di Fisica, Università di Ferrara, CNISM, Unità di Ferrara, Ferrara, Ferrara, Italy; 5. Centro S3, CNR-Istituto di Nanoscienze, Modena, Modena, Italy; 6. Dipartimento di Fisica, Università di Perugia, Istituto Officina dei Materiali del CNR (CNR-IOM), Unità di Perugia, Perugia, Perugia, Italy; 7. Everspin Technologies, Inc., Chandler, AZ; 8. Functional Materials Div., Materials Physics, Royal Institute of Technology, Kista, Stockholm, Sweden; 9. Department of Physics, University of Gothenburg, Gothenburg, Gothenburg, Sweden*

11:06

EB-12. High-Frequency Spin-Wave Mode in a Nanocontact Spin-Torque Oscillator without External Magnetic Field. *H. Morise*[1], T. Kondo[1] and S. Nakamura[1] *1. Corp. R&D Ctr., Toshiba Corp., Kawasaki, Japan*

11:18

EB-13. Spin-torque driven excitation of propagating spin wave modes in one-dimensional magnetic waveguides. G. Consolo[1], L. Lopez-Diaz[2], B. Azzerboni[3], A. Slavin[4] and *V. Tyberkevych*[4] *1. Department of Sciences for Engineering and Architecture, University of Messina, Messina, Italy; 2. Department of Applied Physics, University of Salamanca, Salamanca, Spain; 3. Department of Matter Physics and Electronic Engineering, University of Messina, Messina, Italy; 4. Department of Physics, Oakland University, Rochester, MI*

WEDNESDAY MORNING 8:30

GRAND CANYON 8

Session EC
MATERIALS MEASUREMENTS AND MICROSCOPY

Mitch Wallis, Chair

8:30

EC-01. Magnetometry of buried Layers by means of Hard X-ray Photoelectron Spectroscopy. *A. Gloskovskii*[1], G. Stryganyuk[1], G. Fecher[1], C. Felser[1], S. Thiess[2], H. Schulz-Ritter[2] and W. Drube[2] *1. Uni-Mainz, Mainz, Germany; 2. Hasylab/DESY, Hamburg, Germany*

8:42

EC-02. 1*s*2*p* RIXS-MCD: a sensitive probe of 3*d* magnetic moments using hard x-ray photons. *M. Sikora*[1], A. Juhin[2], G. Simón[3], L. Góra[1], C. Kapusta[1], L. Morelló n[3], M. Ibarra[3] and P. Glatzel[4] *1. AGH University of Science and Technology, 30-059 Krakow, Poland; 2. Institut de Minéralogie et de Physique des Milieux Condensés, Université Pierre et Marie Curie, 75015 Paris, France; 3. Instituto de Nanociencia de Aragón (INA), Universidad de Zaragoza-CSIC, Zaragoza 50009, Spain; 4. European Synchrotron Radiation Facility, 38043 Grenoble, France*

8:54

EC-03. Spin-dependent synchrotron x-ray excitations studied by scanning tunneling microscopy. *V. Rose*[1], T. Chien[1] and J.W. Freeland[1] *1. Advanced Photon Source, Argonne Nat Lab, Argonne, IL*

9:06

EC-04. Monopole-like probes for Magnetic Force Microscopy. *T. Muehl*[1], J. Koerner[1], A. Leonhardt[1] and B. Buechner[1] *1. IFW Dresden, Dresden, Germany*

9:18

EC-05. Design of High Sensitivity Fiber Fabry-Perot Interferometer for Low Temperature Magnetic Force Microscope (LT-MFM). *O. Karci*[1,2], M. Dede[1] and A. Oral[3] *1. R&D, NanoMagnetics Instruments Ltd., Oxford, United Kingdom; 2. Nanotechnology and Nanomedicine, Hacettepe University, Ankara, Turkey; 3. Faculty of Engineering and Natural Sciences, Sabanci University, Istanbul, Turkey*

9:30

EC-06. MOKE investigation of the inter- and intra-wire magnetostatic interaction in arrays of electrodeposited nanowires. M. Lostun[1], H. Chiriac[1], *N. Lupu*[1] and T. Óvári[1] *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*

9:42

EC-07. Spatially-resolved neutron-diffraction imaging of vortex lattices. X. Wang[2], H.A. Hanson[2], *B.B. Maranville*[1], T. Gnäupel-Herold[1], C.F. Majkrzak[1] and X.S. Ling[2] *1. NIST Center for Neutron Research, Natl Inst of Standards & Tech, Gaithersburg, MD; 2. Physics, Brown Univ., Providence, RI*

9:54

EC-08. A Vector Magnetometer for Three-Dimensional Characterization of Magnetic Thin-Films. *J. Kallwies*[1], A. Sutor[1] and R. Lerch[1] *1. Chair of Sensor Technology, Erlangen, Germany*

10:06

EC-09. Improved Method for Characterizing Magnetostriction of Thin Films. R. Townsend[1], Y. Melikhov[1], C. Hill[2], W.R. Hendren[2], R.M. Bowman[2] and *J.E. Snyder[1] 1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom; 2. Centre for Nanostructured Media, Queen's University of Belfast, Belfast, United Kingdom*

10:18

EC-10. Effect of Packing Fraction on Ferromagnetic Resonance in $NiFe_2O_4$ Nanocomposites. *H. Song*[1], S. Mulley[1], N. Coussens[2], P. Dhagat[1], A. Jander[1] and A. Yokochi[2] *1. School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR; 2. School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR*

10:30

EC-11. Domain wall propagation in micrometric wires: limits of single DW regime. *V. Zhukova*[1], J.M. Blanco[2], V. Rodionova[1], M. Ipatov[1] and A. Zhukov[1,3] *1. Materials Physics, University of the Basque Country, San Sebastian, Spain; 2. Fisica Aplicada, University of the Basque Country, San Sebastian, Spain; 3. IKERBASQUE, Basque Foundation for Science, San Sebastian, Spain*

10:42

EC-12. A Novel Method for Characterizing Magnetic Viscosity of Ultrasoft Magnets. *F. Béron*[1], G. Soares[1], L.S. de Oliveira[1], M. Knobel[1] and K.R. Pirota[1] *1. LMBT/DFMC/IFGW, Universidade Estadual de Campinas, Campinas, São Paulo, Brazil*

10:54

EC-13. Measurement of Vector Magnetic Property and 2D Magnetostriction of Non-oriented Electrical Steel Sheet under Stress Condition. *Y. Kai*[1], Y. Tsuchida[2], T. Todaka[2] and M. Enokizono[2] *1. Oita Prefectural Organization for Industry Creation and Oita University, Oita, Japan; 2. Oita University, Oita, Japan*

11:06

EC-14. Loss characterization of Mo-doped FeNi flake for DC/DC converter and MHz frequency applications. *Y. Zhou*[1], X. Kou[1], M. Mu[2], P.E. Parsons[1], B.M. McLaughlin[3], H. Zhu[3], A. Ji[2], F.C. Lee[2] and J.Q. Xiao[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE; 2. Center for Power Eletronics System, Virginia Polytechnic and State University, Blacksburg, VA; 3. Spectrum Magnetics LLC, Wilmington, DE*

11:18

EC-15. Rf-Mössbauer study of magnetic properties of amorphous $Fe_{80-x}Co_xZr_7Si_{13}$ alloys. *M. Kopcewicz*[1], A. Grabias[1] and J. Latuch[2] *1. Institute of Electronic Materials Technology, Warsaw, Poland; 2. Faculty of Materials Science and Engineering, Warsaw University of Technology, Warsaw, Poland*

WEDNESDAY MORNING 8:30

GRAND CANYON 9-11

Session ED
ULTRAFAST SWITCHING

Ezekiel Johnston-Halperin, Chair

8:30

ED-01. Spatially resolved ultrafast magnetization dynamics tracked via resonant magnetic scattering at the free-electron laser FLASH. *L. Müller*[1], C. Gutt[1], S. Schaffert[2], B. Pfau[2], J. Geihufe[2,3], F. Bü ttner[2], S. Flewett[2], J. Mohanty[2], S. Eisebitt[2], A. Kobs[7], M. Hille[7], D. Stickler[7], R. Frö mter[7], H.P. Oepen[7], B. Vodungbo[4], R. Hawaldar[4], K. Li[5], J. Lü ning[5], W. Schlotter[6] and G. Grü bel[1] *1. DESY, Hamburg, Germany; 2. TU Berlin, Berlin, Germany; 3. Helmholtz Zentrum Berlin, Berlin, Germany; 4. Laboratoire d'Optique Appliquée, Palaiseau, France; 5. University Pierre et Marie Curie, Paris, France; 6. SLAC, Menlo Park, CA; 7. TU Hamburg, Hamburg, Germany*

8:42

ED-02. Ultrafast magnetism seen by time and spin resolved photoemission at FLASH. *A. Fognini*[1], T. Michlmayr[1], Y. Acremann[1], U. Ramsperger[1], A. Vaterlaus[1], C. Stamm[2], M. Beye[2], A. Eschenlohr[2], A. Fö hlisch[2], F. Sorgenfrei[3], M. Dell'Angela[3], W. Wurth[3], N. Gerasimova[4], H. Redlin[4], S. de Jong[5], R. Kukreja[5], J. Stö hr[5], H. Dü rr[4] and J. Raabe[6] *1. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 2. Helmholtz Zentrum Berlin, Berlin, Germany; 3. Universität Hamburg, Hamburg, Germany; 4. DESY, Hamburg, Germany; 5. SLAC, Stanford, CA; 6. Paul Scherrer Institute, Villigen, Switzerland*

8:54

ED-03. Ultrafast heating as a Sufficient Stimulus for Magnetisation Reversal. *T.A. Ostler*[1], J. Barker[1], R. Evans[1], R.W. Chantrell[1], U. Atxitia[2], O. Chubykalo-Fesenko[2], S. El Moussaoui[3], L. Guyader[3], E. Mengotti[3], F. Nolting[3], L.J. Heyderman[3], A. Tsukamoto[5], A. Itoh[5], D. Afansiev[6], B. Ivanov[6], A.M. Kalashnikova[4], K. Vahaplar[7], J. Mentink[7], A. Kirilyuk[7], T. Rasing[7] and A. Kimel[7] *1. Physics, University of York, York, North Yorkshire, United Kingdom; 2. Instituto de Ciencia de Materiales, Madrid, Cantoblanco, Spain; 3. Paul Scherrer Institut, PSI-Villigen, Switzerland; 4. Ioffe Physical Technical Institute, Russian Academy of Sciences, St. Petersburg, Russian Federation; 5. College of Science and Technology, Nihon University, Funabashi, Japan; 6. Institute of Magnetism, Kiev, Ukraine; 7. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands*

9:06

ED-04. Stochastic spin model (LLB) and superdiffusive spin currents's role in the ultrafast demagnetization. J. Walowski[1], A. Mann[1], *M.G. Muenzenberg*[1], U. Atxitia[2], O. Chubykalo-Fesenko[2], M. Battachio[3], K. Carva[3] and P. Oppeneer[3] *1. I. Phys. Institut, Goerg-August-University Göttingen, Göttingen, Germany; 2. Instituto de Ciencia de Materiale, CSIC, Madrid, Spain; 3. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden*

9:18

ED-05. Novel Scenario for Ultrafast Laser-Induced Spin Control in Antiferromagnets. *J.A. de Jong*[1], I. Razdolski[1], A.M. Kalashnikova[2], R.V. Pisarev[2], A.M. Balbashov[3], A.V. Kimel[1], A. Kirilyuk[1] and T. Rasing[1] *1. Radboud University Nijmegen, Institute for Molecules and Materials, Nijmegen, Netherlands; 2. Ioffe Physical-Technical Institute, Russian Academy of Sciences, St. Petersburg, Russian Federation; 3. Moscow Power Engineering Institute, Moscow, Russian Federation*

9:30

ED-06. Switching of Antiferromagnets and Ferrimagnets driven by ultrashort THz pulses. *S. Wienholdt*[1], D. Hinzke[1] and U. Nowak[1] *1. University of Konstanz, Konstanz, Germany*

9:42

ED-07. Ultrafast magnetization dynamics in a system with tunable angular momentum. ***(Invited)*** *A. Kirilyuk*[1] *1. Institute of Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands*

10:18

ED-08. Coherent ultrafast magneto-optics. *H. Vonesch*[1] and J. Bigot[1] *1. IPCMS-DON, Université de Strasbourg-CNRS, Strasbourg, France*

10:30

ED-09. Ultrafast Demagnetization in Nickel. *B.Y. Mueller*[1], M. Cinchetti[1], T. Roth[1], M. Aeschlimann[1] and B. Rethfeld[1] *1. Department of Physics, Technical University Kaiserslautern, Kaiserslautern, Germany*

10:42

ED-10. Electron-phonon scattering dynamics in ferromagnetic metals and its influence on ultrafast demagnetization processes. *H. Schneider*[1] and S. Essert[1] *1. Physics Department, University of Kaiserslautern, Kaiserslautern, Germany*

10:54

ED-11. Revealing the significance of heating in the all-optical switching process. *S. Alebrand*[1], D. Steil[1], A. Hassdenteufel[1], M. Cinchetti[1] and M. Aeschlimann[1] *1. Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany*

11:06

ED-12. Manipulating femtosecond magnetization in ferromagnets and molecular magnets through laser chirp. *G. Zhang*[1], G. Lefkidis[2], W. Hü bner[2] and Y. Bai[3] *1. Department of Physics, Indiana State University, Terre Haute, IN; 2. Department of Physics, University of Kaiserslautern and Research Center OPTIMAS, Kaiserslautern, Germany; 3. Center for Instruction, Research and Technology, Indiana State University, Terre Haute, IN*

11:18

ED-13. Theory of laser induced ultrafast magnetization dynamics. *Q. Li*[1], A. Manchon[2], L. Xu[1] and S. Zhang[1] *1., Tucson, AZ; 2. School of Physical Science and Engineering, KAUST, Saudi Arabia, Saudi Arabia*

WEDNESDAY MORNING 8:30

GRAND CANYON 2-3

Session EE
PATTERNED FILMS I
Shika Jain, Chair

8:30

EE-01. Circular arrangement of nanomagnets for logic device. *S. Yoon*[1,2], Y. Jang[1], C. Nam[1], J. Currivan[1], B. Cho[2] and C.A. Ross[1] *1. Department of Materials Science and Engineering, MIT, Cambridge, MA; 2. Material Science and Engineering, GIST, Gwangju, Korea, Republic of*

8:42

EE-02. Controlling domain walls by non topographic pinning features in a permalloy nanowire structure. M.A. Basith[1], *S. McVitie*[1] and D. McGrouther[1] *1. Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

8:54

EE-03. Comparison of Bit-Patterned Media Fabricated by Methods of Direct Deposition and Ion-Milling of Cobalt/Palladium Multilayers. *T. Huang*[1], Y. Chen[1], N. Thiyagarajah[2], H. Duan[3], S. Leong[1], J. Yang[3] and V. Ng[2] *1. Data Storage Institute, Singapore, Singapore; 2. Department of Electrical and Computer Engineering, National Univ Singapore, Singapore, Singapore; 3. Institute of Materials Reseseach and Engineering, Singapore, Singapore*

9:06

EE-04. Thickness-dependent magnetization reversal behavior of lithographic IrMn/Fe ring structures. *Y. Hou*[1] and K.M. Krishnan[1] *1. Department of Materials Science, University of Washington, Seattle, WA*

9:18

EE-05. Brillouin light Scattering measurements of spin wave dispersions in a hexagonal array of interacting saturated disks. *F. Montoncello*[1], S. Tacchi[2], L. Giovannini[1], M. Madami[2], G. Gubbiotti[2,3], G. Carlotti[2], E. Sirotkin[4], A. Ahmad[4], F.Y. Ogrin[4] and V.V. Kruglyak[4] *1. Department of Physics-CNISM, University of Ferrara, Ferrara, Italy; 2. Department of Physics-CNISM, University of Perugia, Perugia, Italy; 3. Istituto Officina dei Materiali del CNR (CNR-IOM), Unità di Perugia, c/o Dipartimento di Fisica, Perugia, Italy; 4. School of Physics, University of Exeter, Exeter, United Kingdom*

9:30

EE-06. Fast switching of a ground state in a two-dimensional array of magnetic nano-dots coupled by dipolar interaction. R.V. Verba[1], G.A. Melkov[1], K.Y. Guslienko[2,3], V.S. Tiberkevich[4] and *A.N. Slavin*[4] *1. Faculty of Radiophysics, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; 2. Departamento de Fisica de Materials, Universidad del Pais Vasco, San Sebastian, Spain; 3. IKERBASQUE, The Basque Foundation for Science, Bilbao, Spain; 4. Department of Physics, Oakland University, Rochester, MI*

9:42

EE-07. Magnetic nanodot arrays prepared by nanoparticles etch masks. *T. Wen*[1], E.R. Evarts[1], R.A. Booth[1], S.D. Granz[2], M.H. Kryder[2], J.A. Bain[2] and S.A. Majetich[1] *1. Department of Physics, Carnegie Mellon University, Pittsburgh, PA; 2. Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA*

9:54

EE-08. Competing anisotropies in spin-flop coupled AFM/FM nanostructures. ***E. Folven***[1], A. Scholl[2], A. Young[2], S.T. Retterer[3], J.E. Boschker[1], T. Tybell[1], Y. Takamura[4] and J.K. Grepstad[1] *1. Department of Electronics and Telecommunications, NTNU, Trondheim, Norway; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Center for Nanophase Materials Science, Oak Ridge National Laboratories, Oak Ridge, TN; 4. Department of Chemical Engineering and Materials Science, University of California-Davis, Davis, CA*

10:06

EE-09. Low temperature magnetization reversal in patterned nano-islands of $SrRuO_3$ *L. Landau*[1], J.W. Reiner[2] and L. Klein[1] *1. Department of Physics, Nano-magnetism Research Center, Institute of Nanotechnology and Advanced Materials, Bar-Ilan University, Ramat-Gan, Israel; 2. Department of Applied Physics, Yale University, New Haven, CT*

10:18

EE-10. Magnetization relaxation in circular magnetic dots near vortex state nucleation. *G.N. Kakazei*[1,2], M. Ilyn[3], O. Chubykalo-Fesenko[4], J.M. Gonzalez[3], A.A. Serga[5], A.V. Chumak[5], B. Hillebrands[5] and K.Y. Guslienko[3,6] *1. IFIMUP-IN/Department of Physics, University of Porto, Porto, Portugal; 2. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; 3. Dpto. Fisica de Materiales, Universidad del Pais Vasco, San Sebastian, Spain; 4. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 5. Fachbereich Physik and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 6. IKERBASQUE, The Basque Foundation for Science, Bilbao, Spain*

10:30

EE-11. Sidewall effects on magnetic anisotropy of CoFeB nanomagnet. *K. Shen*[1], S. Yang[1], C. Yen[1], K. Kuo[1], S. Huang[1], . Wang[1], Y. Wang[1] and T. Ku[1] *1. Electronics and Optoelectronics Research Laboratories(EOL), Industrial Technology Research Institute(ITRI), Hsinchu, Taiwan*

10:42

EE-12. Magnetically-controlled electrodeposition of metal lines. P. Dunne[1], R. Soucaille[1] and *M. Coey*[1] *1. School of Physics and CRANN, Trinity College Dublin, Dublin 2, Ireland*

10:54

EE-13. Effect of dipolar interactions in the magnetization reversal of arrays of closely-spaced ferromagnetic nanoislands. *J. Porro*[1], M. Grimsditch[1,3], V. Metlushko[4], R. Ilic[5], A. Berger[1] and P. Vavassori[1,2] *1. Nanomagnetism Group, CIC nanoGUNE Consolider, Donostia-San Sebastian, Spain; 2. IKERBASQUE, Basque Foundation for Science, Bilbao, Spain; 3. Materials Science Division, Argonne National Laboratory, Argonne, IL; 4. Department of Electrical and Computer Engineering, University of Illinois at Chicago, Chicago, IL; 5. Cornell Nanofabrication Facility, Cornell University, Ithaca, NY*

11:06

EE-14. Insights into the role of magnetoelastic anisotropy in the magnetization reorientation of magnetic nanowires. *D.C. Leitão*[1], J. Ventura[2], C.T. Sousa[2], A.M. Pereira[2], J.B. Sousa[2], M. Vazquez[3] and J.P. Araujo[2] *1. INESC-MN and IN, Lisboa, Portugal; 2. IFIMUP and IN, Porto, Portugal; 3. ICMM -CSIC, Madrid, Spain*

11:18

EE-15. Magnetization splitting in Landau and diamond domain structures: Dependences on exchange interaction, anisotropy and size. K. Xie[1], P. Zhang[1], *W. Lin*[2], X. Zhang[1] and H. Sang[1] *1. National Laboratory of Solid State Microstructures, School of Physics, Nanjing University, Nanjing, China; 2. Institut d'Electronique Fondamentale, Université Paris-Sud, Orsay, France*

WEDNESDAY MORNING 8:30

GRAND CANYON 4-5

Session EF
ULTRA-THIN FILMS AND SURFACE EFFECTS I

Xiaoyong Liu, Chair

8:30

EF-01. Conical spin-spiral state in an ultra-thin film driven by higher-order spin interactions. *S. Schröder*[1], Y. Yoshida[2,3], P. Ferriani[1], D. Serrate[2,4], K. von Bergmann[2], A. Kubetzka[2], R. Wiesendanger[2] and S. Heinze[1] *1. Institute of Theoretical Physics and Astrophyics, University of Kiel, Kiel, Germany; 2. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 3. Institute of Solid State Physics, University of Tokyo, Tokyo, Japan; 4. Instituto de Nanociencia de Aragón, Universidad de Zaragoza, Saragossa, Spain*

8:42

EF-02. Surface sensitive determination of energy-level alignment at organic semiconductor/ferromagnetic interfaces. *A. Pratt*[1,2], X. Sun[3], L. Dunne[4], M. Kurahashi[1] and Y. Yamauchi[1] *1. National Institute for Materials Science, Tsukuba, Japan; 2. York Institute for Materials Research, University of York, York, United Kingdom; 3. University of Science and Technology of China, Anhui, Hefei, China; 4. Department of Physics, University of York, York, United Kingdom*

8:54

EF-03. Modification of magnetic moment and spin orbit coupling in NiFe/Au bilayers induced by Ga^+ ion irradiation. *D.M. Burn*[1], E. Arac[1], T.P. Hase[2] and D. Atkinson[1] *1. Department of Physics, Durham University, Durham, United Kingdom; 2. Department of Physics, Warwick University, Warwick, United Kingdom*

9:06

EF-04. Electric field induced modification of the electronic structure and magnetic properties at the surface of Ni/Co(111) multilayers. *L. Calmels*[1], F. Gimbert[1], B. Warot[1], V. Serin[1], S. Andrieu[2], T. Hauet[2] and S. Mangin[2] *1. CEMES-CNRS, Toulouse, France; 2. Institut Jean Lamour, Nancy, France*

9:18

EF-05. Co/Ni(111) epitaxial layers with Perpendicular Magnetic Anisotropy : a good candidate for spin transfer analysis. M. Gottwald[1], T. Hauet[1], S. Mangin[1], *S. Andrieu*[1], E. Fullerton[2], E. Snoeck[3], F. Bertran[4], P. Lefevre[4], A. Taleb[4] and A. Kent[5] *1. Nancy University / CNRS, Insitut Jean Lamour, Vandoeuvre, France; 2. Center for Magnetic Recording Research, UCSD, La Jolla, CA; 3. CEMES, CNRS, Toulouse, France; 4. SOLEIL synchrotron, Saclay, France; 5. New York University, New York, WA*

9:30

EF-06. Strain-Induced Magnetic Anisotropy and Magnetoresistance of Co(t_{Co})/Cu Multilayers. *C. Rizal*[1], B.R. Karki[2] and Y. Ueda[3] *1. Electrical and Computer Engineering, University of British Columbia, Vancouver, BC, Canada; 2. Physics, Texas Tech University, Lubbock, TX; 3. Electrical and Electronic Engineering, Muroran Institute of Technology, Muroran, Hokkaido, Japan*

9:42

EF-07. Quantum Well States and Oscillatory Magnetic Anisotropy in Ferromagnetic Thin Films. ***(Invited)*** *M. Przybylski*[1], M. Dabrowski[1], U. Bauer[1], M. Cinal[2], F. Yildiz[1], J. Li[1], Y. Wu[1] and J. Kirschner[1] *1. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany; 2. Institute of Physical Chemistry of the Polish Academy of Sciences, Warsaw, Poland*

10:18

EF-08. Electric-field induced change of magnetic anisotropy in CoFeB/oxide stacks. *K. Kita*[1,2], D.W. Abraham[1], M.J. Gajek[1] and D.C. Worledge[1] *1. IBM T. J. Watson Research Center, Yorktown Heights, NY; 2. Department of Materials Engineering, The University of Tokyo, Tokyo, Japan*

10:30

EF-09. Domain patterns in demagnetized CoFeB/MgO structures with perpendicular anisotropy. *M. Yamanouchi*[1], A. Jander[2,3], P. Dhagat[2,3], S. Ikeda[1,3], F. Matsukura[1,3] and H. Ohno[1,3] *1. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 2. School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR; 3. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

10:42

EF-10. Tuning the Magnetostructural Transition in FeRh with Film Thickness. *M. Loving*[1], M.A. de Vries[2], S. Langridge[3], C.H. Marrows[2] and L.H. Lewis[1] *1. Chemical Engineering, Northeastern University, Boston, MA; 2. Physics, University of Leeds, Leeds, United Kingdom; 3. ISIS, Rutherford Appleton Laboratory, Harwell Science and Innovation Campus, Oxon, United Kingdom*

10:54

EF-11. Direct observation of the room temperature magnetic phase separation in (Pd-doped) FeRh. M. de Vries[2], J.S. Claydon[2], R. Fan[1], C. Kinane[1], F. Maccherozzi[3], M. Loving[4], L.H. Lewis[4], D.A. Arena[5], C. Marrows[2] and *S. Langridge*[1] *1. Rutherford Appleton Laboratory, ISIS, Didcot, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 3. Diamond Light Source, Harwell Science and Innovation Campus, Oxon, United Kingdom; 4. Department of Chemical Engineering, Northeastern University, Boston, MA; 5. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY*

11:06

EF-12. Coercivity Change in an FePt Thin Layer by Voltage Application. *T. Seki*[1], M. Kohda[2], J. Nitta[2] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan*

11:18

EF-13. Growth and Magnetic Properties of Ultrathin Single Crystal Fe3O4 Film on InAs(100). Z. Huang[1,2], *Y. Zhai*[1], Y. Xu[2], J. Wu[3], S.M. Thompson[3] and S.N. Holmes[4] *1. Physics Department, Southeast University, Nanjing, 211189, China; 2. Department of Electronics, University of York, York, YO10 5DD, United Kingdom; 3. Department of Physics, University of York, York, YO10 5DD, United Kingdom; 4. Toshiba Research Europe Ltd, Cambridge Research Laboratory, Cambridge, CB4 0GZ, United Kingdom*

WEDNESDAY MORNING 8:30

GRAND CANYON 12-13

Session EG
MAGNETIC TUNNEL JUNCTION II: MgO

Renu Whig, Chair

8:30

EG-01. Magneto Seebeck Effect in Magnetic Tunnel Junctions. *M. Walter*[1], J. Walowski[1], V. Zbarsky[1], A. Zeghuzi[1], J.C. Leutenantsmeyer[1], M. Marahrens[1], M. Mü nzenberg[1], M. Schä fers[2], D. Ebke[2], G. Reiss[2], A. Thomas[2], P. Peretzki[3], M. Seibt[3], J.S. Moodera[4], M. Czerner[5], M. Bachmann[5] and C. Heiliger[5] *1. I. Physikalisches Institut, Georg-August-Universität Göttingen, Göttingen, Germany; 2. Department of Physics, Universität Bielefeld, Bielefeld, Germany; 3. IV. Physikalisches Institut, Georg-August-Universität Göttingen, Göttingen, Germany; 4. Massachusetts Institute of Technology, Cambridge, MA; 5. I. Physikalisches Institut, Justus-Liebig-Universität Giessen, Giessen, Germany*

8:42

EG-02. Antiferromagnetic coupling versus (100)Fe interfacial resonant state in Fe/MgO/Fe junctions. *A. Duluard*[1], C. Bellouard[1], C. Tiusan[1], B. Negulescu[2], D. Lacour[1], M. Hehn[1] and F. Montaigne[1] *1. Institut Jean Lamour - UMR CNRS 7198, Vandoeuvre-Les-Nancy, France; 2. LEMA, UMR 6157 CNRS-CEA, Tours, France*

8:54

EG-03. Identification of Interface Exchange Bias in Fe/MgO(001) by Magnetic Second-Harmonic Generation. Y. Fan[2], K. Smith[2], G. Luepke[2], A. Hanbicki[1], C.H. Li[1], H.B. Zhao[3] and *B.T. Jonker*[1] *1. Materials Science & Technology, Naval Research Laboratory, Washington, DC; 2. Department of Applied Science, College of William & Mary, Williamsburg, VA; 3. Department of Optical Science and Engineering, Fudan University, Shanghai, China*

9:06

EG-04. Asymmetry of in-plane spin-transfer torque in MgO MTJs with symmetric electrodes. *Y. Li*[1], H. Tseng[1], P. Huang[1], J. Read[1,2], D. Ralph[1] and R. Buhrman[1] *1. Cornell University, Ithaca, NY; 2. Hitachi Global Storage Technologies, San Jose, CA*

9:18

EG-05. Resonant tunneling through electronic trapping states in thin MgO magnetic junctions. *J.M. Teixeira*[1], J. Ventura[1], M.P. Fernández-Garcí a[1], J.P. Araujo[1], J.B. Sousa[1], P. Wisniowski[2,3], S. Cardoso[3] and P.P. Freitas[3] *1. Physics, IFIMUP and IN-Institute of Nanoscience and Nanotechnology, Faculdade de Ciências da Universidade do Porto, Porto, Portugal; 2. Electronics, AGH University of Science and Technology, Krakow, Poland; 3. INESC-MN and IN-Institute of Nanoscience and Nanotechnology, Lisboa, Portugal*

9:30

EG-06. X-ray and polarized neutron reflectivity study of CoFeB/MgO and CoFe/MgO multilayer thin films. K. Kim[1], I. Shin[2], H. Choi[3], B. Min[2], C. You[3], J. Lee[1], *S. Park*[4] and M.R. Fitzsimmons[5] *1. Neutron Science Division, Korea Atomic Energy Research Institute, Daejeon, Korea, Republic of; 2. Korea Institute of Science and Technology, Seoul, Korea, Republic of; 3. Department of Physics, Inha University, Incheon, Korea, Republic of; 4. Department of Physics, Pusan National University, Pusan, Korea, Republic of; 5. Los Alamos National Laboratory, Los Alamos, NM*

9:42

EG-07. Voltage induced magnetization dynamics in an ultrathin FeCo layer. ***(Invited)*** *T. Nozaki*[1,2], Y. Shiota[3], S. Murakami[3,4], F. Bonell[3], T. Shinjo[3] and Y. Suzuki[3,4] *1. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan; 2. PRESTO, JST, Kawaguchi, Saitama, Japan; 3. Graduate School of Engineering Science, Osaka Univ., Toyonaka, Osaka, Japan; 4. CREST, JST, Kawaguchi, Saitama, Japan*

10:18

EG-08. Ferroelectric control of magnetic anisotropy. *A. Mardana*[1], S. Ducharme[1] and S. Adenwalla[1] *1. Department of Physics and Astronomy and the Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE*

10:30

EG-09. Electrical Control of Magnetic Anisotropy in Ultrathin Fe Films. *U. Bauer*[1], M. Przybylski[2], J. Kirschner[2] and G.S. Beach[1] *1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany*

10:42

EG-10. Ferromagnetic Resonance Excited by Spin Torque and Voltage-Controlled Magnetic Anisotropy in CoFeB/MgO/CoFeB Magnetic Tunnel Junctions. *J. Zhu*[1], J.A. Katine[2], J. Langer[3], G.E. Rowlands[1], Z. Duan[1], J. Alzate[4], P. Upadhyaya[4], P. Amiri[4], K. Wang[4] and I.N. Krivorotov[1] *1. Department of Physics and Astronomy, University of California, Irvine, CA; 2. Hitachi Global Storage Technologies, San Jose, CA; 3. Singulus Technologies, 63796 Kahl am Main, Germany; 4. Department of Electrical Engineering, University of California, Los Angeles, CA*

10:54

EG-11. Voltage-Induced Switching of CoFeB-MgO Magnetic Tunnel Junctions. *J.G. Alzate*[1], P. Khalili Amiri[1], S. Cherepov[1], J. Zhu[2], P. Upadhyaya[1], M. Lewis[1], I.N. Krivorotov[2], J. Katine[3], J. Langer[4], K. Galatsis[1] and K.L. Wang[1] *1. Electrical Engineering, University of California, Los Angeles (UCLA), Los Angeles, CA; 2. Physics and Astronomy, University of California, Irvine, Irvine, CA; 3. Hitachi Global Storage Technologies, San Jose, CA; 4. Singulus Technologies, Kahl am Main, Germany*

11:06

EG-12. Voltage control of the magnetic anisotropy of FePd ultrathin films in epitaxial magnetic tunnel junctions. *F. Bonell*[1], S. Murakami[1,2], Y. Shiota[1,2], T. Nozaki[1,2], T. Shinjo[1] and Y. Suzuki[1,2] *1. Division of Material Science, Graduate School of Engineering Science, Osaka, Japan; 2. CREST, JST, Kawaguchi, Saitama, Japan*

11:18

EG-13. Characterization of spin-transistor using half-metallic Co_2MnSi electrodes. *Y. Ohdaira*[1], M. Oogane[1], H. Naganuma[1] and Y. Ando[1] *1. School of engineering, Tohoku university, Sendai, Miyagi, Japan*

WEDNESDAY MORNING 8:30 — GRAND CANYON 1

Session EH
TRANSFORMERS, MOTORS, INDUCTORS AND LEVITATION II

Don Gardner, Chair

8:30

EH-01. Integrated On-chip Inductors With Electroplated Magnetic Yokes. ***(Invited)*** *N. Wang*[1], E.J. O'Sullivan[1], P. Herget[2], L.T. Romankiw[1], B.C. Webb[1], R. Fontana[2], E.A. Duch[1], E.A. Joseph[1], S.L. Brown[1], G. Decad[2] and W.J. Gallagher[1] *1. IBM T. J. Watson Research Center, Yorktown Heights, NY; 2. IBM Almaden Research Center, San Jose, CA*

9:06

EH-02. Analysis of mid-range electric power transfer based on an equivalent circuit model. *I. Sasada*[1] *1. Applied Science for Electronics and Materials,, Kasuga, Japan*

9:18

EH-03. Tuning the Permeability of Permalloy Films for On-chip Inductor Applications.T. Dastagir[1], W. Xu[1], S. Sinha[1], *H. Wu*[1], Y. Cao[1] and H. Yu[1] *1. Arizona State University, Tempe, AZ*

9:30

EH-04. Optimised design of Astatic coils for biasing Atomic Resonance Magnetometers. *S. Turner*[1] and S. Harmon[1] *1. Magnetic Materials, NPL, Teddington, United Kingdom*

9:42

EH-05. A Novel Loss-Compensation MESFET Active Inductor. *Y. Lai*[1] and C. Zheng[1] *1. Department of Mechatronics Engineering, National Changhua University of Education, Changhua, Taiwan*

9:54

EH-06. Calculation of Eddy Currents in Magnetically Nonlinear Anisotropic Conductors.P. McAvoy[1], C. Serpico[2] and *I. Mayergoyz*[3] *1. Department of Electrical and Computer Engineering, University of Maryland College Park, College Park, MD; 2. Dipartimento di Ingegneria Elettrica, Università di Napoli Federico II, Napoli, Italy; 3. Department of Electrical and Computer Engineering, UMIACS and AppEl Center, University of Maryland College Park, College Park, MD*

10:06

EH-07. Stable levitation region of a magnet over a superconducting torus in a complete Meissner state. *E. Diez-Jimenez*[1], J. Perez-Diaz[1] and J. Herrero-de-Vicente[1] *1. Ingeniería Mecánica, Universidad Carlos III de Madrid, Leganés, Madrid, Spain*

10:18

EH-08. A design of mini actuator for compact camera without using permanent magnet. *C. Tsai*[1] and D. Liaw[1] *1. Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan*

10:30

EH-09. Effect of magnetosriction and sound level on power transformer of silicon steel core with step-lap joint.Y. Chang[1], *C. Hsu*[1,2], H. Chu[2], C. Chang[1], W. Chan[1], C. Lee[3], C. Yao[2,3] and Y. He[2,3] *1. Electrical Engineering, Chang Gung University, Tao-Yuan, Taiwan; 2. Electrical Engineering, Fortune Electric Company Ltd., Tao-Yuan, Taiwan; 3. Electrical Engineering, Chung Yuan Christian University, Tao-Yuan, Taiwan*

10:42

EH-10. Effect of harmonic of magnetic characteristic on power transformer.Y. Chang[1], *C. Hsu*[1,2], H. Chu[2], C. Chang[1], W. Chan[1], C. Lee[3], Y. He[2,3] and C. Yao[2,3] *1. Electrical Engineering, Chang Gung University, Tao-Yuan, Taiwan; 2. Electrical Engineering, Fortune Electrical Company Ltd., Tao-Yuan, Taiwan; 3. Electrical Engineering, Chung Yung Christian University, Tao-Yuan, Taiwan*

10:54

EH-11. Modeling and Simulation of High Voltage and Frequency Transformer. *F.O. Quintaes*[1,3], A.O. Salazar[1], J.D. Amado[1], J.P. Dubut[2], J.R. Silva[3], G.C. Barbosa[3] and R.P. Filho[1] *1. DCA, UFRN, Natal, RN, Brazil; 2. INPE, Natal, RN, Brazil; 3. IFRN, Natal, RN, Brazil*

11:06

EH-12. High performance separate-shell magnetic shield with built-in shaking coil and active compensation. *I. Sasada*[1], M. Nishimura[1], T. Takeda[2], M. Shimada[3], J. Kim[4] and Y. Lee[4] *1. Applied Science for Electronics and Materials,, Kasuga, Japan; 2. Nippon Steel Composite Co.,Ltd, Tokyo, Japan; 3. Nippon Steel Materials Co, Ltd, Himeji, Japan; 4. Korea Research Institute of Standard and Science, Daejeon, Korea, Republic of*

11:18

EH-13. Effects of magnetomechanical vibrations and bending stresses on three-phase three-leg transformer with Amorphous Cores.Y. Chang[1], *C. Hsu*[1,2], H. Chu[2], C. Chang[1], W. Chan[1], C. Lee[3], C. Yao[2,3] and Y. He[2,3] *1. Electrical Engineering, Chang Gung University, Tao-Yuan, Taiwan; 2. Electrical Engineering, Fortune Electric Company Ltd., Chung Lin, Taiwan; 3. Electrical Engineering, Chung Yung Christian University, Tao-Yuan, Taiwan*

WEDNESDAY MORNING
8:00

SAGUARO BALLROOM

Session EP
NANOMAGNETIC LOGIC, MAGNETOSTRICTIVE AND MAGNETO-OPTIC DEVICES
(Poster Session)

Thomas Crawford, Chair

EP-01. Programmable logic system for Magnetic Cellular Automata. *D.K. Karunaratne*[1] and S. Bhanja[1] *1. Electrical Engineering, Univeristy of South Florida, Tampa, FL*

EP-02. Nanomagnetic Engineering of the Properties of Domain Wall Atom Traps. *T.J. Hayward*[1], A.D. West[2], K.J. Weatherill[2], T. Schrefl[3], I.G. Hughes[2] and D.A. Allwood[1] *1. Department of Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom; 2. Atomic and Molecular Physics Group, University of Durham, Durham, United Kingdom; 3. St Pölten University of Applied Sciences, St Pölten, Austria*

EP-03. Boolean Logic Implementation using Coupled Spin Valves. *S. Rajaram*[1] and S. Bhanja[1] *1. Electrical Engineering, University of South FL, Tampa, FL*

EP-04. Optimal Design of Linear Vibrators Used in Touch Screen Mobile phones. *P. Sun*[1], J. Kwon[2] and S. Hwang[1] *1. School of Mechanical Engineering, Pusan National University, Busan, Busan, Korea, Republic of; 2. Research and Development Center, EM-TECH, Anyang, Gyeonggi-do, Korea, Republic of*

EP-05. Design of longitudinal air gap slim speakers used for flat TV. *P. Sun*[1] and S. Hwang[1] *1. Mechcnial Engineering College, Pusan National University, Busan, Busan, Korea, Republic of*

EP-06. Phase Instability of Magnetic Ground State in Antiperovskite Mn_3ZnN: Giant Magnetovolume Effects Related to Magnetic Structure. *T. Hamada*[1] and K. Takenaka[1] *1. Department of Crystalline Materials Science, Nagoya University, Nagoya, Aichi, Japan*

EP-07. Development of Magnetostrictive Inkjet Head for Liquid Droplet Formation. J. Yoo[1] and *Y. Park*[2] *1. Corporate R&D Center, LG Chem, LTD., Daejeon, Korea, Republic of; 2. Mechatronics Engineering, Chungnam National University, Daejeon, Korea, Republic of*

EP-08. Design and Performance of Giant Magnetostrictive Fast Steering Mirror. H. Wang[1], Y. Yang[1], *T. Zhang*[1], J. Liu[1], J. Wang[1] and C. Jiang[1] *1. School of Materials Science and Engineering, Beihang University, Beijing, China*

EP-09. Strain-sensor based on magneto-acoustic resonance. *T. Huber*[1,2], B. Bergmair[1,2], F. Bruckner[1], C. Vogler[1] and D. Suess[1] *1. Inst. of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Inst. of Analysis and Scientific Computing, Vienna University of Technology, Vienna, Vienna, Austria*

EP-10. A magnetoelectric energy harvester with the magnetic coupling to enhance the output performance. X. Bai[1,2], *Y. Wen*[1,2], J. Yang[1,2], P. Li[1,2], J. Qiu[1,2] and Y. Zhu[1,2] *1. The Key Laboratory for Optoelectronic Technology & Systems, Ministry of Education, Chongqing, China; 2. College of Optoelectronic Engineering,Chongqing University, Chongqing, China*

EP-11. Optical transmission modulation by disk-shaped ferromagnetic particles. *E.A. Vitol*[1], V.G. Yefremenko[1], S. Jain[1], J. Pearson[1], E.A. Rozhkova[2], S.D. Bader[1,2] and V. Novosad[1] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL*

EP-12. Visible photoluminescence enhancement effect of TiO2 nanotube arrays by high magnetic field annealing. *M. Yang*[1,2], W. Liu[1] and J. Sun[2] *1. Department of Material Science and Engineering and Laboratory of Advanced Materials, Tsinghua University, Beijing, Beijing, China; 2. Department of Physics and State Key Lab of Low-Dimensional Quantum Physics, Tsinghua University, Beijing, Beijing, China*

EP-13. Preparation and Photocatalytic Properties of reusable hybride core-shell $CoFe_2O_4$-ZnO nanospheres. A. Wilson[1] and *S.R. Mishra*[1] *1. Physics, The University of Memphis, Memphis, TN*

EP-14. Improved Formulation for Magneto-optic Device Characterization. *J. Tioh*[1], R.J. Weber[1] and M. Mina[1] *1., Ames, IA*

EP-15. Low Power Field Generation for Magneto-Optic Fiber-Based Interferometric Switches. *J.W. Pritchard*[1], M. Mina[1], R.J. Weber[1] and S. Oster[1] *1. Electrical Engineering, Iowa State University, Ames, IA*

WEDNESDAY MORNING 8:00 — SAGUARO BALLROOM

Session EQ
SPIN WAVES (Poster Session)
Ondrej Hovorka, Chair

EQ-01. Parametric excitation of eigenmodes in microscopic magnetic dots. *H. Ulrichs*[1], V.E. Demidov[1], S.O. Demokritov[1] and S. Urazhdin[2] *1. University of Muenster, Muenster, Germany; 2. Emory University, Atlanta, GA*

EQ-02. Interchanging extended modes in permalloy antidot arrays by incorporation of Co nanodisks. *G. Duerr*[1], M. Madami[2], S. Neusser[1], S. Tacchi[2], G. Gubbiotti[2,3], G. Carlotti[2] and D. Grundler[1] *1. Physik-Department E10, Technische Universitaet Muenchen, Garching b. Muenchen, Germany; 2. CNISM, Unità di Perugia-Dipartimento di Fisica, Perugia, Italy; 3. Istituto Officina dei Materiali del CNR (CNR-IOM), Unità di Perugia, c/o Dipartimento di Fisica, Perugia, Italy*

EQ-03. Pulse width modulation in pulse inductive microwave magnetometry measurements of spin waves. *J. Kwon*[1], S.S. Mukherjee[1], M. Jamali[1], M. Hayashi[2] and H. Yang[1] *1. ECE, National University of Singapore, Singapore, Singapore; 2. National Institute of Materials Science, Tsukuba, Japan*

EQ-04. Dynamic Behavior of 2-Dimensional Magnonic Crystals fabricated using 'Self-Aligned Lithography Process' *S. Jain*[1] and A.O. Adeyeye[1] *1. Electrical and Computer Engineering, National University of Singaore, Singapore, Singapore*

EQ-05. Spin waves micromagnetic modelling induced by spin-torque nano-oscillators. *D. Aurelio*[1], L. Torres[1] and E. Martinez[1] *1. University of Salamanca, Salamanca, Spain*

EQ-06. Temperature dependence of normal modes of ferrimagnets. *F. Schlickeiser*[1], S. Wienholdt[1], U. Atxitia[2], D. Hinzke[1], O. Chubykalo-Fesenko[2] and U. Nowak[1] *1. University of Konstanz, Konstanz, Germany; 2. Institute of material science, Madrid, Spain*

EQ-07. Extending the frequency range of phase-resolved, x-ray detected ferromagnetic resonance. *P. Warnicke*[1], R. Knut[2], E. Wahlströ m[3], W.E. Bailey[4], O. Karis[2] and D.A. Arena[1] *1. NSLS, Brookhaven National Lab, Upton, NY; 2. Dept. of Physics, Uppsala University, Uppsala, Sweden; 3. Dept. of Physics, Norweigan University of Science and Technology, Trondheim, Norway; 4. Dept. of Applied Physics, Columbia University, New York, NY*

EQ-08. Time-resolved measurement of spin-wave spectra in $[Co(t)/Pt(7Å)]_n$ multilayers. S. Pal[1], B. Rana[1], S. Saha[1], R. Mandal[1], O. Hellwig[2], J. Romero-Vivas[3], S. Mamica[3], J.W. Klos[3], M. Mruczkiewicz[3], M. Krawczyk[3] and *A. Barman*[1] *1. Department of Material Sciences, S. N. Bose National Centre for Basic Sciences, Kolkata, India; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA; 3. Surface Physics Division, A. Mickiewicz University, Poznan, Poland*

EQ-09. Spin-wave dynamics in a double point-contact device. *V. Puliafito*[1], G. Consolo[2] and B. Azzerboni[1] *1. Department of Matter Physics and Electronic Engineering, University of Messina, Messina, Italy; 2. Department of Sciences for Engineering and Architecture, University of Messina, Messina, Italy*

EQ-10. Localization vs dispersion of spin waves in 3D magnetic nanostructures. *M. Dvornik*[1] and V.V. Kruglyak[1] *1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom*

EQ-11. Formation of Bright Solitons from Surface Spin Waves. *Z. Wang*[1], M. Wu[1] and B.A. Kalinikos[2] *1. Department of Physics, Colorado State Univeristy, Fort Collins, CO; 2. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation*

EQ-12. Two-Dimensional Propagation of the Spin Wave Packet Excited by the Inverse Faraday Effect. *Y. Terui*[1], T. Satoh[1,2], T. Shimura[1], K. Kuroda[1], R. Moriya[1], K. Ando[3] and E. Saitoh[3,4] *1. Institute of Industrial Science, The University of Tokyo, Tokyo, Japan; 2. PRESTO, Japan Science and Technology Agency, Tokyo, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. CREST, Japan Science and Technology Agency, Tokyo, Japan*

EQ-13. Electric field control of surface spin waves. *R. Stamps*[2] and V. Gunawan[1] *1. School of Physics, University of Western Australia, Crawley, WA, Australia; 2. University of Glasgow, Glasgow, United Kingdom*

EQ-14. Spin wave propagation in magnetic wires. *H.G. Bauer*[1], C.H. Back[1] and G. Woltersdorf[1] *1. Physics, University of Regensburg, Regensburg, Bavaria, Germany*

EQ-15. Tailoring of the spin wave spectra of planar magnonic crystals using metallic overlayers. *M. Sokolovskyy*[1], S. Mamica[1], J.W. Klos[1] and M. Krawczyk[1] *1. Physics Faculty, Adam Mickiewicz University, Poznan, Poland*

WEDNESDAY MORNING 8:00 — SAGUARO BALLROOM

Session ER
MAGNETIC FLUIDS AND SEPARATIONS AND BIOMAGNETISM (Poster Session)

Thompson Mefford, Chair

ER-01. Near infrared spectroscopic evaluation of cellular activities under strong static and time-varying magnetic fields. *Y. Mizukawa*[1], M. Iwasaka[1], S. Kurita[2] and N. Owada[2] *1. Chiba University, Chiba, Japan; 2. ABI, Nagareyama, Japan*

ER-02. Magnetic field effect on growth, As uptake and total amylolytic activity on mesquite (*Prosopis juliflora x P. velutina*) seeds. *E. Flores Tavizón*[1], N.S. Mokgalaka-Matlala[2], J.T. Elizalde Galindo[3], H. Castillo-Michelle[4], J.R. Peralta-Videa[4] and J.L. Gardea-Torresdey[4] *1. Civil Engineering and Environmental, Universidad Autónoma de Ciudad Juárez, Cd. Juárez, Chihuahua, Mexico; 2. Chemistry, Tshwane University of Technology, Pretoria, South Africa; 3. Physics and Mathematics, Universidad Autónoma de Ciudad Juárez, Cd. Juárez, Chihuahua, Mexico; 4. Chemistry, University of Texas at El Paso, El Paso, TX*

ER-03. Development of autonomous magnetic micro-systems for the manipulation of biological species. *F. Dumas-Bouchiat*[1], L. Zanini[1,2], Y. Zang[1], G. Ciuta[1], G. Reyne[2], J. Pivetal[3], O. Osman[3], M. Fré né a-Robin[3], N. Haddour[3], N.M. Dempsey[1] and D. Givord[1] *1. Institut Néel, Grenoble, France; 2. G2Elab, INP de Grenoble, Grenoble, France; 3. Laboratoire Ampère, Lyon, France*

ER-04. Magneto-optical cellular chip model for intracellular orientational-dynamic-activity detection. *Y. Miyashita*[1], M. Iwasaka[1], S. Kurita[2] and N. Owada[2] *1. Chiba University, Chiba, Japan; 2. ABI, Ngareyama, Japan*

ER-05. Subacute Exposure to a 50 Hz Magnetic Field Affects Prenatal and Neonatal Mice's Motor Incoordination. *L. Sakhnini*[1] and A. Al-Ansari[2] *1. Physics, University of Bahrain, Sakhir, Bahrain; 2. Physiology, College of Medicine, Arabian Gulf University, Manama, Bahrain*

ER-06. Effect of 10-T magnetic fields on structural colors in guanine crystals of fish scales. *M. Iwasaka*[1], Y. Miyashita[1], M. Kudo[1], S. Kurita[2] and N. Owada[2] *1. Chiba University, Chiba, Japan; 2. ABI, Nagareyama, Japan*

ER-07. Rheological, Optical, and Thermal Characterization of Temperature-Induced Transitions in Liquid Crystal Ferrogels. *H. Diestra-Cruz*[1], C. Rinaldi[1] and A. Acevedo[1] *1. Chemical Engineering, University of Puerto Rico at Mayaguez, Mayaguez*

ER-08. The temperature-dependent magneto-viscoelastic characteristic of a MR fluid in magnetic field. *Y. Enokizono*[1], T. Todaka[1] and M. Enokizono[1] *1. Faculty of Engineering, Oita University, Oita, Japan*

ER-09. Ferromagnetic resonance of ferrolyotropic liquid crystals and ferrofluids. *F.R. Arantes*[1], D.R. Cornejo[1] and C.A. Ramos[2] *1. Condensed Matter Physics, Institute of Physics, University of São Paulo, Sao Paulo, Sao Paulo, Brazil; 2. Centro Atómico Bariloche, San Carlos de Bariloche, Río Negro, Argentina*

ER-10. Rotating ferrofluid flow under a uniform rotating magnetic field in a spherical cavity. *I.G. Torres-Díaz*[1], C. Rinaldi[1], S. Khushrushahi[2] and M. Zahn[2] *1. Department of Chemical Engineering, University of Puerto Rico, Mayaguez Campus, Mayaguez; 2. Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA*

ER-11. Diamagnetic Particle Focusing in Ferrofluids Using Single Magnets. *L. Liang*[1] and X. Xuan[1] *1. Mechanical Engineering, Clemson University, Clemson, SC*

ER-12. Time-dependent dynamic behavior of light diffraction in Ferrofluid. *M. Chung*[1], S. Chou[2] and C. Fu[1] *1. Physics, Physics, Taipei, Taiwan; 2. Engineering Science and Ocean Engineering, Engineering Science and Ocean Engineering, Taipei, Taiwan*

ER-13. Magnetic Properties and Microstructures of Mesoporous Silica-Iron Oxide Core-shell composite for applications in Magnetic Dye separations. *W. Hao*[1,2], Y. Xi[1], T. Wang[1] and X. Wang[2] *1. Beihang University, Beijing, China; 2. University of Wollongong, Wollongong, NSW, Australia*

ER-14. Gradient magnetic-field-flow fractionation of dissolved oxygen and carbon dioxide gasses. *M. Iwasaka*[1], S. Kurita[2] and N. Owada[2] *1. Chiba University, Chiba, Japan; 2. ABI, Nagareyama, Japan*

ER-15. Magnetorheological Effect of MR Elastomers under Normal Pressure. *X. Dong*[1], N. Ma[2], M. Qi[1], J. Li[2], R. Chen[1] and J. Ou[2,3] *1. School of Materials Science and Engineering, Dalian University of Technology, Dalian, Liaoning, China; 2. School of Civil Engineering, Dalian University of Technology, Dalian, Liaoning, China; 3. School of Civil Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

WEDNESDAY MORNING 8:00 — SAGUARO BALLROOM

Session ES
MAGNETIC PARTICLES FOR HYPERTHERMIA, DRUG DELIVERY AND SEPARATION
(Poster Session)

Daniela Petti, Chair

ES-01. Physical Parameters to Enhance AC Heating Characteristics of Superpara- and Ferri-Magnetic Nanoparticles for Local Hyperthermia. *M. Jeun*[1], S. Lee[1], H. Oh[1], Y. Kim[2], K. Park[2], S. Paek[3], Y. Takemura[4], K. Chung[5], J. Kwak[6] and S. Bae[1] *1. Biomagnetics Laboratory (BML), Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Ophthalmology, Seoul National University College of Medicine, Seoul, Korea, Republic of; 3. Neurosurgery, Ischemic/Hypoxic Disease Institute, Cancer Research Institute, Seoul National University College of Medicine, Seoul, Korea, Republic of; 4. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 5. Nuri Vista Co. Ltd, Seoul, Korea, Republic of; 6. Physiology and Biophysics, Inha University College of Medicine, Incheon, Korea, Republic of*

ES-02. Cytotoxicity of selol-loaded magnetic nanocapsules against neoplastic cell lines under AC magnetic field activation. *P.C. Morais*[1], A. Falqueiro[2,3], F. Primo[2], D. Jardim[2], M. Siqueira-Moura[2,3], E. Mosiniewicz-Szablewska[4], P. Suchocki[5,6] and A. Tedesco[2] *1. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil; 2. Departamento de Química, Universidade de São Paulo, Ribeirao Preto, SP, Brazil; 3. Departamento de Ciências Farmacêuticas, Universidade de São Paulo, Ribeirao Preto, SP, Brazil; 4. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 5. Department of Drugs Analysis, Warsaw Medical University, Warsaw, Poland; 6. Department of Pharmaceutical Chemistry, Drug Institute, Warsaw, Poland*

ES-03. Monitoring iron oxide nanoparticle surface temperature during AMF heating using thermoresponsive-fluorescent polymers. *L. Polo-Corrales*[1] and C. Rinaldi[1] *1. Department of Chemical Engineering, University of Puerto Rico, Mayaguez, Mayaguez*

ES-04. Physical Limits of Pure Superparamagnetic Fe3O4 Nanoparticles for a Local Hyperthermia Agent in Nanomedicine. *M. Jeun*[1], S. Lee[1], H. Oh[1], A. Tomitaka[2], Y. Takemura[2], K. Chung[3], Y. Kim[4], K. Kang[5], J. Kwak[6] and S. Bae[1] *1. Biomagnetics Laboratory (BML), Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan; 3. Nuri Vista Co. Ltd, Seoul, Korea, Republic of; 4. Radiology, Seoul National University Hospital, Seoul, Korea, Republic of; 5. Nuclear Medicine, Seoul National University College of Medicine & Cancer Research Institute, Seoul, Korea, Republic of; 6. Physiology and Biophysics, Inha University College of Medicine, Incheon, Korea, Republic of*

ES-05. Development, characterization and in vitro trials of ClAlPc-magnetic nanoemulsion to Hyperthermia and Photodynamic Therapies on human stem cells and gliobastoma as biological models. L.B. de Paula[1], F.L. Primo[1], D.R. Jardim[1], P.C. Morais[2] and *A.C. Tedesco*[1] *1. Nanotechnology, São Paulo University, Ribeirão Preto, São Paulo, Brazil; 2. Institute of Physics, Brasília University, Brasília, Goiás, Brazil*

ES-06. Size dependent RF heating of cobalt ferrite magnetic nanoparticles. *K.L. McNerny*[1], K.N. Collier[1], A.H. Habib[1] and M.E. McHenry[1,2] *1. Materials Science and Engineering, Carnegie Mellon, Pittsburgh, PA; 2. Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA*

ES-07. Magnetic properties and thermal response of magnetite nanoparticles under dynamical conditions of external magnetic field application. *A. Bollero*[1], F.J. Teran[1], C. Casado[1], J.F. Cunado[2], M. Morales[3], G. Salas[1], A. Villanueva[1,4], M. Calero[4], P. Acedo[4], J. Camarero[1,2] and R. Miranda[1,2] *1. IMDEA Nanoscience, Instituto Madrileño de Estudios Avanzados en Nanociencia, Madrid, Spain; 2. Dpto. Física de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Spain; 3. Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain; 4. Dpto. Biología, Universidad Autónoma de Madrid, Madrid, Spain*

ES-08. Size- and Phase-controlled synthesis of cobalt nanoparticles for potential biomedical applications. *C.M. Osorio-Cantillo*[1], O.J. Perales-Perez[2,1], A.N. Santiago-Miranda[3] and Y. Xin[4] *1. Chemistry, University of Puerto Rico, Mayaguez; 2. Materials Science & Engineering, University of Puerto Rico, Mayaguez; 3. Chemical Engineering, University of Puerto Rico, Mayaguez; 4. Magnet Science & Technology, National High Magnetic Field Laboratory, Tallahassee, FL*

ES-09. Specific relaxation properties of surperparamagnetic nanoparticles for multifunctional MRI/hyperthermia application. *M. Yang*[1,2], Y. Chiu[1], W. Hsieh[2], C. Lai[1] and M. Tung[2] *1. material science and engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Industrial Technology Research Institute, Hsinchu, Taiwan*

ES-10. Folate-Conjugated Magnetic Chitosan Nanoparticles for Dual Targeting Delivery of Doxorubicin for Cancer Therapy. *J. Chen*[1], J. Yang[1], K. Wei[2] and Y. Lu[1,2] *1. Department of Chemical and Materials Engineering, Chang Gung University, Taoyuan, Taiwan; 2. Department of Neurosurgery, Chang Gung Memorial Hospital, Taoyuan, Taiwan*

ES-11. Silicon Oxide Magnetic Nanoparticles for Targeted Delivery of Tissue Plasminogen Activator. *J. Chen*[1], P. Yang[1], Y. Lu[1,2] and Y. Ma[3] *1. Department of Chemical and Materials Engineering, Chang Gung University, Taoyuan, Taiwan; 2. Department of Neurosurgery, Chang Gung Memorial Hospital, Taoyuan, Taiwan; 3. Department of Physiology and Pharmacology, Chang Gung University, Taoyuan, Taiwan*

ES-12. Ferrofluid based control release drug delivery system for imaging and therapeutic applications. *S.H. Naik*[1], M.D. Shultz[2,3] and E.E. Carpenter[1] *1. Chemistry, Virginia Commonwealth University, Richmond, VA; 2. Biochemistry and Molecular Biology, Virginia Commonwealth University, Richmond, VA; 3. Chemistry, Virginia Tech, Blacksburg, VA*

ES-13. Fabrication of Fe@mSiO$_2$ Nanowires with Large Remanence and Low Cytotoxicity for Targeted Drug Delivery. M. Song[1], *H. Bi*[1,2] and Y. Zhang[1] *1. College of Chemistry and Chemical Engineering, Anhui University, Hefei, Anhui, China; 2. Department of Medicine, Columbia University, New York, NY*

ES-14. Magnetically Active Polymeric Filter for Circulating Tumor Cell Separation. N. Kataeva[1], C. Binder[1], *L. Breth*[1] and H. Brueckl[1] *1. AIT Austrian Institute of Technology, Vienna, Austria*

ES-15. Isolation of DNA using biofunctional superparamagnetic nanoparticles. *J.H. Min*[1], M. Woo[3], H. Yoon[1], J.H. Wu[2], C. Lim[3] and Y.K. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Pioneer Research Center for Biomedical Nanocrystals, Korea University, Seoul, Korea, Republic of; 3. Department of Laboratory Medicine, College of Medicine, Korea University Guro Hospital, Seoul, Korea, Republic of*

WEDNESDAY MORNING 8:00 SAGUARO BALLROOM

Session ET
ANISOTROPIC MAGNETIC NANOSTRUCTURES (Poster Session)

Jinbo Yang, Chair

ET-01. Synthesis and of Cobalt Carbide Permanent Magnetic Nanoparticles through use of the chloride and hydroxide anion in a Polyol Process. *Z.J. Huba*[1] and E.E. Carpenter[1] *1. Chemistry, Virginia Commenwealth University, Richmond, VA*

ET-02. Exceptionally High Coercive Fields of Mn_xGa Films Enhanced by Nanoscale Structural Disorder. S. Bennett[1], T. Nummy[2], T. Cardinal[2] and *D. Heiman*[2] *1. Mechanical Engineering, Northeastern University, Boston, MA; 2. Physics, Northeastern University, Boston, MA*

ET-03. Exchange coupling in hard/soft-magnetic multilayer films with non-magnetic spacer layers. *W. Cui*[1], W. Liu[1], W. Gong[1], X. Liu[1], S. Guo[1], Y. Zhang[1], Z. Wang[1] and Z. Zhang[1] *1. Shenyang National Laboratory for Materials Science and International Centre for Materials Physics, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, Liaoning, China*

ET-04. Demagnetizing factors and demagnetizing fields of ellipsoidal magnetic nanoparticles with core/shell structures. L.O. Massa[1], *M.R. Guassi*[1] and Q. Fanyao[1,2] *1. Institute of Physics, University of Brasilia, Brasília, Federal District, Brazil; 2. International Center for Condensed Matter Physics, University of Brasilia, Brasilia, Federal District, Brazil*

ET-05. Variation of easy magnetization in (001) textured FePt-FeB graded films. *J. Tsai*[1], J. Huang[1], C. Lin[1] and L. Chen[1] *1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

ET-06. Field annealing studies of Co/Pd multilayers. *E. Yang*[1,2], M. Moneck[1,2] and J. Zhu[1,2] *1. Electrical and Computer Engineering, Carnegie Mellon, Pittsburgh, PA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA*

ET-07. Magnetic transition in epitaxial Fe-Rh-Pd films. P.R. LeClair[1], H. Sato[1], *N. Pachauri*[1], S. Keshavarz[1], H. Lee[1] and G.J. Mankey[1] *1. University of Alabama, Tuscaloosa, AL*

ET-08. Influence of strain on the AFM>FM phase transition in epitaxial FeRh films. *C. Bordel*[1,2], D.W. Cooke[1], J. Juraszek[2], S. Moyerman[3], E.E. Fullerton[3] and F. Hellman[1] *1. Physics, University of California at Berkeley, Berkeley, CA; 2. Physics, University of Rouen, St Etienne du Rouvray, France; 3. Physics, University of California at San Diego, San Diego, CA*

ET-09. Thickness Effect and Phase Transition in Epitaxial FeRh Thin Films. K. Cher[1,2], *T. Zhou*[1] and J. Chen[2] *1. Data Storage Institute, Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore*

ET-10. Analysis on eddy current losses of cylindrical linear oscillatory actuator with Halbach permanent magnet array mover. *K. Ko*[1], Y. Park[1] and S. Jang[1] *1. Electrical Engineering, Chungnam National University, Daejeon, Korea, Republic of*

ET-11. A study of hybrid bonded magnets of Sm-Co and Sr-ferrite using mixture design. *P. Sharma*[1] *1. School of Physics and Materials Science, Thapar University, Patiala, India*

ET-12. High performance anisotropic NdFeB magnets prepared by dual-alloy die-upsetting. *X. Tang*[1,2], R. Chen[1,2], W. Yin[1,2], M. Lin[1,2], D. Lee[1,2] and A. Yan[1,2] *1. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, China; 2. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo, China*

ET-13. Magnetic properties of mechanical milled $GdCo_5$ nanocrystalline powders and its dependence on temperature. *E.S. Lara Pérez*[1], J.T. Elizalde Galindo[1], J.R. Farias Mancilla[1] and J.A. Matutes Aquino[2] *1. Physics and Mathematics, Universidad Autónoma de Ciudad Juárez, Cd. Juárez, Chihuahua, Mexico; 2. Centro de Investigación en Materiales Avanzados, Chihuahua, Chihuahua, Mexico*

ET-14. Magneto-optic spatial light modulators with nano-scaled magnetic pixels for holographic three-dimensional display. *Y. Takeru*[1], E. Yu[1], N. Kazuki[1], T. Hiroyuki[1], A.V. Baryshev[1] and I. Mitsuteru[1] *1. engineering, Toyohashi University of Technology, Toyohashi, Japan*

WEDNESDAY MORNING 8:00 SAGUARO BALLROOM

Session EU
MULTIFERROIC MATERIALS II (Poster Session)

William Ratcliff, Chair

EU-01. Size-dependent magnetic properties of $YCrO_3$ nanoparticles. *C. Lin*[1], B. Lin[1], M. Chen[2], G. Chen[1], G. Jhang[1] and C. Wu[1] *1. Institute of Nanotechnology and Department of Mechanical Engineering, Southern Taiwan University, Tainan, Taiwan; 2. Department of Electro-optical Engineering, Southern Taiwan University, Tainan, Taiwan*

EU-02. Short-Range Coupling between Electric and Magnetic Clusters of Ho0.8La0.2Mn2O5 Multiferroics.C.P. Wu[1], *H. Chou*[1], S.R. Yah[1] and Y.H. Chen[1]*1. Physics, Natl Sun Yat-Sen University, Kaohsiung, Taiwan*

EU-03. Multiferroic heterostructure consisting of PZT thin films grown on amorphous ferromagnetic metallic glass substrates. *B. Hu*[1], Y. Chen[1], A. Yang[1], S. Gillette[1], T. Fitchorov[1], A. Geiler[1], A. Daigle[1], Z. Wang[2], D. Viehland[2], C. Vittoria[1] and V. Harris[1]*1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Materials Science and Engineering, Virginia Tech, Blacksburg, VA*

EU-04. Magnetic properties and ferroelectric domain dynamics in multiferroic $YMnO_3$ single crystals and films. *X. Wang*[1], Y. Du[1], D. Chen[1], Z. Cheng[1] and S. Dou[1]*1. Institute for Superconducting and Electronic Materials (ISEM), University of Wollongong, North Wollongong, NSW, Australia*

EU-05. Evolution of the Magnetic Phase Diagram of Multiferroic $MnWO_4$ at High Magnetic Fields.I. Urcelay-Olabarria[1], V. Skumryev[2], E. Ressouche[1], *J.L. García-Muñoz*[3], A.M. Balbashov[4], V.Y. Ivanov[5] and A.A. Mukhin[5]*1. Institut Laue Langevin, 38042 Grenoble, Cedex 9, France; 2. Institut Català de Recerca i Estudis Avançats (ICREA), E-08193 Bellaterra, Spain; 3. Instituto de Ciencia de Materiales de Barcelona, CSIC, E-08193 Bellaterra, Spain; 4. Moscow Power Engineering Institute, 105835 Moscow, Russian Federation; 5. Prokhorov General Physics Institute of the Russian Acad. Sci., 119991 Moscow, Russian Federation*

EU-06. Low-Temperature Heat Transport in the Quasi-Two-Dimensional Multiferroic CuFeO_2. *X. Wang*[1], C. Fan[1], Z. Zhao[1], W. Ke[1], X. Liu[1] and X. Sun[1]*1. Hefei National Laboratory for Physical Sciences at Microscale, University of Science and Technology of China, Hefei, Anhui, China*

EU-07. A novel multiglass state in multiferroic YbFe2O4. *Y. Sun*[1], Y. Liu[1], F. Ye[2], S. Chi[2], Y. Ren[3], T. Zou[1], F. Wang[1] and L. Yan[1]*1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, TN; 3. X-ray Science Division, Argonne National Laboratory, Argonne, IL*

EU-08. Multiferroic response of nanocrystalline Lithium Niobate.C. Diaz-Moreno[1], *R. Farias*[1], A. Hurtado-Macias[2], J. Elizalde-Galindo[1] and J. Hernandez-Paz[1]*1. Physics and Mathematics, Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Chihuahua, Mexico; 2. Nanostructured Materials, Advanced Materials Research Center, Chihuahua, Chihuahua, Mexico*

EU-09. Density functional modeling for a perovskite $SrTi_{1-x}M_xO_3$ system with M = Fe, Co and x = 0.0-0.5. *J. Florez*[1,2], S. Ong[1], G. Ceder[1], G. Dionne[1,3] and C. Ross[2]*1. Materials Science and Engineering Department, Massachusetts Institute of Technology, Cambridge, MA; 2. Departamento de Física, Universidad Técnica Federico Santa María, Valparaíso, Valparaíso, Chile; 3. Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA*

EU-10. Study of the low-temperature properties of multiferroic $YbMn_{1-x}Ga_xO_3$ single crystals.N. Abramov[1], V. Chichkov[1], *S.E. Lofland*[2] and Y. Mukovskii[1]*1. National Research and Technological University, Moscow, Russian Federation; 2. Rowan University, Glassboro, NJ*

EU-11. Magnetic and dielectric properties of layered perovskite $Gd_2Ti_2O_7$ thin film epitaxially stabilized on a perovskite single crystal.T. Ukita[1], *Y. Hirose*[1,2], S. Ohno[1], K. Hatabayashi[1], T. Fukumura[1] and T. Hasegawa[1,2]*1. Department of Chemistry, The university of Tokyo, Tokyo, Tokyo, Japan; 2. Transparent Functional Materials group, Kanagawa Academy of Science and Technology (KAST), Kawasaki, Kanagawa, Japan*

EU-12. Withdrawn

EU-13. Multiferroic properties in Heusler/perovskite layered structures.K. Kobayashi[1], *T. Miyawaki*[1], K. Ueda[1] and H. Asano[1]*1. Graduate School of Engineering, Nagoya University, Nagoya, Japan*

EU-14. Novel Low Magnetization NiCr RF Magnetic Films for Multiferroic Heterostructures with Strong Magnetoelectric Coupling. *Z. Zhou*[1], S. Beguhn[1], M. Liu[1], S. Li[1,2], S. Rand[1], J. Lou[1], X. Yang[1] and N. Sun[1]*1. ECE department, Northeastern University, Boston, MA; 2. Physics department, Fujian University, Fuzhou, Fujian, China*

EU-15. Structure and Magnetoelectronic Properties of Small $Nd_{0.6}Ca_{0.4}MnO_3$ Nanocrystals. *L.A. Pozhar*[1] and K. Khan[1]*1. Department of Physics, University of Idaho, Moscow, ID*

WEDNESDAY MORNING 8:00

SAGUARO BALLROOM

Session EV
METAL SPINTRONICS: SEEBECK, PUMPING AND SPIN VALVES (Poster Session)

Dan Park, Chair

EV-01. Magnetization Precession Cone Angles in Permalloy Rectangles for Spin Pumping Experiments. *N.F. Kuhlmann*[1], A. Vogel[1] and G. Meier[1] *1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany*

EV-02. Material dependence of the spin pumping in metallic bilayer films. *T. Yoshino*[1], K. Ando[1], K. Harii[1], H. Nakayama[1], Y. Kajiwara[1] and E. Saitoh[1,2] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. The Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan*

EV-03. Unidirectional anisotropy in the spin pumping voltage in YIG/Pt bilayers. *L.H. Vilela-Leão*[1], C. Salvador[1], A. Azevedo[1] and S.M. Rezende[1] *1. Departamento de Física, UFPE, Recife, Pernambuco, Brazil*

EV-04. Spin Seebeck Effect in Permalloy grown on Gold. *P.B. Jayathilaka*[1], H.F. Kirby[1], D.D. Belyea[1] and C.W. Miller[1] *1. Physics, University of South Florida, Tampa, FL*

EV-05. Spin Seebeck Effect in $Gd_3Ga_5O_{12}/Y_3Fe_5O_{12}$/Pt structures. *S. Kim*[1,2], S. Park[2], B. Min[3], Y. Jo[2], K. Lee[1] and K. Shin[3] *1. Korea University, Seoul, Korea, Republic of; 2. Korea Basic Science Institute, Daejon, Korea, Republic of; 3. Korea Institute of Science and Technology, Seoul, Korea, Republic of*

EV-06. Spin current injection by spin Seebeck and spin pumping effects in YIG/Pt structures. *A. Azevedo*[1], G.L. da Silva[1], L.H. Vilela-Leã o[1] and S.M. Rezende[1] *1. Departamento de Fisica, UFPE, Recife, PE, Brazil*

EV-07. Barrier thickness dependence of the Magneto Seebeck effect in magnetic tunnel junctions: Ab initio studies. M. Czerner[1] and *C. Heiliger*[1] *1. I. Physikalisches Institut, Justus Liebig University, Giessen, Germany*

EV-08. Thermal spin injection in metallic non-local spin valves. *F. Casanova*[1,2], A. Sharoni[3], M. Erekhinsky[4] and I.K. Schuller[4] *1. CIC nanoGUNE, Donostia-San Sebastian, Basque Country, Spain; 2. IKERBASQUE (Basque foundation for science), Bilbao, Basque Country, Spain; 3. Physics, Bar Ilan University, Ramat Gan, Israel; 4. Physics, University of California, San Diego, La Jolla, CA*

EV-09. Effects of interface spin-orbit coupling on electrical control of magnetization. *L. Xu*[1] and S. Zhang[1] *1. University of Arizona, Tucson, AZ*

EV-10. Detection of a loop current created by a pure spin current. *T. Nomura*[1], S. Nonoguchi[1], Y. Ando[1] and T. Kimura[1,2] *1. INAMORI FRC, Kyushu University, Fukuoka, Japan; 2. CREST, Tokyo, Japan*

EV-11. Generation of giant spin current using multi-terminal nonlocal spin injections. *S. Nonoguchi*[1], T. Nomura[1], Y. Ando[1] and T. Kimura[1,2] *1. INAMORI FRC, Kyushu University, Fukuoka, Japan; 2. CREST, Japan Science and Technology Agency, Tokyo, Japan*

EV-12. Thermal Effect of Direct Current on Microstructured Current-in-plane Spin Valves. *C. Kuo*[1], C. Chao[1], L. Horng[1], M. Tsunoda[2], M. Takahashi[2] and J. Wu[1] *1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

EV-13. Observation and effect of magnetic domains in lateral spin valves. J. Mennig[1], F. Matthes[1], D.E. Bü rgler[1] and *C.M. Schneider*[1] *1. Peter Grünberg Institute (PGI-6), Forschungszentrum Jülich GmbH, Jülich, Germany*

EV-14. Point Contact Andreev Reflection from Erbium - the role of external magnetic field and the sign of the spin polarisation. *P.S. Stamenov*[1] *1. School of Physics and CRANN, Trinity College, Dublin 2, Ireland*

EV-15. Theoretical study of point-contact Andreev reflection spectroscopy for ferromagnetic-metal / multi-band superconductor junctions. *H. Ohtori*[1,2] and H. Imamura[2] *1. Institute of Applied Physics, Univ. of Tsukuba, Tsukuba, Japan; 2. NRI, AIST, Tsukuba, Japan*

WEDNESDAY MORNING 8:00 SAGUARO BALLROOM

Session EW
SEMICONDUCTOR SPIN TRANSPORT: KONDO AND SPIN-ORBIT (Poster Session)

M. Shiraishi, Chair

EW-01. The effect of transverse magnetic anisotropy on spin-polarized transport through nanomagnetic systems in the Kondo regime. *M. Misiorny*[1], I. Weymann[1] and J. Barnas[1,2] *1. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 2. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

EW-02. Spin-bias modulated Kondo effect in an interacting quantum dot. *Y. Li*[1,2], M. Jalil[1,3] and S.G. Tan[3] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Physics, Hangzhou Dianzi University, Hangzhou, China; 3. Data Storage Institute, Singapore, Singapore*

EW-03. Robust spin current in the time-dependent Rashba system.C. Ho[1,2], *M. Jalil*[1] and S. Tan[2] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Agency for Science, Technology and Research (A*STAR), Singapore, Singapore*

EW-04. Spin-Bias Induced Field Effect Transistor Utilizing Rashba Spin Orbit Coupling. *M. Ma*[1] and M. Jalil[1,2] *1. Electrical and Computer Engineering Department, Computational Nanoelectronics & Nanodevices Laboratory, National University of Singapore, Singapore, Singapore; 2. Electrical and Computer Engineering Department, Information Storage Materials Laboratory, National University of Singapore, Singapore, Singapore*

EW-05. Tunable Energy Bands and Spin Filtering in Two-dimensional Superlattices with Spin-orbit Interaction. *R. Zhang*[1], D. Qi[1], J. Li[1], Q. Hu[1], R. Peng[1], R. Huang[1] and M. Wang[1] *1. National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, China*

EW-06. Spin stability and magnetic screening of a magnetic impurity in four-terminal Landauer setup with Rashba spin-orbit coupling. *Y. Su*[1], C. Chen[1] and C. Chang[1,2] *1. Department of Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Quantum Science and Engineering, National Taiwan University, Taipei, Taiwan*

EW-07. Observation of gate-controlled spin-orbit interaction using ferromagnetic detector. *Y. Park*[1,2], H. Jang[1], H. Koo[1], H. Kim[1], J. Chang[1], S. Han[1] and H. Choi[2] *1. Korea Institute of Science and Technology, Seoul, Korea, Republic of; 2. Yonsei University, Seoul, Korea, Republic of*

EW-08. Diffusive spin dynamics and torque in a ferromagnetic two-dimensional electron gas. *X. Wang*[1] and A. Manchon[1] *1. KAUST, Thuwal, Saudi Arabia*

EW-09. Evolution of the anomalous conductance plateau in an asymmetrically biased InAs/In0.52Al0.48As quantum point contact in the presence of lateral spin-orbit coupling. *P. Das*[1], K.B. Chetry[2], N. Bhandari[1], J. Wan[1], M. Cahay[1], R.S. Newrock[2] and S.T. Herbert[3] *1. School of Electronics and Computing Systems, University of Cincinnati, Cincinnati, OH; 2. Physics Department, University of Cincinnati, Cincinnati, OH; 3. Department of Physics, Xavier University, Cincinnati, OH*

EW-10. Spin-current switch based on vertical asymmetric double quantum dots containing single manganese. *Q. Fanyao*[1,2], L. Villegas-Lelovsky[3], M.R. Guassi[1], V. Lopez-Richard[4] and G.E. Marques[4] *1. Institute of Physics, University of Brasilia, Brasília, Federal District, Brazil; 2. International Center for Condensed Matter Physics, University of Brasilia, Brasilia, Federal District, Brazil; 3. Institute of Physics, Federal University of Uberlandia, Uberlandia, Minas Gerais, Brazil; 4. Department of Physics, Federal University of Sao Carlos, Sao Carlos, Sao Paulo, Brazil*

EW-11. Charge Carrier-Mediated Ferromagnetism in FeSb2-xSnxSe4. *H. Djieutedjeu*[1], N. Takas[1], J. Makongo[1], X. Zhou[2], P. Poudeu Poudeu[1] and C. Uher[2] *1. Chemistry/AMRI, University of New Orleans, New Orleans, LA; 2. Physics, University of Michigan Ann Arbor, Ann Arbor, MI*

WEDNESDAY AFTERNOON 1:30 GRAND CANYON 6

Session FA
SYMPOSIUM ON ADVANCES IN BIOMEDICAL IMAGING

Kannan Krishnan, Co-Chair
John Moreland, Co-Chair

1:30

FA-01. Magnetic Particle Imaging: Fundamentals, Current Status and Tracers. ***(Invited)*** *B. Gleich*[1] *1. Philips Technologie GmbH Innovative Technologies, Research Laboratories, Hamburg, Germany*

2:06

FA-02. Hardware and Image Reconstruction Methods for X-space MPI. ***(Invited)*** *S. Conolly*[1,2] and P.W. Goodwill[1] *1. Bioengineering, UC Berkeley, Berkeley, CA; 2. Electrical Engineering and Computer Sciences, UC Berkeley, Berkeley, CA*

2:42

FA-03. Tracer Design and Optimization for MPI. ***(Invited)*** *R. Ferguson*[1], A.P. Khandhar[1], P.W. Goodwill[2], L.R. Croft[2], S.M. Conolly[2] and K.M. Krishnan[1] *1. Materials Science & Engineering, University of Washington, Seattle, WA; 2. Bioengineering, University of California, Berkeley, Berkeley, CA*

3:18

FA-04. Magnetic Particle Imaging, Reconstruction and Particle Dynamics. ***(Invited)*** *J. Weizenecker*[1] *1. Karlsruhe University of Applied Sciences, Karlsruhe, Germany*

3:54

FA-05. The Use of Magnetic Nanoparticles in Thermal Therapy Monitoring and Screening. ***(Invited)*** *J. Weaver*[1] *1. Radiology, Dartmouth Medical School, Hanover, NH*

WEDNESDAY AFTERNOON 1:30

GRAND CANYON 7

Session FB
SPINTRONICS: SEEBECK, PUMPING, HALL AND SPIN-VALVE

Yi Ji, Chair

1:30

FB-01. Thermal spin current from a ferromagnet to silicon by Seebeck spin tunneling. ***(Invited)*** *R. Jansen*[1] *1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

2:06

FB-02. Measuring the Spin Seebeck Effect Using Micromachined Thermal Platforms. *A.D. Avery*[1], R. Sultan[1], D. Bassett[1], M.R. Pufall[2] and B.L. Zink[1] *1. Physics, University of Denver, Denver, CO; 2. NIST, Boulder, CO*

2:18

FB-03. Large spin-dependent Seebeck coefficient and tunneling magneto thermo power of CoFeB/MgO/CoFeB magnetic tunnel junctions.N. Liebing[1], *S. Serrano Guisan*[1], K. Rott[2], G. Reiss[2], J. Langer[3], B. Ocker[3] and H. Schumacher[1] *1. Physikalisch-Technischen Bundesanstalt, Brausnchweig, Germany; 2. Department of Physics, University of Bielefeld, Bielefeld, Germany; 3. Singulus AG, Kahl am Main, Germany*

2:30

FB-04. Ab initio calculations of spin caloritronics in magnetic tunnel junctions.M. Czerner[1], M. Bachmann[1] and *C. Heiliger*[1] *1. I. Physikalisches Institut, Justus Liebig University, Giessen, Germany*

2:42

FB-05. Spin pumping efficiency at magnetic insulator (YIG)/Au interfaces. *C. Burrowes*[1], B. Heinrich[1], B. Kardasz[1], E. Montoya[1], E. Girt[1], Y. Song[2], Y. Sun[2] and M. Wu[2] *1. Physics Department, Simon Fraser University, Burnaby, BC, Canada; 2. Department of Physics, Colorado State University, Fort Collins, CO*

2:54

FB-06. Scaling behavior of the spin pumping effect in ferromagnet/platinum bilayers.F.D. Czeschka[1], L. Dreher[2], M.S. Brandt[2], M. Althammer[1], I. Imort[3], G. Reiss[3], A. Thomas[3], W. Schoch[4], H. Huebl[1], R. Gross[1] and *S.T. Goennenwein*[1] *1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. Walter Schottky Institut, Technische Universität München, Garching, Germany; 3. Fakultät für Physik, Universität Bielefeld, Bielefeld, Germany; 4. Institut für Quantenmaterie, Universität Ulm, Ulm, Germany*

3:06

FB-07. Spin transport in Au films: an investigation by spin pumping. *E.A. Montoya*[1], B. Kardasz[1], G. Woltersdorf[2], W. Huttema[1], C. Burrowes[1], E. Girt[1] and B. Heinrich[1] *1. Department of Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Department of Physics, Universität Regensburg, Regensburg, Germany*

3:18

FB-08. Magnetic monopole in spin pumping systems. *A. Takeuchi*[1] and G. Tatara[1] *1. Department of Physics, Tokyo Metropolitan University, Hachioji, Tokyo, Japan*

3:30

FB-09. Control of magnetic noise by spin current generated by the spin Hall effect. *S. Urazhdin*[1], V.E. Demidov[2], E.R. Edwards[2], S.O. Demokritov[2], M.D. Stiles[3] and R.D. McMichael[3] *1. Physics, Emory University, Atlanta, GA; 2. Institute for Applied Physics and Center for Nonlinear Science, University of Muenster, Muenster, Germany; 3. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD*

3:42

FB-10. Extrinsic Spin Hall Effects in Cu-based Alloys. *Y. Niimi*[1], Y. Kawanishi[1], D. Wei[1], C. Deranlot[2], A. Fert[2] and Y. Otani[1,3] *1. ISSP, University of Tokyo, Chiba, Japan; 2. CNRS-Thales, Palaiseau, France; 3. RIKEN-ASI, Saitama, Japan*

3:54

FB-11. Large Gilbert damping modification by pure spin current in a non local spin valve. *J. Adam*[1], A. Slachter[1], F.L. Bakker[1], J. Flipse[1], F.K. Dejene[1] and B.J. van Wees[1] *1. Physics of nanodevices, University of Gronignen, Groningen, Netherlands*

4:06

FB-12. Enhanced spin accumulation in multiterminal lateral spin valves. *H. Idzuchi*[1,2], Y. Fukuma[2] and Y. Otani[1,2] *1. ISSP, Univ. of Tokyo, Kasiwa, Japan; 2. ASI, RIKEN, Wako, Japan*

4:18

FB-13. Large regular and inverted spin signals in break-junction-based nonlocal spin valves. *S. Chen*[1], H. Zou[1], S. Chui[1] and Y. Ji[1] *1. Dept. of Physics, University of Delaware, Newark, DE*

WEDNESDAY AFTERNOON 1:30

GRAND CANYON 8

Session FC
SPINTRONICS EFFECTS
Andrii Chumak, Chair

1:30

FC-01. Direct Detection of Magnon Spin Transport by the Inverse Spin Hall Effect. *A.V. Chumak*[1], B.M. Jungfleisch[1], A.A. Serga[1], R. Neb[1] and B. Hillebrands[1] *1. Fachbereich Physik and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany*

1:42

FC-02. Angular dependence of CPP magnetoresistance. *T. Qu*[1] and R.H. Victora[2] *1. Physics, University of Minnesota, Minneapolis, MN; 2. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

1:54

FC-03. An enhancement of magnetoresistance by ultrathin Zn wustite layer. *Y. Fuji*[1], M. Hara[1], H. Yuasa[1], S. Murakami[1] and H. Fukuzawa[1] *1. Toshiba Corporation, Kawasaki, Kanagawa, Japan*

2:06

FC-04. Inverse interface Cr magnetization at the CrO2/RuO2 interface: The origin for unexpected small GMR effects. K. Zafar[1], P. Audehm[1], G. Schuetz[1], *E.J. Goering*[1], M. Pathak[2], K.B. Chetry[2], P.R. LeClair[2] and A. Gupta[2] *1. Schuetz, Max-Planck-Institute for Intelligent Systems, Stuttgart, BW, Germany; 2. Mint Center, University of Alabama, Tuscaloosa, AL*

2:18

FC-05. The Rashba effect in Co/Pd multilayer nanowires. *. Narayanapillai*[1], M. Jamali[1] and H. Yang[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

2:30

FC-06. Anomalous Hall effect in perpendicularly CoFeB/Pt multilayers. *T. Zhu*[1] and T. Zuo[1] *1. State Key Lab for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*

2:42

FC-07. Interface characterization of all-Heusler CPP-GMR multilayer structures. *R. Knut*[1], O. Mryasov[2], P. Warnicke[3], P. Svedlindh[4], S. Granroth[5], D. Arena[3], M. Björk[1], R. Bejhed[4] and O. Karis[1] *1. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 2. MINT Center and Department of Physica, University of Alabama, Tuscaloosa, AL; 3. NSLS, Brookhaven National Lab, Upton, NY; 4. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden; 5. Department of Physics and Astronomy, Turku University, Turku, Finland*

2:54

FC-08. Linear Magnetoresistance Effects in CVD Grown Graphene Devices. *A.L. Friedman*[1], J.T. Robinson[2], K. Perkins[2], J.C. Culbertson[2] and P.M. Campbell[2] *1. Materials Science and Technology, US Naval Research Lab, Washington, DC; 2. Electronics Science and Technology, US Naval Research Lab, Washington, DC*

3:06

FC-09. Simultaneous study of magnetization reversal and magnetoresistive properties in spin-valve structures. *P. Perna*[1], C. Rodrigo[1,2], M. Muñoz[3,4], J.L. Prieto[4], A. Bollero[1], J.F. Cuñado[1,2], M. Romera[4], J. Akerman[4], E. Jimenez[1,2], N. Mikuszeit[1,2], V. Cros[5], J. Camarero[1,2] and R. Miranda[1,2] *1. IMDEA Nanociencia, Madrid, Madrid, Spain; 2. Departamento de Fisica de la Materia Condensada, Universitad Autonoma de Madrid, Madrid, Spain; 3. Instituto de Fisica Aplicada, CSIC, Madrid, Spain; 4. ISOM, Universidad Politecnica de Madrid, Madrid, Spain; 5. Unite Mixte de Physique CNRS/Thales, Palaiseau, France*

3:18

FC-10. Demonstration of Spin Transfer Torque Programmable Magneto Resistance based Magnetic Quantum Cellular Automata logic. *A. Lyle*[1], J. Harms[1], A. Klemm[1], A. Letsch[1], D. Martens[1] and J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN*

3:30

FC-11. Impact of field-induced exchange anisotropy on the magnetoimpedance effect in FeMn/Metglas ribbons bilayer structures. *N.J. Laurita*[1], A. Chatervedi[1], P. Jayathilaka[1], M.H. Phan[1], H.S. Srikanth[1] and C.W. Miller[1] *1. Physics, University of South Florida, Tampa, FL*

3:42

FC-12. Electrical and magnetic characterisation of thin film ε-$Fe_{1-x}Co_xSi$ grown by molecular beam epitaxy. *N.A. Porter*[1] and C.H. Marrows[1] *1. Condensed Matter, University of Leeds, Leeds, West Yorkshire, United Kingdom*

3:54

FC-13. Spatially Resolved Remote Sensing of Giant Magnetoresistance Using an Infra-Red Microscope. *C.S. Kelley*[1], S.M. Thompson[1], P. Dumas[2] and S. LeFrancois[2] *1. Department of Physics, University of York, York, United Kingdom; 2. SMIS Beamline, SOLEIL Synchrotron, Paris, France*

4:06

FC-14. Extrinsic anomalous Hall effect in paramagnetic nickel-copper alloy thin films. Y. Li[1], D. Hou[1] and *X. Jin*[1] *1. Surface physics laboratory and Physics department, Fudan University, Shanghai, China*

4:18

FC-15. Ultra-sensitive measurement of magnetisation dependent chemical potential in ferromagnetic materials. *C. Ciccarelli*[1], A. Irvine[1], J. Wunderlich[2], R. Campion[3], B. Gallagher[3] and A. Ferguson[1] *1. University of Cambridge, Cambridge, United Kingdom; 2. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 3. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom*

WEDNESDAY AFTERNOON 1:30

GRAND CANYON 9-11

Session FD
MAGNETIC DYNAMICS II
Tim Mewes, Chair

1:30

FD-01. Damping and Demagnetisation in Rare Earth Doped Permalloy. M. Ellis[1], *T.A. Ostler*[1] and R.W. Chantrell[1] *1. Physics, University of York, York, North Yorkshire, United Kingdom*

1:42

FD-02. Two-Soliton State in a Parametrically Driven Magnetic Wire. D. Laroze[1,2], M.G. Clerc[3], S. Coulibaly[4], D. Urzagasti[2] and *H. Pleiner*[1] *1. Max Planck Institute for Polymer Research, Mainz, Germany; 2. Instituto de Alta Investigacion, Universidad de Tarapaca, Arica, Chile; 3. Departamento de Fisica, FCFM, Universidad de Chile, Santiago de Chile, Chile; 4. Laboratoire de Physique des Lasers, Atomes et Molecules, Universite des Sciences et Technologies de Lille, Villeneuve d'Ascq, France*

1:54

FD-03. Dynamic response of one-dimensional magnonic crystals consisting of alternating width nanowires. *J. Ding*[1], M.P. Kostylev[2] and A.O. Adeyeye[1] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. School of Physics, University of Western Australia, Crawley, WA, Australia*

2:06

FD-04. Static and Dynamic Behavior of Binary Magnonic Crystals. *A. Adekunle*[1,2], J. Ding[1] and M.P. Kostylev[3] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Advanced Materials for Micro- and Nano- Systems, Singapore-MIT Alliance, Singapore, Singapore; 3. School of Physics, University of Western Australia, Crawley, WA, Australia*

2:18

FD-05. Dynamic dipolar coupling of edge modes in a pair of nanoscale ferromagnetic discs. *P.S. Keatley*[1], P. Gangmei[1], M. Dvornik[1], R.J. Hicken[1], J. Grollier[2] and C. Ulysse[3] *1. School of Physics, University of Exeter, Exeter, United Kingdom; 2. Unité Mixte de Physique CNRS/Thales and Université Paris Sud 11, CNRS, Palaiseau, France; 3. Laboratoire de Photonique et de Nanostructures, CNRS PHYNANO team, Marcoussis, France*

2:30

FD-06. Accelerated Langevin simulations for calculating rare switching events using Forward Flux Sampling. *C. Vogler*[1], F. Bruckner[1], B. Bergmair[1], T. Huber[1], J. Fidler[1] and D. Suess[1] *1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria*

2:42

FD-07. Band-Structure-Dependent Demagnetization in the Heusler Alloy $Co_2Mn_{1-x}Fe_xSi$. D. Steil[1], *S. Alebrand*[1], T. Roth[1], M. Krauss[1], T. Kubota[2], M. Oogane[2], Y. Ando[2], H. Schneider[1], M. Aeschlimann[1] and M. Cinchetti[1] *1. Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany; 2. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Japan*

2:54

FD-08. Jump-Noise Process Driven Magnetization Dynamics And Random Switching Of Magnetization. *Z. Liu*[1], A. Lee[1], G. Bertotti[2], C. Serpico[3] and I. Mayergoyz[4] *1. Department of Electrical and Computer Engineering, University of Maryland College Park, College Park, MD; 2. Istituto Nazionale di Ricerca Metrologica (INRiM), Torino, Italy; 3. Dipartimento di Ingegneria Elettrica, Università di Napoli "Federico II", Napoli, Italy; 4. Department of Electrical and Computer Engineering, UMIACS and AppEl Center, University of Maryland College Park, College Park, MD*

3:06

FD-09. Magnetization dynamics of superparamagnetic nanodots: The Magnetic Molecular Dynamics approach. *D. Beaujouan*[1,2], P. Thibaudeau[1] and C. Barreteau[2] *1. DAM, CEA, Monts, France; 2. IRAMIS, CEA, Gif sur Yvette, France*

3:18

FD-10. Charge and spin currents due to spin motive force: Spin diffusion effect. *H. Lee*[1], K. Kim[1], J. Moon[2] and K. Lee[2] *1. Department of Physics, Pohang University of Science and Technology, Pohang, Korea, Republic of; 2. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of*

3:30

FD-11. Linear and nonlinear magnetization dynamics in magnetic nano-dots. ***(Invited)*** *V.E. Demidov*[1] and S.O. Demokritov[1] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany*

4:06

FD-12. Elastically driven ferromagnetic resonance in ferromagnetic/ferroelectric hybrid structures. M. Weiler[1], L. Dreher[2], C. Heeg[1], H. Huebl[1], R. Gross[1], M.S. Brandt[2] and *S.T. Goennenwein*[1] *1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. Walter Schottky Institut, Technische Universität München, Garching, Germany*

4:18

FD-13. Spin motive force in the presence of Rashba spin-orbit coupling. *K. Kim*[1], J. Moon[2], K. Lee[2] and H. Lee[1] *1. Department of Physics, POSTECH, Pohang, Kyungbuk, Korea, Republic of; 2. Department of Material Science and Engineering, Korea University, Seoul, Korea, Republic of*

WEDNESDAY AFTERNOON
1:30

GRAND CANYON 2-3

Session FE
MAGNETOELECTRONIC MATERIALS I
Gerhard Fecher, Chair

1:30

FE-01. $Fe/BaTiO_3$ interface: band alignment and chemical properties. A.V. Zenkevich[1], *R. Mantovan*[2], M. Fanciulli[2,3], M.N. Minnekaev[1], Y.A. Matveyev[1], Y.Y. Lebedinskii[1], S. Thiess[4] and W. Drube[4] *1. NRNU, Moscow Engineering Physics Institute, Moscow, Russian Federation; 2. CNR-IMM MDM Laboratory, Agrate Brianza (MB), Italy; 3. Dipartimento di Scienza dei Materiali, Università di Milano Bicocca, Milano, Italy; 4. Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany*

1:42

FE-02. Direct and Converse Magnetoelectric Coupling Coefficients in Multiferroics: Are They Equal to Each Other? *J. Lou*[1], G.N. Pellegrini[1], L. Ming[2] and N. Sun[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL*

1:54

FE-03. Planar Magnetization Control in Patterned Single Domain Nanostructures. *J.L. Hockel*[1], T. Wu[1], A. Bur[1], K. Wetzlar[1], C. Hsu[1] and G.P. Carman[1] *1. Mechanical and Aerospace Engineering, UCLA, Los Angeles, CA*

2:06

FE-04. 90 degree-coupling and high blocking temperature in $Co_{0.9}Fe_{0.1}$/Cr-NOL interface. *N. Shimomura*[1], K. Sawada[1,2], T. Nozaki[1], M. Doi[3] and M. Sahashi[1] *1. Tohoku University, Sendai, Japan; 2. Toshiba Corporation, Kawasaki, Japan; 3. Tohoku Gakuin University, Tagajo, Japan*

2:18

FE-05. Influence of Cr_2O_3-AFM layer deposition conditions for the AFM/FM interface. *T. Ashida*[1], N. Shimomura[1], M. Belmoubarik[1], T. Nozaki[1] and M. Sahashi[1] *1. Electronic Engineering, Tohoku University, Sendaishi, Miyagiken, Japan*

2:30

FE-06. Electric field control of magnetization reversal induced by charge accumulation in nanostructures with perpendicular anisotropy. *W. Lin*[1], N. Vernier[1], G. Agnus[1] and D. Ravelosona[1] *1. Institut d'Electronique Fondamentale, Université Paris-Sud, Orsay, France*

2:42

FE-07. Strain effect induced by a piezoelectric substrate on the magnetization of an amorphous Terbium-Cobalt magnetostrictive film. *C. Meyer*[1], N. Chaban[2] and S. Pignard[2] *1. Institut Néel, CNRS-Université Joseph Fourier, Grenoble, France; 2. LMGP, CNRS-Grenoble Institute of Technology, Grenoble, France*

2:54

FE-08. The properties of magnetoelectric transport in La1.2Ca1.8Mn2O7 ceramics. *S. Chen*[1], C. Yang[1], K. Bä rner[2] and I. Medvedeva[3] *1. Faculty of Physics and Electronic Technology, Hubei University, Wuhan, China; 2. Department of Physics, University of Göttingen, Göttingen, Germany; 3. Institute of Metal Physics, Ural Division of the Russian Academy of Sciences, Ekaterinburg, Russian Federation*

3:06

FE-09. Enhanced magnetoelectric effect of multilayered ceramic composites of ferroelectric and ferrimagnetic Phases. *J. Nam*[1], J. Kim[1], D. Patil[2], K. Kim[2], J. Cho[1] and B. Kim[1] *1. Center for Electronic Component Research, Korea Institute of Ceramic Engineering and Technology, Seoul, Korea, Republic of; 2. Department of Physics and Astronomy, Seoul National University, Seoul, Korea, Republic of*

3:18

FE-10. Enhanced magnetoelectric effect in composite of FeGa alloy, piezoelectric ceramic and FeCuNbSiB ribbon.C. Lu[1,2], *P. Li*[1,2] and Y. Wen[1,2] *1. The Key Laboratory for Optoelectronic Technology & Systems, Ministry of Education, Chongqing, China; 2. College of Optoelectronic Engineering,Chongqing University, Chongqing, China*

3:30

FE-11. A magnetostrictive/piezoelectric cylinderical composite transducer for electromagnetic field energy scavenging around AC current wire.J. Zhang[1,2], *P. Li*[1,2], Y. Wen[1,2], A. Yang[1,2] and W. He[1,2] *1. The Key Laboratory for Optoelectronic Technology & Systems, Ministry of Education, Chongqing, China; 2. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

3:42

FE-12. Epitaxial Fe/MgO/Fe tunnelling junctions on BaTiO3(001). *G. Radaelli*[1], S. Brivio[1], C. Rinaldi[1] and R. Bertacco[1] *1. LNESS Centre - Polo regionale di Como - Politecnico di Milano, Como, Italy*

3:54

FE-13. Converse magneto-electric effect dependence with CoFeB composition in ferromagnetic/piezoelectric composites. *G. Lebedev*[1,2], B. Viala[2], T. Lafont[1], D. Zakharov[1,2], O. Cugat[1] and J. Delamare[1] *1. G2Elab, Grenoble Electrical Engineering Lab, CNRS-UJF-INPG, St Martin d'Hères, France; 2. CEA, LETI, MINATEC Campus, Grenoble, France*

4:06

FE-14. Shifting the Operating Frequency and the Resonant Frequency of Magnetoelectric Sensors. *A. Edelstein*[1], J. Petrie[1], D. Viehland[2], D. Gray[2], S. Mandal[3], G. Sreenivasulu[3] and G. Srinivasan[3] *1. US Army Research Laboratory, Adelphi, MD; 2. Tech University Virginia, Blacksburg, VA; 3. Oakland University, Rochester, MI*

4:18

FE-15. Fabrication of Bottom Free Magnetic Tunnel Junctions for High Sensitive Magnetic Field Sensor Devices. *K. Fujiwara*[1], M. Oogane[1], S. Yokota[1], T. Nishikawa[2], H. Naganuma[1] and Y. Ando[1] *1. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. LC Business Department, Konicaminolta Opto,Inc., Tokyo, Japan*

WEDNESDAY AFTERNOON 1:30

GRAND CANYON 4-5

Session FF
NANOPARTICLE SYNTHESIS II

Chris Binns, Chair

1:30

FF-01. Chaining of Iron Oxide Nanoparticles in Structural Silk Elastin-Like Polymer. *J. Shih*[1], W. Chiou[1], A. Cresce[1], R. Briber[1], C. Dennis[2], J. Borchers[2], A. Jackson[2], C. Gruettner[3] and J. Cappello[4] *1. University of Maryland, College Park, MD; 2. National Institute of Standards and Technology, Gaithersburg, MD; 3. Micromod Partikeltechnologie, Rostock-Warnemuende, Germany; 4. Protein Polymer Technologies, Inc, La Jolla, CA*

1:42

FF-02. Structural and magnetic properties of planar nanowire arrays of Co grown on oxidized vicinal silicon (111) templates. *S.K. Arora*[1], B.J. O'Dowd[1], C. Nistor[2], T. Balashov[2], B. Ballesteros[2], A.L. Rizzini[2], J.J. Kavich[2], S.S. Dhesi[3], P. Gambardella[2,4] and I.V. Shvets[1] *1. Centre for Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Dublin, Ireland; 2. Catalan Institute of Nanotechnology (ICN-CIN2), Barcelona, Spain; 3. Diamond Light Source, Oxfordshire, United Kingdom; 4. ICREA and Universitat Autonoma de Barcelona, Barcelona, Spain*

1:54

FF-03. Direct release of synthetic antiferromagnetic nanoparticles fabricated by defect-free thermal imprinting. *W. Zhang*[1] and K.M. Krishnan[1] *1. Materials Science and Engineering, University of Washington, Seattle, WA*

2:06

FF-04. Direct Synthesis of SmCo Nanoparticles with High Magnetocrystalline Anisotropy. *S. He*[1], Y. Jing[1] and J. Wang[1] *1. The Center for Micromagnetics and Information Technologies, Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

2:18

FF-05. Structure and Magnetic Properties of Co-W Clusters produced by Inert Gas Condensation. *F. Golkar*[1], M.J. Kramer[2], Y. Zhang[2], R.W. McCallum[2], R. Skomski[3,4], D.J. Sellmyer[3,4] and J.E. Shield[1,4] *1. Mechanical and Materials Engineering, Univ Nebraska-Lincoln, Lincoln, NE; 2. Ames Laboratory, Ames, IA; 3. Physics & Astronomy, Univ Nebraska-Lincoln, Lincoln, NE; 4. Nebraska Center for Materials and Nanoscience, Univ Nebraska-Lincoln, Lincoln, NE*

2:30

FF-06. Magnetism of dilute Co(Hf) and Co(Pt) nanoclusters. *B. Balasubramanian*[1], R. Skomski[1], B. Das[1], P. Manchanda[2], X. Li[1], S.R. Valloppilly[1], A. Kashyap[2] and D.J. Sellmyer[1] *1. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. LMN Institute of Information Technology, Jaipur, Rajasthan, India*

2:42

FF-07. Sinter-Free Phase Conversion and Scanning Transmission Electron Microscopy of FePt Nanoparticle Monolayers. *A.C. Johnston-Peck*[1], G. Scarel[2], J. Wang[1], G.N. Parsons[2] and J.B. Tracy[1] *1. Department of Materials Science and Engineering, North Carolina State University, Raleigh, NC; 2. Department of Chemical and Biomolecular Engineering, North Carolina State University, Raleigh, NC*

2:54

FF-08. Self-assembly of Fe nanocluster arrays on templated surfaces. O. Lübben[1], S.A. Krasnikov[1], A.B. Preobrajenski[2], B.E. Murphy[1] and *I.V. Shvets*[1] *1. Physics, Trinity College Dublin, Dublin, Ireland; 2. MAX-Lab, Lund, Sweden*

3:06

FF-09. Initial oxidation induced strain effects in Fe/Fe oxide core-shell nanoparticles. *A. Pratt*[1,2], R. Krög er[2], A. Shah[3], C. Woffinden[2], S.P. Tear[2] and C. Binns[4] *1. York Institute for Materials Research, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom; 3. Department of Materials Science, University of Illinois at Urbana-Champaign, Urbana, IL; 4. Department of Physics and Astronomy, University of Leicester, Leicester, United Kingdom*

3:18

FF-10. Post-synthesis thermal annealings of maghemite nanoparticles embedded in a refractory matrix. *C. Vichery*[1], I. Maurin[1], J. Boilot[1] and T. Gacoin[1] *1. Physique de la Matière Condensée, CNRS/Ecole Polytechnique, Palaiseau, France*

3:30

FF-11. Carbon-Encapsulated Magnetic Ni, Co and Fe Nanoparticles inserted into an activated porous carbon matrix. *M. Fernandez Garcia*[1], P. Gorria[2], J. Greneche[3], J. Chaboy[5], A. Fuertes[4] and J. Blanco[2] *1. IFIMUP and Institute of Nanoscience and Nanotechnology, Porto, Portugal; 2. Departamento de Fisica, Universidad de Oviedo, Oviedo, Spain; 3. Physique de letat Condensé UMR CNRS-6087, Université du Maine, Le Mans, France; 4. National Institute of Carbon (CSIC), Oviedo, Spain; 5. Instituto de Ciencia de Materiales de Aragon (ICMA), CSIC-Universidad de Zaragoza, Zaragoza, Spain*

3:42

FF-12. Recovering γ-Fe_2O_3 nanoparticle disordered surface spins with a copper coating. *R.D. Desautels*[1], J.W. Freeland[2], H. Ouyang[3] and J. van Lierop[1] *1. Physics and Astronomy, University of Manitoba, Winnpeg, MB, Canada; 2. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 3. Material Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

WEDNESDAY AFTERNOON 1:30

GRAND CANYON 12-13

Session FG
PATTERNED AND MICROWAVE RECORDING

Hong-Sik Jung, Chair

1:30

FG-01. Magnetization Reversal in Graded Anisotropy Co/Pd Nanodots. *D.A. Gilbert*[1], P.K. Greene[1], C. Lai[2] and K. Liu[1] *1. Physics, University of California, Davis, CA; 2. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

1:42

FG-02. Origin of magnetic switching field distribution in bit patterned media based on pre-patterned substrates. B. Pfau[1,2], C.M. Guenther[1,2], E. Guehrs[1], T. Hauet[3], H. Yang[3], L. Vinh[3], X. Xu[3], D. Yaney[3], R. Rick[4], S. Eisebitt[1,2] and *O. Hellwig*[3] *1. Institut für Optik und Atomare Physik, Technical University Berlin, Berlin, Germany; 2. Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany; 3. San Jose Research Center, Hitachi GST, San Jose, CA; 4. Stanford Synchrotron Radiation Laboratory, SLAC, Menlo Park, CA*

1:54

FG-03. Nucleation and domain-wall depinning regimes in Co/Pd multilayer nanodots. *J.W. Lau*[1], R.C. Boling[2] and X. Liu[1] *1. NIST, Gaithersburg, MD; 2. Harvard University, Cambridge, MA*

2:06

FG-04. Micromagnetic Specifications for Hexagonal Array Bit-patterned Recording at 3.5 Tbits/in^2 *Y. Wang*[1], Y. Dong[1] and R.H. Victora[1] *1. Electrical and Computer Engineering Department, University of Minnesota, Minneapolis, MN*

2:18

FG-05. Composite structures for bit patterned media. *N. Eibagi*[1], J. Kan[1], M. Lubarda[1], M. Pechan[2], V. Lomakin[1] and E.E. Fullerton[1] *1. Center for Magnetic Recording Research, UC San Diego, La Jolla, CA; 2. Department of Physics, Miami University, Oxford, OH*

2:30

FG-06. Effects of lateral straggling of ions on patterned media fabricated by nitrogen ion implantation. *T. Hinoue*[1], K. Ito[1], Y. Hirayama[1] and Y. Hosoe[1] *1. Central Research Laboratory, Hitachi Ltd., Odawara, Japan*

2:42

FG-07. Effect of media deposition angle on bit patterned media performance. *N. Thiyagarajah*[1], H. Duan[2], Y. Chen[3], T. Huang[3], S. Leong[3], J. Yang[2] and V. Ng[1] *1. Department of Electrical and Computer Engineering, National Univ Singapore, Singapore, Singapore; 2. Institute of Materials Research and Engineering, Singapore, Singapore; 3. Data Storage Institue, Singapore, Singapore*

2:54

FG-08. Large-area hard magnetic $L1_0$-FePt nanopatterns by nanoimprint lithography. *T. Bublat*[1] and D. Goll[2] *1. Max-Planck-Institute for Intelligent Systems, Stuttgart, Germany; 2. Aalen University, Materials Research Institute, Aalen, Germany*

3:06

FG-09. Switching behavior of Co/Pt multilayer nanodots under microwave assistance. *S. Okamoto*[1], N. Kikuchi[1], J. Li[1], O. Kitakami[1], T. Shimatsu[2] and H. Aoi[2] *1. IMRAM, Tohoku University, Sendai, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

3:18

FG-10. Demonstration of Microwave Assisted Magnetic Reversal in Perpendicular Media. *C.T. Boone*[1], J.A. Katine[1], E.E. Marinero[1], S. Pisana[1] and B.D. Terris[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

3:30

FG-11. Damping Constant in Perpendicular Recording Media. *L. Lu*[1], M. Kabatek[1], M. Wu[1], M. Mallary[2], G. Bertero[2], K. Srinivasan[2] and R. Acharya[2] *1. Department of Physics, Colorado State University, Fort Collins, CO; 2. Western Digital Technologies, San Jose, CA*

3:42

FG-12. Directed Self Assembly of Gold Nanoparticles for Bit Pattern Media Applications.K. Tan[1], M. Asbahi[1], F. Wang[1], H. Duan[1], N. Thiyagarajah[2], S. Leong[1], *V. Ng*[2] and J.K. Yang[1] *1. Institute of Materials Research and Engineering, Singapore, Singapore; 2. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National Univ Singapore, Singapore, Singapore*

3:54

FG-13. Simplified Two-Dimensional Partial Response Maximum Likelihood Detection Method Using *A Priori* Information for Bit Patterned Media Recording. *G. Kong*[1] and S. Choi[1] *1. Yonsei University, Seoul, Korea, Republic of*

4:06

FG-14. Write Synchronization for Bit-Patterned-Media Recording System. *Y. Lin*[1], K. Chan[1], S. Zhang[1], K. Cai[1] and M. Chua[1] *1. Data Storage Institute, Singapore, Singapore*

4:18

FG-15. Refilling and smoothing of amorphous carbon on patterned media with gas cluster ion beams. *N. Toyoda*[1], K. Naito[1] and I. Yamada[1] *1. Graduate school of engineering, University of Hyogo, Himeji, Hyogo, Japan*

WEDNESDAY AFTERNOON 1:30

GRAND CANYON 1

Session FH
MODELING
Gino Hrkac, Chair

1:30

FH-01. Accurate evaluation of exchange fields in finite element micromagnetic solvers. *R. Chang*[1], S. Li[1], M.V. Lubarda[1], M.A. Escobar[1] and V. Lomakin[1] *1. Center for Magnetic Recording Research, Department of Electrical and Computer Engineering, University of California, San Diego, La Jolla, CA*

1:42

FH-02. Ultra high-performance micromagnetics: Fast methods and massive parallelization. *S. Li*[1], R. Chang[1], M.A. Escobar[1], M.V. Lubarda[1] and V. Lomakin[1]*1. CMRR and Dept. of ECE, University of California, San Diego, La Jolla, CA*

1:54

FH-03. TEM studies and micromagnetic simulations of the FePt L10/A1 phase graded media. *B. Dymerska*[1], J. Lee[1], V. Alexandrakis[2], D. Niarchos[2], D. Suess[1] and J. Fidler[1]*1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. IMS, NCSR Demokritos, Athens, Greece*

2:06

FH-04. Micromagnetic simulation studies using Nmag. ***(Invited)*** *H. Fangohr*[1], T. Fischbacher[1], M. Franchin[1], D. Chernyshenko[1], M. Albert[1] and A. Knittel[1]*1. School of Engineering Sciences, University of Southhampton, Southampton, United Kingdom*

2:42

FH-05. Principle calculation of coercivity of magnetic nanostructures at finite temperatures. *D. Suess*[1], T. Schrefl[1], F. Bruckner[1], C. Vogler[1], B. Bergmair[1], T. Huber[1], J. Lee[1] and J. Fidler[1]*1. Institut of Solid State Physics, Vienna, Austria*

2:54

FH-06. Annihilation and switching fields of magnetic vortices in nanodots with out-of-plane uniaxial anisotropy.E.R. Novais[1], S. Allende[2], D. Altbir[2], P. Landeros[3], F. Garcia[4] and *A.P. Guimaraes*[1]*1. CBPF, Rio de Janeiro, RJ, Brazil; 2. Physics Department, USACH, Santiago, Chile; 3. Physics Department, UTFSM, Valparaiso, Chile; 4. LNLS, Campinas, Brazil*

3:06

FH-07. Dynamics of normal modes of dipolar-coupled vortex gyration in two magnetic nanodisks. *K. Lee*[1], H. Jung[1], D. Han[1] and S. Kim[1]*1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul Natl Univ, Seoul, Korea, Republic of*

3:18

FH-08. Spin-Lattice Dynamics Model for Magnon-Phonon Heat Transfer on the Million Atom Scale. *P. Ma*[1] and S.L. Dudarev[1]*1. Culham Centre for Fusion Energy, Oxfordshire, United Kingdom*

3:30

FH-09. Rate-dependent hysteresis losses in magnetic nanoparticle assemblies. *O. Hovorka*[1], F. Burrows[1], R.L. Evans[1] and R.W. Chantrell[1]*1. Department of Physics, York University, York, United Kingdom*

3:42

FH-10. Compact modeling of Perpendicular-Anisotropy CoFeB/MgO Magnetic Tunnel Junction for logic and memory design.W. Zhao[1,2], Y. Zhang[1,2], Y. Lakys[1,2], J. Klein[1,2], J. Kim[1,2], *D. Ravelosona*[1,2] and C. Chappert[1,2]*1. IEF, Univ. Paris-Sud 11, Orsay, France; 2. UMR8622, CNRS, Orsay, France*

3:54

FH-11. Monte Carlo Simulations of Landau-Lifshitz Dynamics Driven by a Jump-Noise Process. *A.W. Lee*[1], Z. Liu[1], C. Serpico[2], G. Bertotti[3] and I.D. Mayergoyz[4]*1. Department of Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Dipartimento di Ingegneria Elettrica, Università di Napoli Federico II, Napoli, Italy; 3. INRiM, Torino, Italy; 4. Department of Electrical and Computer Engineering, UMIACS and AppEl Center, University of Maryland, College Park, MD*

4:06

FH-12. Micromagnetic modeling of particulate tape media with increasing perpendicular orientation ratios.G. Alighieri[1] and *P. Jubert*[1]*1. IBM Research - Almaden, San Jose, CA*

4:18

FH-13. Temperature effect in polycrystalline exchange-biased bilayers : A Monte Carlo study. *M. Adeline*[1], L. Denis[1] and P. Renaud[1]*1. Groupe de Physique des Matériaux UMR CNRS 6634, St Etienne du Rouvray, France*

WEDNESDAY AFTERNOON 1:00 — SAGUARO BALLROOM

Session FP
MAGNETIC TUNNEL JUNCTION III: MgO, OTHER (Poster Session)

JiJun Sun, Chair

FP-01. Almost identical oscillations in tunneling resistances as a function of barrier thickness for parallel and antiparallel configurations in fully epitaxial magnetic tunnel junctions with a MgO barrier. *Y. Honda*[1], S. Hirata[1], H. Liu[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1]*1. Division of Electronics for Informatics, Hokkaido University, Sapporo, 060-0814, Japan*

FP-02. Spin polarized transport in (100) textured Fe/MgO/Fe tunnel junctions. *A. Duluard*[1], B. Negulescu[2], C. Tiusan[1], C. Bellouard[1], M. Hehn[1], Y. Lu[1], G. Lengaigne[1] and D. Lacour[1]*1. Institut Jean Lamour - UMR CNRS 7198, Vandoeuvre-Les-Nancy Cedex, France; 2. LEMA, UMR 6157 CNRS-CEA, Tours, France*

FP-03. RF amplification property in a current-field driven spin transistor. *K. Konishi*[1], D.K. Dixit[2], A. Turapurkar[2], T. Nozaki[3], H. Kubota[3], A. Fukushima[3], S. Yuasa[3] and Y. Suzuki[1] *1. Engineering Science, Osaka University, Osaka, Japan; 2. Indian Institute of Technology, Mumbai, India; 3. Nanospintronics research center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

FP-04. Spin-dependent tunneling spectroscopy in MgO double barrier magnetic tunnel junctions. *G. Yu*[1,3], H. Kurt[2], J. Feng[2], K. Xu[1], J. Coey[2] and X. Han[3] *1. Platform for Characterization and Test, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou 215125, China; 2. CRANN and School of Physics, Trinity College, Dublin 2, Ireland; 3. Beijing National Laboratory for Condensed Matter Physics, Institute of physics, Beijing 100190, China*

FP-05. Magnetoresistance modulated by quantum well states in MgO-based magnetic tunnel junctions with Cu interlayers. *J. Zhang*[1], X. Han[1] and X. Zhang[2] *1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Center for Nanophase Materials Sciences and Computer Science and Mathematics Division,Oak Ridge National Laboratory, Oak Ridge, TN*

FP-06. Magnon excitation and temperature-dependent transport properties in magnetic tunnel junctions with Heusler compound electrodes. *V. Drewello*[1], D. Ebke[1], M. Schä fers[1], G. Reiss[1] and A. Thomas[1] *1. Thin Films and Physics of Nanostructures, Bielefeld University, Bielefeld, Germany*

FP-07. Local magnetism and electron transport properties of magnetic tunnel junctions using non-equilibrium Co_2FeSn Heusler alloy prepared by atomically controlled alternated deposition. *M. Tanaka*[1], Y. Ishikawa[1], Y. Wada[1], S. Hori[1], A. Murata[1], Y. Yamanishi[1], K. Mibu[1], K. Kondou[2], S. Kasai[2] and T. Ono[3] *1. Dept. of Engineering Physics, Electronics and Mechanics, Nagoya Institute of Technology, Nagoya, Aichi, Japan; 2. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Ibaraki, Japan; 3. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan*

FP-08. Tunnel magnetoresistance effect in magnetic tunnel junctions with (110)-oriented epitaxial $Co_2FeAl_{0.5}Si_{0.5}$ Heusler electrodes. *N. Tezuka*[1], L. Jiang[1] and S. Sugimoto[1] *1. Tohoku univ, Sendai, Japan*

FP-09. Temperature-dependent tunneling interlayer exchange coupling in epitaxial (001) NiO|Fe_3O_4 | MgO| Fe_3O_4 exchange biased nano-structures. *H. Wu*[1], O. Mryasov[2] and I. Shvets[1] *1. Physics, Trinity College Dublin, Dublin, Ireland; 2. Department of Physics and Astronomy and MINT Center, The University of Alabama, Tuscaloosa, AL*

FP-10. Effect of oxygen supplied to ferromagnetic layers of magnetic tunnel junction. *S. Joo*[1,2], K. Jung[1,2], D. Kim[1], T. Kim[1], B. Lee[3], K. Rhie[1] and K. Shin[2] *1. Display and Semiconductor Physics, Korea University, Chungnam, Korea, Republic of; 2. Spintronic Device Reseach Center, KIST, Seoul, Korea, Republic of; 3. Physics, Inha University, Incheon, Korea, Republic of*

FP-11. First-principle studies of Interlayer Exchange Coupling in Co|SrTiO3|Co Magnetic Tunnel Junctions.H. Yang[1], *B. Belhadji*[1], J. Velev[2] and M. Chshiev[1] *1. SPINTEC, UMR CEA/CNRS/UJF-Grenoble 1/Grenoble-INP, INAC, Grenoble, France; 2. Dept. of Physics, Institute of Functional Materials, University of Puerto Rico, San Juan*

FP-12. Annealing temperature dependence of structural and magnetic properties of $CoFe_2$/$CoFe_2O_4$ bilayers for spin-filter devices.L. Jiang[1,2], *N. Tezuka*[1], S. Sugimoto[1] and Y. Ando[2] *1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Japan*

FP-13. Towards Room Temperature Spin Filtering in Isostructural Oxide Tunnel Junctions. *J.M. Iwata*[1], F.J. Wong[1], E. Arenholz[2] and Y. Suzuki[1] *1. Materials Science & Engineering, Univ California Berkeley, Berkeley, CA; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA*

FP-14. Spin Transport in Ferromagnet/Semiconductor/Ferromagnet Structures with Cubic Dresselhaus Spin-Orbit-Interaction. *K. Kondo*[1] *1. Laboratory of Quantum Electronics, Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan*

FP-15. Transport properties of (Ge,Mn)Te/GeTe/EuS/GeTe quasimagnetic tunnel junctions grown by molecular beam epitaxy. *H. Asada*[1], Y. Fukuma[2], M. Joumura[1], H. Nishihata[1], S. Senba[3], N. Matsumoto[3], T. Koyanagi[1] and K. Kishimoto[1] *1. Department of Electronic Devices Engineering, Yamaguchi University, Ube, Japan; 2. Advanced Science Institute, RIKEN, Wako, Japan; 3. Department of Electrical Engineering, Ube National College of Technology, Ube, Japan*

WEDNESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session FQ
MRAM AND MgO MAGNETIC TUNNEL JUNCTIONS (Poster Session)

Fred Mancoff, Chair

FQ-01. Magnetoresistive Random Access Memory Testing for Automotive Industry. *C. Filote*[1,2], V. Ursu[1] and C. Ciufudean[1] *1. Electrical Engineering and Computer Science, Stefan cel Mare University of Suceava, Suceava, Romania; 2. Germaro Electronics, Suceava, Romania*

FQ-02. The MTJ with NiFeB/Fe Free layer for Magnetic Logic. *H. Honjo*[1], R. Nebashi[1], S. Fukami[2], N. Ishiwata[2], S. Miura[1], N. Sakimura[1], T. Sugibayashi[1], N. Kasai[2] and H. Ohno[2,3] *1. Green Innovation Research Laboratiries, NEC, Tsukuba, Japan; 2. Center of Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 3. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

FQ-03. Selective Etching of Magneto Resistive Structures Using Cl2/Ar Chemistry in Inductively Coupled Plasma. *A. Lentsch*[1], A. Lyle[1], A. Klemm[1], D. Martens[1] and J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN*

FQ-04. Quaternary memory device fabricated from a single-layer Fe film. *T. Yoo*[1], S. Khym[1], H. Lee[1], S. Lee[1], S. Lee[1], X. Liu[2] and J.K. Furdyna[2] *1. Department of Physics, Korea University, Seoul, Korea, Republic of; 2. Department of Physics, University of Notre Dame, Notre Dame, IN*

FQ-05. Multi-step Ion Beam Etching of Sub-30 nm Scale Magnetic Tunnel Junctions for Reducing Leakage Path and MgO Barrier Damage. *S. Chun*[1], D. Kim[1], J. Kwon[1], B. Kim[1], S. Choi[1] and S. Lee[1,2] *1. Department of Electronic Engineering, Hanyang university, Seoul, Korea, Democratic People's Republic of; 2. Institute of Nano Science and Technology, Hanyang University, Seoul, Korea, Democratic People's Republic of*

FQ-06. Micromagnetic Modelling of $L1_0$-FePt/Ag/$L1_0$-FePt Pseudo Spin Valves. *P. Ho*[1,3], R. Evans[2], R. Chantrell[2], G. Han[3], G. Chow[1] and J. Chen[1] *1. National University of Singapore, Singapore, Singapore; 2. University of York, York, United Kingdom; 3. Data Storage Institute, Singapore, Singapore*

FQ-07. Numerical Study on Current-Induced Magnetization Switching of Ferromagnetically Coupled Synthetic Free Layers. *S. Lee*[1] and K. Lee[1] *1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, Korea, Republic of*

FQ-08. Electric-field dependence of switching probability for dynamic magnetization switching in a few atomic layers of FeCo. Y. Shiota[1], S. Murakami[1,2], B. Frederic[1], T. Nozaki[1,2], T. Shinjo[1] and *Y. Suzuki*[1,2] *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan; 2. CREST-JST, Kawaguchi, Saitama, Japan*

FQ-09. Eigenmode Analysis and Thermal Stability of Magnetic Tunnel Junctions with Synthetic Antiferromagnet Free Layers. *D. Markó*[1,2], T. Devolder[1,2], K. Miura[3,4], K. Ito[3,4], J. Kim[1,2], C. Chappert[1,2], S. Ikeda[4,5] and H. Ohno[4,5] *1. Université Paris-Sud 11, Orsay, France; 2. Institut d'Electronique Fondamentale, CNRS UMR 8622, Orsay, France; 3. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan; 4. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 5. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan*

FQ-10. Annealing effect on the perpendicular magnetic junctions with CoFeB and CoFeB/TbCoFe layers. *G. Feng*[1], A. Castillo[1], P.J. Chen[1] and R.D. Shull[1] *1. National Institute of Standards and Technology, Gaithersburg, MD*

FQ-11. Perpendicular Magnetic Anisotropy in [Co/Pt] multilayers and [Co/Pt]-based magnetic tunnel junctions. M. Bersweiler[1], *K. Dumesnil*[1], M. Hehn[1], D. Lacour[1] and G. Lengaigne[1] *1. Institut Jean Lamour, Vandoeuvre les Nancy, France*

FQ-12. Effect of Electron beam Rapid Thermal Annealing on the TMR of CoFeB/MgO/NiFe Magnetic Tunnel Junctions. G.K. Rajan[1], *S. Ramaswamy*[1], C. Gopalakrishnan[1] and J.D. Thiruvadigal[2] *1. Nanotechnology Research Center, SRM University, Chennai, Tamil Nadu, India; 2. Dept of Nanoscience and Nanotechnology, SRM University, Chennai, Tamil Nadu, India*

FQ-13. Fast evolution of perpendicular magnetic anisotropy and magnetoresistance during thermal annealing in CoFeB/MgO/CoFeB tunnel junctions. *W. Wang*[1], S. Hageman[1], M. Li[1], A.X. Chen[1], S. Huang[1], X. Kou[2], X. Fan[2], J.Q. Xiao[2] and C. Chien[1] *1. Physics and Astronomy, The Johns Hopkins University, Baltimore, MD; 2. Physics and Astronomy, University of Delaware, Newark, DE*

FQ-14. Annealing stability of perpendicular anisotropy CoFeB/MgO magnetic tunnel junctions with various junction sizes. *H. Gan*[1], S. Ikeda[1,2], M. Yamanouchi[1], H. Sato[1], K. Miura[3,1], K. Mizunuma[2], R. Koizumi[2], F. Matsukura[1,2] and H. Ohno[1,2] *1. Center for Spintronics Integrated Systems (CSIS), Tohoku University, Sendai, Japan; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Central Research Laboratory, Hitachi, Ltd., Tokyo, Japan*

FQ-15. Chiral magnetization configurations in magnetic nanostructures in the presence of Dzyaloshinskii-Moriya interactions. *N. Grisewood*[1], J. Eves[1], T. Usher[2] and H. Braun[1] *1. School of Physics, University College Dublin, Dublin, Ireland; 2. Dept of Physics, California State University, San Bernardino, CA*

WEDNESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session FR
MAGNETIC MICROSCOPY II (Poster Session)

Charudatta Phatak, Chair

FR-01. Kondo properties of magnetic molecular nanostructures. *M. Rashidi*[1], S. Mullegger[1], M. Fattinger[1] and R. Koch[1] *1. Solid State Physics, Johannes Kepler University, Linz, Austria*

FR-02. Spectroscopic defect analysis with ferromagnetic resonance force microscopy. *H. Chia*[1,2], L.M. Belova[3] and R.D. McMichael[1] *1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD; 2. Maryland Nanocenter, University of Mayland, College Park, MD; 3. Department of Materials Science and Engineering, Royal Institute of Technology, Stockhom, Sweden*

FR-03. Micromagnetic Studies on Resolution Limits of MFM Tips with Different Magnetic Anisotropy. H. Li[1], *D. Wei*[1] and S.N. Piramanayagam[2] *1. Department of Materials Science and Engineering, Tsinghua University, Beijing, China; 2. Data Storage Institute, Agency for Science, Technology and Research, Singapore, Singapore*

FR-04. Restoration the Domain Structure from Magnetic Force Microscopy Imaging. D. Wu[1], Y. Lou[1], F. Wei[1] and *D. Wei*[2] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education,Research Institute of Magnetic Materials,Lanzhou University, Lanzhou, Gansu, China; 2. Laboratory of Advanced Materials, Department of Materials Science and Engineering, Tsinghua University, Beijing, China*

FR-05. Spin wave detection by scanning magnetic resonance microscopy using radio frequency probes. *T. An*[1,2], K. Harii[1] and E. Saitoh[1] *1. The Institute for Materials Research, Tohoku University, Sendai, Japan; 2. PREST, Japan Science and Technology Agency, Tokyo, Japan*

FR-06. Calculate the stray field of the sample from magnetic force microscopy image. Y. Ge[1], W. Dongping[1], L. Zhenghua[1], L. Yuanfu[1], *B. Jianmin*[1], F. Wei[1] and W. Dan[2] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Materials Science and Engineering, Tsinghua University, Beijing, China*

FR-07. Faraday Effect in $CoFe_2O_4$ Nanoparticle Arrays. *R.A. Booth*[1], T. Wen[1], K. Krycka[2,1] and S.A. Majetich[1] *1. Physics, Carnegie Mellon, Pittsburgh, PA; 2. NCNR, National Institute of Standards and Technology, Gaithersburg, MD*

FR-08. Magneto-optical Kerr effect measurements on highly ordered ferromagnetic nanomagnet arrays. *S. Pathak*[1] and M. Sharma[1] *1. Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi, Delhi, India*

FR-09. Single particle detection with a NMR micro capillary probe. *Y. Nakashima*[1,2], M. Boss[1], G. Zabow[1,3], R. Usselman[1], S.E. Russek[1] and J. Moreland[1] *1. NIST, Boulder, CO; 2. Kyushu University, Fukuoka, Japan; 3. National Institutes of Health, Bethesda, MD*

FR-10. Synchronous Imaging of Low-Frequency Magnetization Dynamics in Micron-Sized Elements Using Scanning Transmission X-Ray Microscopy (STXM). *C. Cheng*[1], K. Kaznatcheev[2] and W.E. Bailey[1] *1. Applied Physics and Applied Mathmatics, Columbia University, New York, NY; 2. NSLS II, Brookhaven National Lab, Upton, NY*

FR-11. Threshold photoemission magnetic circular dichroism of perpendicularly magnetized Ni films on Cu(001): theory and experiment. *M. Kronseder*[1], J. Minár[2], J. Braun[2], S. Gü nther[1], G. Woltersdorf[1], H. Ebert[2] and C.H. Back[1] *1. Physics, University of Regensburg, Regensburg, Germany; 2. Physical Chemistry, Ludwig-Maximilians Universitaet, Munich, Germany*

FR-12. Magnetic x-ray microspectroscopy and characterization of magnetic structures in ultrathin Co|Ni multilayer with perpendicular magnetic anisotropy. *F. Macià*[1], P. Warnicke[2], D. Bedau[1], M. Im[3], P. Fischer[3], D.A. Arena[2] and A.D. Kent[1] *1. Physics, NYU, New York, NY; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY; 3. Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA*

FR-13. Evidence for Spin Flop Transition in Josephson Junctions with a Synthetic Antiferromagnetic Layer. *B. McMorran*[1,2], J. Borchers[3], T. Ginley[4], B.J. Kirby[3], B.B. Maranville[3] and J. Unguris[1] *1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD; 2. Department of Physics, University of Oregon, Eugene, OR; 3. NIST Center for Neutron Research, NIST, Gaithersburg, MD; 4. Department of Physics, Juniata College, Huntingdon, PA*

FR-14. A study of the perpendicular magnetic microstructure of L10 FePt epitaxial film using electron holography. *J. Park*[1], W. Lee[1], J. Yoo[2] and J. Yang[2] *1. Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of; 2. Measurement and Analysis Team, National Nanofab Center, Daejeon, Korea, Republic of*

FR-15. Time Resolved Imaging of Fast Magnetic Processes in Transmission Electron Microscopy. *R. Beacham*[1], D. McGrouther[1], A. Mac Raighne[1], D. Maneuski[1], S. McVitie[1] and V. O'Shea[1] *1. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

WEDNESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session FS
MATERIALS MEASUREMENTS (Poster Session)

Kazushi Ishiyama, Chair

FS-01. A model-assisted technique for characterization of in-plane magnetic anisotropy. *B. Fan*[1] and C. Lo[1] *1. Center for NDE and Ames Laboratory, Iowa State University, Ames, IA*

FS-02. Single-core fluxgate gradiometer with simultaneous gradient and homogeneous feedback operation. *M. Janosek*[1], P. Ripka[1], F. Ludwig[2] and M. Schilling[2] *1. Dpt. of Measurement, Czech Technical University in Prague, FEE, Praha 6, Czech Republic; 2. Institut für Elektrische Messtechnik und Grundlagen der Elektrotechnik, TU Braunschweig, Braunschweig, Germany*

FS-03. A Wavelet Approach for the Identification of Surface Cracks Using Current Injection Perturbation. *A. Adly*[1] and S. Abd-El-Hafiz[2] *1. Elect. Power & Machines Dept., Cairo University, Giza, Egypt; 2. Engineering Mathematics Dept., Cairo University, Giza, Egypt*

FS-04. Development of microscopic magnetometry with reflection objective using magneto-optic Kerr effect. *Y. Kondo*[1], K. Yamakawa[1], Y. Nakamura[2], S. Ishio[2] and J. Ariake[1] *1. Akita Industrial Technology Center, Akita, Japan; 2. Faculty of Engineering and Resource Science, Akita University, Akita, Japan*

FS-05. Detection of wall thinning in insulated steel using pulsed eddy current with reduced lift-off effect.C.S. Angani[1], *D.G. Park*[1], K. Matte[1,2], L. Pasupuleti[1,2], C. Kim[2] and Y.M. Cheong[1] *1. Nueclear material research division, KoreaAtomic Energy Research Institue, Taejeon, Korea, Republic of; 2. Materials Science and Engineering, Chungnam National University, Daejeon, Korea, Republic of*

FS-06. Hard X-ray Photoelectron Spectroscopy (HAXPES) with Variable Photon Polarization: Linear and Circular Magnetic Dichroism. *G.H. Fecher*[1], G. Stryganyuk[1], A. Gloskovski[1], B. Balke[1], S. Ouardi[1], X. Kozina[1], C. Felser[1], E. Ikenaga[2] and K. Kobayashi[3] *1. Johannes Gutenberg - University, Mainz, Germany; 2. SPring 8, Japan Synchrotron Radiation Research Institute, Hyogo, Japan; 3. SPring 8, National Institute for Materials Science, Hyogo, Japan*

FS-07. Magnetostriction Measurement of a GMR Film covered by a shield layer on practical substrates. *K. Okita*[1,3], K. Ishiyama[2] and H. Miura[3] *1. Tohoku Steel Co., Ltd., Miyagi, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Department of Nanomechanics, Tohoku University, Sendai, Japan*

FS-08. A 1MHz susceptometer with constant excitation field. *J. Tafur-Bermúdez*[1], C. Rinaldi[2] and E.J. Juan[1] *1. Department of Electrical and Computer engineering, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico; 2. Department of Chemical Engineering, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico*

FS-09. Rotational losses up to the kHz range in Soft Magnetic Composites (SMC). *d. Olivier*[1], C. Appino[1], F. Fiorillo[1], C. Ragusa[2], M. Lé crivain[3], L. Rocchino[1], H. Ben Ahmed[3], M. Gabsi[3], F. Mazaleyrat[3] and M. LoBue[3] *1. INRIM, Torino, Italy; 2. Dipartimento di Ingegneria Elettrica, Politecnico di Torino, Torino, Italy; 3. SATIE, Cachan, France*

FS-10. Analysis of Effective Permeability Behaviors of the Magnetic Hollow Fibers Filled in Composite. *B. Nam*[1], S. Cho[2], J. Kim[2] and K. Kim[1] *1. Department of Physics, Yeungnam University, Gyeongsan, Korea, Republic of; 2. Department of Metallurgical and Materials Engineering, Hanyang University, Ansan, Korea, Republic of*

FS-11. Magnetic anisotropy and domain structure of rapidly solidified amorphous submicron wires and nanowires.T. Óvári[1] and *H. Chiriac*[1] *1. National Institute of Research and Development for Technical Physics, Iasi, Romania*

FS-12. Soft Magnetic Properties and High-Frequency Performance of FeCo-SiO_2 Thin Films. *G. Lu*[1], H. Zhang[1], X. Tang[1], Y. Li[1] and Z. Zhong[1] *1. State Key Laboratory of Electronic Thin films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

FS-13. Electromagnetic Wave Absorption Properties of Fe-filled Cabon Nanocapsules at GHz Frequencies.R. Yang[1], *W. Liang*[1], J. Liou[1] and G. Hwang[2] *1. Department of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Nano-Powder and Thin Film Technology Center, Industrial Technology Research Institute, Tainan, Taiwan*

FS-14. On the road to custom-designed epitaxial thin films by controlled magnetic anisotropy symmetry breaking. *E. Jimenez*[1], N. Mikuszeit[1], A. Bollero[2], P. Perna[2], C. Rodrigo[1], C. Clavero[3,4], J.M. Garcí a-Martí n[3], A. Cebollada[3], J. Camarero[1,2] and R. Miranda[1,2] *1. Universidad Autónoma de Madrid, Madrid, Spain; 2. IMDEA-Nanociencia, Madrid, Madrid, Spain; 3. IMM, CNM-CSIC, Tres Cantos, Madrid, Spain; 4. Department of Appl. Science, College of William & Mary, Williamsburg, VA*

FS-15. New Magnetic NDT Technology: A Moving Magnet Hysteresis Comparator. I.J. Garshelis[1], *G. Crevecoeur*[2] and L. Dupré [2] *1. Magnova, Inc., Pittsfield, MA; 2. Dept. Electrical Energy, Systems and Automation, Ghent University, B-9000 Gent, Belgium*

WEDNESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session FT
FERRITE MATERIALS AND HIGH FREQUENCY DEVICES II (Poster Session)

Zbigniew Celinski, Chair

FT-01. Dielectric and magnetic properties of $Y_{3-x}Tb_xFe_5O_{12}$ ferrimagnets. *Y. Siao*[1], X. Qi[1], C. Lin[2] and J. Huang[3] *1. Materials Science and Engineering, National Cheng Kung University, Tainan, Taiwan; 2. Institute of Nanotechnology and Department of Mechanical, Southern Taiwan University, Tainan, Taiwan; 3. Department of Physics, National Cheng Kung University, Tainan, Taiwan*

FT-02. Temperature dependence of magnetic behavior in very fine grained, spark plasma sintered NiCuZn Ferrites. B. Ahmadi[1], K. Zehani[1], *M. LoBue*[1], V. Loyau[1] and F. Mazaleyrat[1] *1. ENS Cachan, Université paris sud, SATIE Laboratory, Cachan, France*

FT-03. Polycrystalline magnetic garnet films composed of weakly coupled nano-scale crystallites for piezo electrically-driven magneto-optic spatial light modulators. *S. Mito*[1], H. Takagi[1], A.V. Baryshev[1] and M. Inoue[1] *1. Toyohashi University of Technology, Toyohashi, Japan*

FT-04. Magnetic Polymer Nanocomposites with Tunable Microwave and RF Properties. *K. Stojak*[1], S. Pal[1], M.H. Phan[1], H. Srikanth[1], C. Morales[2], J. Dewdney[2], J. Wang[2] and T. Weller[2] *1. Department of Physics, University of South Florida, Tampa, FL; 2. Department of Electrical Engineering, University of South Florida, Tampa, FL*

FT-05. Iron (Fe) based microstrip Phase Shifter; Optimization of Phase shift. *B.K. Kuanr*[1,2], T. Fal[2], R. Camley[2] and Z. Celinski[2] *1. Department of Physics & Electronics, Zakir Husain College (University of Delhi), Jawaharlal Nehru Marg, Delhi, India; 2. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO*

FT-06. Measurement of Damping factor α of Single Crystal Garnet by Broadband FMR. *S. Takeda*[1], T. Hotchi[2], S. Motomura[2] and H. Suzuki[2] *1. Magnontech, Ltd., Kumagaya, Japan; 2. KEYCOM Corp., Tokyo, Japan*

FT-07. Reconfigurable coplanar waveguides embedded with sputtered Fe/MgO multilayer. *K. Noda*[1], K. Ito[1], J. Zhou[1], A. Md Nor[2], T. Tanaka[1] and K. Matsuyama[1] *1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Physics, Malaya University, Kuala Lumpur, Malaysia*

FT-08. Fast switching of a bistable microwave ferrite resonator using electrical field. *Y.K. Fetisov*[1], A.B. Ustinov[2] and G. Srinivasan[3] *1. Physics, Moscow Institute of Radio Engineering, Electronics and Automation, Moscow, Russian Federation; 2. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation; 3. Physics, Oakland University, Rochester, MI*

FT-09. Highly Sensitive Broadband RF/Microwave Magnetic Measurement System with Lock-in Detection. *S. Beguhn*[1], Z. Zhou[1], S. Rand[1], X. Yang[1], J. Lou[1] and N. Sun[1] *1. ECE, Northeastern University, Boston, MA*

FT-10. Reflection of mm waves at antiresonance in 3D magnetic opal nanocomposite structures. G. Makeeva[1], O. Golovanov[2], A. Rinkevich[3] and *M. Pardavi-Horvath*[4] *1. Radioengineering, Penza State University, Penza, Russian Federation; 2. Mathematics, Penza State University, Penza, Russian Federation; 3. Institute of Metal Physics of the Ural Branch of the RAS, Ekaterinburg, Russian Federation; 4. SEAS ECE, The George Washington University, Washington, DC*

FT-11. Growth of High-Quality Yttrium Iron Garnet Thin Films on Metallic Electrodes. *Y. Sun*[1], Y. Song[1] and M. Wu[1] *1. Department of Physics, Colorado State University, Fort Collins, CO*

FT-12. The absorption property of single crystal LuBiIG garnet film in terahertz band. *Q. Yang*[1], H. Zhang[1] and Q. Wen[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

FT-13. The effect of MgO(111) interlayer on the interface phase stability and structure of BaFe12O19/SiC(0001). *V.K. Lazarov*[1,3], Z. Cai[2], K. Yoshida[3], P.J. Hasnip[1] and K.S. Ziemer[2] *1. Physics, University of York, York, United Kingdom; 2. Chemical Engineering, Northeastern University, Boston, MA; 3. York-JOEL Nanocentre, University of York, York, United Kingdom*

FT-14. Synthesis and Magnetic Characterization of Al doped Sr-Ferrite Nanoparticles.H. Luo[1], *S.R. Mishra*[1], N.V. Vuong[2] and J.P. Liu[2]*1. Physics, The University of Memphis, Memphis, TN; 2. Physics, University of Texas, Arlington, TX*

FT-15. Growth Habit modification of Barium Ferrite Thin Films. *W. Zhang*[1], F. Li[1], B. Peng[1] and W. Zhang[1]*1. School of microelectronics and solid-state electronics, Chengdu, China*

WEDNESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session FU
ULTRA-THIN FILMS AND SURFACE EFFECTS II
(Poster Session)

Sean Langridge, Chair

FU-01. Crystal structure of Co thin films epitaxially grown on hcp- and fcc-single-crystal underlayers. *K. Kobayashi*[1], M. Ohtake[1] and M. Futamoto[1]*1. Faculty of Science and Engineering, Chuo University, Tokyo, Japan*

FU-02. Perpendicular magnetic anisotropy of Ni/Cu(001) films with surface passivation.K. Lee[1], *Y. Shih*[1], W. Shen[1], C. Tsai[1], D. Wei[2], Y. Chan[2], H. Chang[2] and W. Pan[1]*1. Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. National Synchrotron Radiation Center, Hsin-Chu, Taiwan*

FU-03. Thickness-dependent magnetic domain structures in epitaxial FePd films. *J. Kim*[1,2], J. Choi[3], H. Kim[3,4], H. Kim[3], S. Cho[1] and J. Kim[1]*1. Metallurgy and Materials Engineering, Hanyang University, Ansan, Korea, Republic of; 2. Research Institute of Engineering and Technology, Hanyang University, Ansan, Korea, Republic of; 3. Spin Device Center, Korea Institute of Science and Technology, Seoul, Korea, Republic of; 4. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of*

FU-04. Comparison of the perpendicular magnetic anisotropy between the top and bottom Ta-CoFeB-MgO structures by x-ray photoelectron spectroscopy. *C. Cheng*[1], H. Chen[1], C. Shiue[1], Y. Lin[2], Y. Li[2] and G. Chern[1]*1. Taiwan SPIN Research Center and Department of Physics, National Chung Cheng University, Chiayi 62102, Taiwan; 2. Department of Chemical Engineering, National Chung Cheng University, Chiayi 62102, Taiwan*

FU-05. Ferromagnetic resonance probed annealing effects on magnetic anisotropy of perpendicular CoFeB/MgO bilayer. *Y. Chen*[1,2], G. Chern[3], W. Wu[2] and J.G. Lin[1]*1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Department of Mechanical Engineering, National Taiwan University, Taipei, Taiwan; 3. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan*

FU-06. Promotion of L10 ordered phase of FePd films with CoFeB interlayer. *M.I. Khan*[1], N. Inami[1], H. Naganuma[1], M. Oogane[1] and Y. Ando[1]*1. Applied Physics, Tohoku University, Sendai, Japan*

FU-07. Study of surface effects on CoCu nanogranular alloys by ferromagnetic resonance. *A. Garcia Prieto*[1], M. Fdez-Gubieda[2], L. Lezama[3] and I. Orue[4]*1. Fisica Aplicada I, Universidad del Pais Vasco UPV/EHU, Bilbao, Spain; 2. Electricidad y Electronica, Universidad del Pais Vasco UPV/EHU, Bilbao, Spain; 3. Quimica inorganica, Universidad del Pais Vasco UPV/EHU, Bilbao, Spain; 4. SGIker, Universidad del Pais Vasco UPV/EHU, Bilbao, Spain*

FU-08. Modification of magnetic anisotropy in NiFe thin films by buffer layers.E. Arac[1], A. Winter[1] and *D. Atkinson*[1]*1. Physics Department, Durham University, Durham, United Kingdom*

FU-09. Investigation of the local structural properties of $Fe_{50}Pt_{50-x}Rh_x$ magnetic thin films using extended x-ray absorption fine structure (EXAFS).D. Xu[1,2], *C. Sun*[1], S. Han[3], J. Chen[2], S.M. Heald[1] and G. Chow[2]*1. Advanced Photon Source, Argonne Nat'l Lab, Argonne, IL; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. Department of Physics Education, Chonbuk National University, Jeonju, Korea, Republic of*

FU-10. Magnetic and Transport Properties of Ni-Mn-In Based Thin Films. *I. Dubenko*[1], T. Samanta[1], N. Ali[1], A. Sokolov[2], L. Zhang[2] and E. Kirianov[3]*1. Physics, Southern Illinois University at Carbondale, Carbondale, IL; 2. Physics & Astronomy, UNL, Lincoln, NE; 3. Lincoln South-West High School, Lincoln, NE*

FU-11. Interface magnetism of iron on sulfur passivated GaAs(001). *B. Kardasz*[1], B. Heinrich[1], C. Burrowes[1] and S.P. Watkins[1]*1. Physics, Simon Fraser University, Burnaby, BC, Canada*

FU-12. Surface Morphologies and Magnetic Properties of Fe and Co Magnetic Thin Films on Polyethylene Naphthalate Organic Substrates. *H. Kaiju*[1,2], T. Abe[1], K. Kondo[1] and A. Ishibashi[1]*1. Research Institute for Electronic Science, Hokkaido University, Sapporo, Hokkaido, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan*

FU-13. surface spin slips in thin holmium films. *F.H. Sales*[1], A.L. Dantas[2] and A.S. Carriç o[3]*1. Physics, IFMA, São Luis, Maranhão, Brazil; 2. Physics, UERN, Natal, Rio Grande do Norte, Brazil; 3. Physics, UFRN, Natal, Rio Grande do Norte, Brazil*

FU-14. Analysis of ion irradiated amorphous ribbon by secondary ion mass spectrometry and permeability spectra. *H. Song*[1] and D. Park[1] *1. Korea Atomic Energy Research Institute, Daejeon, Korea, Republic of*

FU-15. Modified Square-wave approximation and Non-zero intercept in Kittel's scaling law for Nanostructured 180° Stripe-domains. *G. Zhao*[1,2], H. Zhang[2], L. Chen[3], Y. Feng[4] and J. Ding[4] *1. Sichuan Normal University, Chengdu, Sichuan, China; 2. University of Electronic Science and Technology of China, Chengdu, China; 3. Nanyang Technological University, Singapore, Singapore; 4. National University of Singapore, Singapore, Singapore*

WEDNESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session FV
MAGNETOCALORIC PROPERTIES III (Poster Session)

Manh-Huong Phan, Chair

FV-01. SSEEC: an integrated collaborative approach to magnetic cooling and magnetocaloric materials. *K.G. Sandeman*[1] *1. Department of Physics, Imperial College London, London, United Kingdom*

FV-02. Doping Effects of B and H on Magnetic properties and magnetocaloric Effects in R(FeSi)13 Magnetic Refrigerants. *R. Zeng*[1] and P. Shamba[1] *1. University of Wollongong, Wollongong, NSW, Australia*

FV-03. Reduction of hysteresis loss and large magnetocaloric effect in the C- and H-doped La(Fe,Si)$_{13}$ compounds around room temperature. H. Zhang[1], B. Shen[1], Z. Xu[1], X. Zheng[1], *J. Shen*[2], F. Hu[1], J. Sun[1] and Y. Long[3] *1. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Key laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China; 3. School of Materials Science and Engineering, University of Science and Technology of Beijing, Beijing, China*

FV-04. Magnetocaloric effect in La0.5Pr0.5Fe11.5Si1.5 compounds with a combined addition of Co and C. *J. Shen*[1] and J. Zhao[2] *1. Key Laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China; 2. College of Applied Science, Beijing University of Technology, Beijing, China*

FV-05. Effect of carbon and annealing on microstructure and magnetocaloric effect of LaFe$_{11.6}$Si$_{1.4}$C$_x$ C.S. Teixeira[1,2], M. Krautz[1], K.P. Skokov[1], J. Liu[1], J.D. Moore[1], P.A. Wendhausen[2] and *O. Gutfleisch*[1] *1. Institute for Metallic Materials, Leibniz Institute for Solid State and Materials Research, Dresden, Germany; 2. LABMAT–Materials Laboratory, Federal University of Santa Catarina, Florianópolis, Brazil*

FV-06. Systematic study of the phase transition and magnetic properties in La-Fe-Si-C compounds. *S. Fu*[1], Y. Long[1], Y. Chang[1], R. Ye[1], X. Yi[1] and X. Liu[1] *1. Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China*

FV-07. Novel La(Fe,Si)$_{13}$-based composites for energy efficient magnetic cooling. *J. Lyubina*[1], U. Hannemann[1], M.P. Ryan[1] and L.F. Cohen[1] *1. Imperial College London, London, United Kingdom*

FV-08. Abnormal behavior of magnetic entropy change on Ba$_{2-x}$La$_x$FeMoO$_6$ compound. *K. Kim*[1], M. Lee[1], Y. Jang[1], B. Kang[2] and S. Yu[1] *1. Physics, Chungbuk National University, Cheongju, Chungbuk, Korea, Republic of; 2. Nano Science & Mechnical Engineering, Kunkuk University, Chungju, Chungbuk, Korea, Republic of*

FV-09. Structure, magnetic, and magnetocaloric properties of amorphous and crystalline La$_{0.4}$Ca$_{0.6}$MnO$_{3+\delta}$ nanoparticles. *P.J. Lampen*[1], A. Puri[1], M. Phan[1] and H. Srikanth[1] *1. Physics, University of South Florida, Tampa, FL*

FV-10. Enhanced magnetocaloric effect of monovalent elements doped Pr0.5Sr0.3 M0.2MnO3(M=Li, Na, K and Ag) perovskite manganites. *P. Zhang*[1], H. Ge[1] and H. Yang[1] *1. Materials of Science and Engineering,China Jiliang University, Hangzhou, Zhejiang, China*

FV-11. Structural, magnetic, transport and magnetocaloric properties of metamagnetic DyMn$_{0.5}$Co$_{0.5}$O$_3$ *C. Ganeshraj*[1] and N. Santhosh P.[1] *1. Physics, Indian Institute of Technology Madras, Chennai, Tamilnadu, India*

FV-12. Large reversible magnetocaloric effect in TmTiO$_3$ single crystal. Y. Su[1], Y. Sui[1], J. Cheng[1,2], X. Wang[1], Y. Wang[1], X. Liu[3] and *J. Tang*[4] *1. Center for Condensed Matter Science and Technology, Department of Physics, Harbin Institute of Technology, Harbin, China; 2. Texas Materials Institute, University of Texas at Austin, Austin, TX; 3. State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Changchun, China; 4. Department of Physics and Astronom, University of Wyoming, Laramie, WY*

FV-13. Designed metamagnetism in Mn-based orthorombic structures. *Z. Gercsi*[1] and K. Sandeman[1] *1. Physics Department, University College London, London, United Kingdom*

FV-14. Phase evolution and magnetocaloric effect of melt-spun $Mn_3Sn_{2-x}M_x$ (M = B, C; x = 0-0.5) ribbons. X.G. Zhao[2,1], E. Lee[2], C. Hsieh[2], *C. Shih*[2], W. Chang[2] and Z. Zhang[1] *1. Shenyang National Laboratory for Materials Science and International Center for Materials Physics, Institute of Metal Research, Chinese academy of Sciences, Shenyang, Liaoning, China; 2. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan*

FV-15. Effects of Si-doping and Applied Pressure upon Tb5(SixGe1-x)4: an X-ray Magnetic Spectroscopy Study. *C. Yang*[1], Y. Tseng[1], D. Haskel[2], Y. Mudryk[3], V. Pecharsky[3] and K. Gschneidner Jr.[3] *1. Materials Science & Engineering, National Chiao-Tung University, Hsin-Chu, Taiwan; 2. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 3. Divsion of Materials Science & Engineering, Ames Laboratory, Ames, IA*

WEDNESDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session FW
DOMAIN WALL DEVICES I
(Poster Session)

Geoffrey Beach, Co-Chair
Mathias Kläui, Co-Chair

FW-01. Transverse domain wall chirality sensing based on stray field-induced switching of triangular elements. *S.R. Bowden*[1], R.D. McMichael[1] and J. Unguris[1] *1. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD*

FW-02. Control of domain wall velocity by strain modulation in GaMnAsP. *E. De Ranieri*[1], P. Roy[1] and J. Wunderlich[1,2] *1. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 2. Institute of Physics ASCR, Prague, Czech Republic*

FW-03. Current-driven Motion of Multiple Magnetic Domains along Parallel-aligned Magnetic Nanowires with Perpendicular Magnetic Anisotropy. *Y. Miyamoto*[1], M. Okuda[1], E. Miyashita[1] and N. Hayashi[1] *1. Science & Technology Research Labs., NHK (Japan Broadcasting Corporation), Tokyo, Japan*

FW-04. Realization of a memristor by current induced domain wall motion in a micro-/nanostructured GMR device. *J. Münchenberger*[1], G. Reiss[1] and A. Thomas[1] *1. Thin Films and Physics of Nanostructures, Bielefeld University, Bielefeld, North Rhine-Westphalia, Germany*

FW-05. Simulation study of magnetic quantum dots shift register with uniform magnetic clock field. *H. Nomura*[1], S. Miura[1], Y. Imanaga[1] and R. Nakatani[1] *1. Osaka University, Suita City, Japan*

FW-06. Analytical and numerical characterization of domain wall motion in magnetic nanostrips exhibiting crystallographic defects. *G. Consolo*[1], E. Martinez[2], C. Currò [3] and G. Valenti[1] *1. Department of Sciences for Engineering and Architecture, University of Messina, Italy, Messina, Italy; 2. Department of Applied Physics, University of Salamanca, Salamanca, Spain; 3. Department of Mathematics, University of Messina, Messina, Italy*

FW-07. Current-induced domain wall motion in a multilayered nanowire for achieving high density bit. T. Komine[1], *A. Ooba*[1] and R. Sugita[1] *1. Department of Media and Telecommunications Engineering, Ibaraki University, Hitachi, Ibaraki, Japan*

FW-08. Magnetic behaviour of $Fe_{0.2}Ni_{0.8}$ films coupled to planar nanowire array of Fe. *S.K. Arora*[1], B.J. O'Dowd[1] and I.V. Shvets[1] *1. Centre for Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Dublin, Ireland*

FW-09. Ultra low propagation fields in Ta-CoFeB-MgO ultrathin films with perpendicular anisotropy. *S. Ahn*[1], N. Nguyen[1], G. Agnus[1], N. Vernier[1], O. Berthold[2] and D. Ravelosona[1] *1. Institut d'Electronique Fondamentale, Orsay, France; 2. Singulus technology AG, Kahl am Main, Germany*

FW-10. Geometric dependence of static and kinetic pinning of domain walls on ferromagnetic nanowires. *S. Ahn*[1,3], K. Moon[1], D. Kim[2] and S. Choe[1] *1. Physics, Seoul National University, Seoul, Korea, Republic of; 2. Physics, Chungbuk National University, Cheongju, Korea, Republic of; 3. Nanospintronics, Institut d'Electronique Fondamentale, Orsay, France*

FW-11. Manipulating Ultra-Cold Atoms with a Reconfigurable Nanomagnetic System. *T.J. Hayward*[1], P.W. Fry[2], M.R. Gibbs[1], T. Schrefl[3], D.A. Allwood[1], K.J. Weatherill[4], A.D. West[4], C.S. Adams[4] and I.G. Hughes[4] *1. Department of Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom; 2. Nanoscience and Technology Centre, University of Sheffield, Sheffield, United Kingdom; 3. St Pölten University of Applied Sciences, St Pölten, Austria; 4. Atomic and Molecular Physics Group, University of Durham, Durham, United Kingdom*

FW-12. Magnetic properties of single three-dimensional cobalt nanowires grown by focused-electron-beam-deposition. *A. Fernandez-Pacheco*[1], L.E. Serrano[2], D. Petit[1], L. O' Brien[1], R.M. Ibarra[2], J.M. De Teresa[2,3] and R.P. Cowburn[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Instituto de Ciencia de Materiales de Aragon, Universidad de Zaragoza-CSIC, Zaragoza, Spain; 3. Instituto de Nanociencia de Aragon, Universidad de Zaragoza, Zaragoza, Spain*

FW-13. Controlled domain wall depinning in four terminal devices. *L. O'Brien*[1], A. Beguivin[1], D. Petit[1], A. Fernandez-Pacheco[1] and R.P. Cowburn[1] *1. Thin Film Magnetism, University of Cambridge, Cambridge, United Kingdom*

FW-14. Inter-nanowire domain wall interactions in nanowires with perpendicular magnetic anisotropy. *S. Noh*[1], Y. Miyamoto[2], M. Okuda[2], N. Hayashi[2] and Y.K. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Imaging & Storage Devices Research Division, NHK Science and Technology Research Laboratories, Tokyo, Japan*

FW-15. The influence of the Rashba field on the current-induced domain wall dynamics: A micromagnetic analysis. *E. Martinez*[1] *1. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain*

THURSDAY MORNING 8:30

GRAND CANYON 6

Session GA
SYMPOSIUM ON SPIN PUMPING
Bret Heinrich, Chair

8:30

GA-01. Spin pumping in layered and continuous magnetic systems. ***(Invited)*** *Y. Tserkovnyak*[1], A. Brataas[2] and G.E. Bauer[3] *1. Department of Physics and Astronomy, UCLA, Los Angeles, CA; 2. Department of Physics, Norwegian University of Science and Technology, Trondheim, Norway; 3. Institute for Materials Research, Tohoku University, Sendai, Japan*

9:06

GA-02. Experimental comparison of spin-pumping parameters at polycrystalline FM/NM interfaces. ***(Invited)*** A. Ghosh[2], U. Ebels[2], S. Auffret[2] and *W.E. Bailey*[1] *1. Materials Science Program, Dept of Applied Physics and Applied Mathematics, Columbia University, New York, NY; 2. SPINTEC, Grenoble, Isère, France*

9:42

GA-03. Spin pumping and the inverse spin Hall effect in magnetic multilayers. ***(Invited)*** *G. Woltersdorf*[1], A. Gangwar[1], M. Althammer[2], S.B. Goennenwein[2] and C.H. Back[1] *1. Physics, University of Regensburg, Regensburg, Germany; 2. Walther Meissner Institute, Garching, Germany*

10:18

GA-04. Time-Resolved Spin Pumping by Sub-Micron Wavelength Magnons from a Magnetic Insulator. ***(Invited)*** *A.A. Serga*[1], A.V. Chumak[1], M.B. Jungfleisch[1], C.W. Sandweg[1], B. Hillebrands[1], A.D. Karenowska[2], Y. Kajiwara[3] and E. Saitoh[3] *1. Fachbereich Physik and Forschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom; 3. Institute for Materials Research, Tohoku University, Sendai, Japan*

10:54

GA-05. Long-distance Spin Precession in Non-local Lateral Spin Valves with Giant Spin Accumulation. ***(Invited)*** *Y. Otani*[1,2], Y. Fukuma[2] and H. Idzuchi[1,2] *1. ISSP Univeristy of Tokyo, Kashiwa, Japan; 2. RIKEN ASI, Wako, Japan*

THURSDAY MORNING 8:30

GRAND CANYON 7

Session GB
SPINTRONICS: Ge, GaAs, DIAMOND
Saroj Dash, Chair

8:30

GB-01. Epitaxial Fe/MgO/Ge spin-photodiodes for integrated detection of light helicity at room temperature. *C. Rinaldi*[1], M. Cantoni[1], D. Petti[1], R. Bertacco[1], N. Caffrey[2] and S. Sanvito[2] *1. CNISM and L-NESS - Physics Department, Politecnico di Milano, Milan, Italy; 2. School of Physics and CRANN, Trinity College, Dublin, Ireland*

8:42

GB-02. Spin accumulation in Fe/MgO/Ge heterostructures. *A.T. Hanbicki*[1], S.F. Cheng[1], R. Goswami[2], O.J. van 't Erve[1] and B.T. Jonker[1] *1. Naval Research Laboratory, Washington, DC; 2. SAIC, Washington, DC*

8:54

GB-03. Electrical creation of spin accumulation in p-type Ge with an epitaxial Fe/MgO tunnel contact. *H. Saito*[1], S. Watanabe[1,2], Y. Mineno[1], S. Sandeep[1], R. Jansen[1], S. Yuasa[1] and K. Ando[1] *1. Spintronics Research Center, National Institute of Advenced Industrial Science and Technology, Tsukuba, Ibaraki, Japan; 2. Tsukuba Univ., Tsukuba, Japan*

9:06

GB-04. A quantum memory intrinsic to single nitrogen–vacancy centers in diamond. ***(Invited)*** *G. Fuchs*[1,2], G. Burkard[3], P. Klimov[1] and D. Awschalom[1] *1. Center for Spintronics and Quantum Computation, University of California - Santa Barbara, Santa Barbara, CA; 2. Applied & Engineering Physics, Cornell University, Ithaca, NY; 3. Physics, University of Konstanz, Konstanz, Germany*

9:42

GB-05. Electrically tunable spin injector free from the impedance mismatch problem. *K. Ando*[1], H. Kurebayashi[2], T. Trypiniotis[2] and E. Saitoh[1] *1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

9:54

GB-06. Efficient room-temperature spin detector based on GaNAs. Y. Puttisong[1], X.J. Wang[1,2], I.A. Buyanova[1], C.W. Tu[3] and *W.M. Chen*[1] *1. Linköping University, Linköping, Sweden; 2. Shanghai Institute of Technical Physics, Shanghai, China; 3. University of California, La Jolla, CA*

10:06

GB-07. Probability current and spin-currents in solids. *F. Bottegoni*[1], H. Drouhin[1], G. Fishman[2] and J. Wegrowe[1] *1. LSI, CNRS and CEA/DSM/IRAMIS, Ecole Polytechnique, Palaiseau, 91128, France; 2. IEF, CNRS, Université Paris-Sud 11, Orsay, 91405, France*

10:18

GB-08. Spin Hall effects in Fe/$In_xGa_{1-x}As$ heterostructures. C. Geppert[1], Q.O. Hu[2], E.S. Garlid[1], M.K. Chan[1], K. Christie[1], C.J. Palmstrø m[2] and *P. Crowell*[1] *1. University of Minnesota, Minneapolis, MN; 2. University of California, Santa Barbara, CA*

10:30

GB-09. Experimental Demonstration of Ballistic Spin Detection. *C. Shen*[1], T. Trypiniotis[1] and C. Barnes[1] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

10:42

GB-10. Spin accumulation and decoherence mechanismes at a single Co/Al2O3/GaAs interface. *J. Peiro*[1], J. Lebreton[1], H. Jaffrè s[1], C. Deranlot[1], S. Collin[1], A. Lemaî tre[2] and J. George[1] *1. Unité Mixte de Physique CNRS/Thales, Palaiseau, Ile de France, France; 2. CNRS-Laboratoire de Photonique et Nanostructures, Marcoussis, Ile de France, France*

10:54

GB-11. Electrical Detection of Spin Accumulation in GaAs using MgO tunnel barrier at room temperature. *S.H. Shim*[1,2], J. Chang[1], K. Kim[1], H. Kim[1] and Y. Lee[2] *1. Spin Device Research Center, Korea Institute of Science and Technology, Seoul, Korea, Republic of; 2. Department of Physics, Korea University, Seoul, Korea, Republic of*

11:06

GB-12. Non-local electrical detection of Hanle signals in $Co_2MnSi/Co_{50}Fe_{50}$/n-GaAs Schottky tunnel junctions. T. Akiho[1], *T. Uemura*[1], M. Harada[1], K. Matsuda[1] and M. Yamamoto[1] *1. Hokkaido University, Sapporo, Japan*

11:18

GB-13. Quantum dot based current spin polarization amplifier. *I. Weymann*[1], S. Csonka[2] and G. Zarand[2] *1. Department of Physics, Adam Mickiewicz University, Poznan, Poland; 2. Department of Physics, Budapest University of Technology and Economics, Budapest, Hungary*

THURSDAY MORNING 8:30

GRAND CANYON 8

Session GC
SPIN TRANSFER TORQUE SWITCHING II

Michael Coey, Chair

8:30

GC-01. Ultrafast precessional spin-transfer switching in MRAM cells with a perpendicular polarizer. *M. Marins de Castro*[1], R. Sousa[1], S. Bandiera[1], C. Ducruet[2], S. Auffret[1], C. Papusoi[1], L. Prejbeanu[2], U. Ebels[1], C. Portemont[2], B. Rodmacq[1], L. Vila[3] and B. Dieny[1] *1. SPINTEC, UMR CEA / CNRS / UJF-Grenoble 1 / Grenoble-INP, INAC, Grenoble, France; 2. Crocus Technology, Grenoble, France; 3. SP2M/NM, CEA/Grenoble, INAC, Grenoble, France*

8:42

GC-02. Time domain studies of spin-torque ballistic precessional switching in Tb doped samples. *O. Lee*[1], D.C. Ralph[1,2] and R.A. Buhrman[1] *1. Cornell University, Ithaca, NY; 2. Kavli Institute at Cornell, Ithaca, NY*

8:54

GC-03. Asymmetric delay dependence in ultrafast nanomagnet dynamics excited by oppositely polarized picosecond spin torque impulses. *L. Ye*[1], S. Garzon[2], R.A. Webb[1] and T.M. Crawford[1] *1. Physics, University of South Carolina, Columbia, SC; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA*

9:06

GC-04. Spin-transfer switching and dynamics in nonlocal spin valves with sustained injection currents. *H. Zou*[1], S. Chen[1] and Y. Ji[1] *1. Physics & Astronomy, Univ Delaware, Newark, DE*

9:18

GC-05. High Voltage Pulse Measurements of Spin Torque Excited Microwave Emission and Switching in Magnetic Tunnel Junctions. *H. Tseng*[1], Y. Li[1], J.A. Katine[2], P.G. Gowtham[1], D.C. Ralph[1] and R.A. Buhrman[1] *1. Cornell University, Ithaca, NY; 2. Hitachi Global Storage Technologies, San Jose, CA*

9:30

GC-06. Magnetic moment switching induced by spin torque from the spin Hall effect. *L. Liu*[1], O.J. Lee[1], T.J. Gudmundsen[1], D.C. Ralph[1] and R.A. Buhrman[1] *1. Cornell Univ, Ithaca, NY*

9:42

GC-07. Spin-orbit mediated Torque in Rashba systems. *F. Freimuth*[1], Y. Mokrousov[1] and S. Blugel[1] *1. IAS-1 and PGI-1, Forschungszentrum Juelich GmbH, Juelich, Germany*

9:54

GC-08. *Ab initio* investigation of the influence of the magnetic material in magnetic tunnel junctions on the bias dependence of the spin-transfer torque. *C. Franz*[1], M. Czerner[1] and C. Heiliger[1] *1. I. Physikalisches Institut, Justus-Liebig-Universitaet, Giessen, Germany*

10:06

GC-09. Spin-transfer torque in magnetic junctions with ferromagnetic insulators. *J. Inoue*[1] *1. Nagoya University, Nagoya, Japan*

10:18

GC-10. Effects of the Valence Band of Insulator Layer in Spin Transfer Torque of Magnetic Tunneling Junctions. *C. You*[1], J. Han[2] and H. Lee[2] *1. Department of Physics, Inha Univ, Incheon, Korea, Republic of; 2. PCTP and Department of Physics, POSTECH, Pohang, Korea, Republic of*

10:30

GC-11. Spin Torque Switching Phase Diagram of a Two-Dot System With Pulsed Hard Axis Field. *J.D. Harms*[1], A.P. Lyle[1], A. Klemm[1], A. Lentsch[1], D. Martens[1] and J. Wang[1] *1. Electrical and Computer Engineering, Large Lakes Oberservatory, Minneapolis, MN*

10:42

GC-12. Withdrawn

10:54

GC-13. Separation of spin-torque, Oersted field, and Joule heating effects on the domain-wall depinning in V-shaped nanowires. *R. Frömter*[1], S. Hankemeier[1], B. Beyersdorff[1] and H. Oepen[1] *1. Institut für Angewandte Physik, Universität Hamburg, Hamburg, Germany*

11:06

GC-14. Investigation of lower current (4.2 x 10^6 A/cm^2) driven domain walls in TbFeCo nanowires. *H. Awano*[1], D. Ngo[1] and K. Ikeda[1] *1. Toyota Technological Institute, Nagoya, Japan*

11:18

GC-15. Measurements of Nanoscale Domain Wall Flexing in a Ferromagnetic Thin Film. *A.L. Balk*[1], M.E. Nowakowski[2], M.J. Wilson[1], D.W. Rench[1], P. Schiffer[1], D.D. Awschalom[2] and N. Samarth[1] *1. Physics, Penn State University, University Park, PA; 2. Physics, University of California, Santa Barbara, CA*

THURSDAY MORNING 8:30

GRAND CANYON 9-11

Session GD
NOVEL MEMORY AND ENERGY HARVESTING DEVICES

Sanjukta Bhanja, Chair

8:30

GD-01. Electrical Input Structures for Nanomagnetic Logic Devices. J. Kiermaier[1], S. Breitkreutz[1], G. Csaba[2], D. Schmitt-Landsiedel[1] and *M. Becherer*[1] *1. Lehrstuhl für Technische Elektronik, Technische Universität München, Munich, Germany; 2. Center for Nano Science and Technology, University of Notre Dame, Notre Dame, IN*

8:42

GD-02. Clocking Nanomagnet Logic Devices by Domain Walls. *G. Csaba*[1], J. Kiermaier[3], M. Becherer[3], S. Breitkreutz[3], X. Ju[2], P. Lugli[2], D. Schmitt-Landsiedel[3] and W. Porod[1] *1. Center for Nano Science and Technology, University of Notre Dame, Notre Dame, IN; 2. Institute for Nanoelectronics, Technical University of Munich, Munich, Germany; 3. Institute for Technical Electronics, Technical University of Munich, Munich, Germany*

8:54

GD-03. Ultra Low Power Processor using Perpendicular-STT-MRAM/SRAM based Hybrid Cache toward Next Generation Normally-off Computers. *K. Nomura*[1], K. Abe[1], H. Yoda[1] and S. Fujita[1] *1. Toshiba Corporation, Kawasaki, Japan*

9:06

GD-04. Design of a 270ps-Access 7T-2MTJ-Cell Nonvolatile Ternary Content-Addressable Memory. *S. Matsunaga*[1], A. Katsumata[2], M. Natsui[1,2], T. Endoh[1,2], H. Ohno[1,2] and T. Hanyu[1,2] *1. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

9:18

GD-05. A Hybrid Magnetic/CMOS Process Design Kit for the Design of Low-power Non-volatile Logic Circuits. *G. Di Pendina*[2,1], G. Prenat[1], B. Dieny[1] and K. Torki[2] *1. CEA, CNRS, UJF, INPG ; CEA/INAC, Spintec, Grenoble, France; 2. CNRS, CMP, Grenoble, France*

9:30

GD-06. Diffraction grating nanomanufactured from magnetic nanoparticles. J.R. Henderson[1], A. Netz[1], B. Terry[1] and *T.M. Crawford*[1] *1. Physics and Astronomy, University of South Carolina, Columbia, SC*

9:42

GD-07. 50%-Transistor-Less Standby-Power-Free 6-input LUT Circuit Using Redundant MTJ-Based Nonvolatile Logic-in-Memory Architecture. *D. Suzuki*[1], M. Natsui[1], T. Endoh[1], H. Ohno[1] and T. Hanyu[1] *1. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan*

9:54

GD-08. MTJ-Based Optimal V_{th}-Tuning Technique for a Process-Variation-Aware VLSI processor. *M. Natsui*[1], K. Yong Kun[1] and T. Hanyu[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

10:06

GD-09. Delayed Switching applied to Memristor Neural Networks. *F.Z. Wang*[1], L. Chua[3], N. Helian[2], X. Yang[1], S. Wu[1] and G. Lim[1] *1. School of Computing, University of Kent, Canterbury, United Kingdom; 2. School of Computer Science, University of Hertfordshire, Hatfield, United Kingdom; 3. University of California, Berkeley, CA*

10:18

GD-10. The direct conversion of heat to electricity using magnetic materials with phase transformations. ***(Invited)*** *R. James*[1] *1. Aerospace Engineering and Mechanics, University of Minnesota, Minneapolis, MN*

10:54

GD-11. Order-to-order Magnetic Phase Transitions for Thermal Energy Harvesting. *K.P. Wetzlar*[1], C. Hsu[1] and G. Carman[1] *1. Mechanical Engineering, UCLA, Los Angeles, CA*

11:06

GD-12. Macro-scale vibrational energy harvesting device using iron-gallium alloy (Galfenol). *T. Ueno*[1] and S. Yamada[1] *1. Kanazawa University, Kanazawa, Japan*

11:18

GD-13. Alternating magnetic field energy harvesting of a single wire based on Lorentz force effect. W. He[1,2], *P. Li*[1,2], Y. Wen[1,2], J. Qiu[1,2] and J. Zhang[1,2] *1. The Key Laboratory for Optoelectronic Technology & Systems, Ministry of Education, Chongqing, China; 2. College of Optoelectronic Engineering, Chongqing University, Chongqing, China*

THURSDAY MORNING 8:30

GRAND CANYON 2-3

Session GE
CORRELATED SYSTEMS
Vladimir Antropov, Chair

8:30

GE-01. Spin dynamics in the multiferroic materials. ***(Invited)*** *F. Ye*[1], J. Haraldsen[1], F.S. Randy[1], B. Lorenz[2], C. Chu[2] and T. Kimura[3] *1. Oak Ridge National Laboratory, Oak Ridge, TN; 2. University of Houston, Houston, TX; 3. Osaka University, Osaka, Japan*

9:06

GE-02. Crystal field excitations in $CeCu_2Ge_2$: Revisited employing a single crystal and inelastic neutron scattering.
M. Loewenhaupt[1], E. Faulhaber[2], A. Schneidewind[2], M. Deppe[3] and K. Hradil[4] *1. IFP, Dresden, Germany; 2. Helmhotz-Zentrum Berlin, Berlin, Germany; 3. MPI-CPfS, Dresden, Germany; 4. IPC, Goettingen, Germany*

9:18

GE-03. Direct Elucidation of the Effect of Building Defects on the Physical Properties of alpha-$TmAlB_4$; an AlB_2-type analogous "tiling" compound.
T. Mori[1], I. Kuzmych-Ianchuk[1], K. Yubuta[2], T. Shishido[2], S. Okada[3], K. Kudou[4] and Y. Grin[5] *1. National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. Tohoku University, Sendai, Japan; 3. Kokushikan University, Tokyo, Japan; 4. Kanagawa University, Yokohama, Japan; 5. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany*

9:30

GE-04. Exchange coupling revisited.
V. Antropov[1], L. Ke[1] and M. van Schilfgaarde[2] *1. Ames Laboratory, Ames, IA; 2. School of Materials, Arizona State University, Tempe, AZ*

9:42

GE-05. Electronic structural changes across the metamagnetic transition in FeRh via hard x-ray photoemission.
A.X. Gray[1,2], D.W. Cooke[3], P. Krü ger[4], C. Bordel[3,5], A.M. Kaiser[1,2], S. Moyerman[6], E.E. Fullerton[6], S. Ueda[7], Y. Yamashita[7], A. Gloskovskii[8], C.M. Schneider[9], W. Drube[8], K. Kobayashi[7], F. Hellman[3,2] and C.S. Fadley[1,2] *1. Department of Physics, University of California-Davis, Davis, CA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Department of Physics, University of California, Berkeley, Berkeley, CA; 4. ICB, UMR 5209, CNRS–Université de Bourgogne, Dijon Cedex, France; 5. GPM, UMR CNRS 6634, Université de Rouen, St. Etienne du Rouvray, France; 6. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA; 7. NIMS Beamline Station at SPring-8, National Institute for Materials Science, Sayo, Hy[|#333#|]go, Japan; 8. DESY Photon Science, Deutsches Elektronen-Synchrotron, Hamburg, Germany; 9. Peter-Grünberg-Institut PGI-6, Forschungszentrum Jülich GmbH, Jülich, Germany*

9:54

GE-06. Lifshitz Transition with Interactions in High Magnetic Fields: Application to $CeIn_3$
P.U. Schlottmann[1] *1. Department of Physics, Florida State University, Tallahassee, FL*

10:06

GE-07. The metamagnetic transition in FeRh is also an electronic transition.
M.A. de Vries[1], M. Loving[2], M. McLaren[3], A.P. Mihai[1], R. Fan[4], C.J. Kinane[4], S. Langridge[4], D.A. Arena[5], D. Heiman[6] and *C.H. Marrows*[1] *1. School of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom; 2. Department of Chemical Engineering, Northeastern University, Boston, MA; 3. School of process, Environmental and Materials Engineering, University of Leeds, Leeds, United Kingdom; 4. ISIS, Science and Technologies facilities council, Harwell, United Kingdom; 5. National Synchrotron Lightsource, Brookhaven lab, Upton, NY; 6. Department of Physics, Northeastern University, Boston, MA*

10:18

GE-08. Quantum-Mechanical Ising Models.
R. Skomski[1] and D.J. Sellmyer[1] *1. Physics and Astronomy, Univ Nebraska, Lincoln, NE*

10:30

GE-09. Optical properties of ferrimagnetic NiFe2O4 thin films.
Q.C. Sun[1], *D. Mazumdar*[2], J. Ma[2], A. Gupta[2] and J.L. Musfeldt[1] *1. Chemistry, University of Tennessee, Knoxville, TN; 2. MINT center, University of Alabama, Tuscaloosa, AL*

10:42

GE-10. Inelastic Neutron Scattering Study of UPd_2Sn.
N. Magnani[1,2], K. Gofryk[1,3], E. Colineau[1], J. Griveau[1], D.T. Adroja[4], K.A. McEwen[5], D. Kaczorowski[6] and R. Caciuffo[1] *1. Institute for Transuranium Elements, European Commission, Joint Research Centre, Karlsruhe, Germany; 2. Lawrence Berkeley National Laboratory, Berkeley, CA; 3. Los Alamos National Laboratory, Los Alamos, NM; 4. ISIS Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; 5. Department of Physics and Astronomy and London Centre for Nanotechnology, University College London, London, United Kingdom; 6. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland*

10:54

GE-11. Electronic Structure of PrCuSi and LaCuSi: Comparisons with Experiment.
S. Elgazzar[1], A. Strydom[1] and P. Oppeneer[2] *1. Johannesburg Univ., Aukland Park, South Africa; 2. Uppsala University, Uppsala, Sweden*

11:06

GE-12. Electronic Structure of ferrimagnetic $NiFe_2O_4$ using the screened Hybrid Functional Method.
H. Sims[1,2], D. Mazumdar[1], W.H. Butler[1,2] and A. Gupta[1] *1. MINT Center, University of Alabama, Tuscaloosa, AL; 2. Department of Physics, University of Alabama, Tuscaloosa, AL*

11:18

GE-13. Why does Si doping enhance the Curie temperature of Gd5(SixGe1-x)4 giant magnetocaloric compounds? *Y. Tseng*[1], N. Souza-Neto[2], D. Paudyl[3,4], Y. Mudryk[3,4], V.K. Pecharsky[3,4], K.A. Gschneidner, Jr.[3,4] and D. Haskel[2] *1. Materials Science & Engineering, National Chiao-Tung University, Hsin-Chu, Taiwan; 2. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 3. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA; 4. Materials Science and Engineering, Iowa State University, Ames, IA*

THURSDAY MORNING 8:30

GRAND CANYON 4-5

Session GF
EXCHANGE BIAS I

Bernhard Dieny, Chair

8:30

GF-01. nm-sized magnetic domains observed by small angle neutron scattering in $DyFe_2/YFe_2$ exchange coupled superlattices. *K. Dumesnil*[1], C. Dufour[1], M.R. Fitzsimmons[2], J.A. Borchers[3], K.L. Krycka[3], M. Laver[4] and J. Won[2] *1. Institut Jean Lamour, Vandoeuvre les Nancy, France; 2. Los Alamos National Laboratory, Los Alamos, NM; 3. NIST center for neutron research, Gaithersburg, MD; 4. Paul Scherrer Institut, Villigen, Switzerland*

8:42

GF-02. The formation mechanism of 360° domain walls in exchange-biased ferromagnetic films. *A. Kohn*[1], J.S. Dean[2], G. Hrkac[2], D.A. Allwood[2], A. Kovacs[3], A. Zeltser[4], M.J. Carey[4] and T. Schrefl[5] *1. Department of Materials Engineering and the Ilse Katz Institute for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Be'er-Sheva, Israel; 2. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 3. Department of Materials, University of Oxford, Oxford, United Kingdom; 4. Hitachi Global Storage Technologies, San Jose, CA; 5. St. Poelten University of Applied Science, St. Poelten, Austria*

8:54

GF-03. Towards tailoring magnetic properties in exchange-biased FM/AFM systems. *E. Jimenez*[1], J. Camarero[1,2], N. Mikuszeit[1], P. Perna[2], F.J. Teran[2], A. Bollero[2], J. Sort[3,4], J. Nogué s[3,5], J.M. Garcí a-Martí n[6,7], A. Hoffmann[8], B. Dieny[9] and R. Miranda[1,2] *1. Universidad Autónoma de Madrid, Madrid, Spain; 2. IMDEA-Nanociencia, Madrid, Madrid, Spain; 3. ICREA, Bellaterra, Barcelona, Spain; 4. Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain; 5. ICN-CSIC, Bellaterra, Barcelona, Spain; 6. IMM-CSIC, Tres Cantos, Madrid, Spain; 7. CNM, Tres Cantos, Madrid, Spain; 8. Argonne National Lab. CNM-MSD, Illinois, IL; 9. SPINTEC,CEA/CNRS/UJF, Grenoble, France*

9:06

GF-04. Exchange bias and domain evolution at 10 nm scales. ***(Invited)*** *H.J. Hug*[1,2], M.A. Marioni[1], S. Romer[1], S. Oezer[2] and N. Joshi[2] *1. NanoScale Materials Science, EMPA, Duebendorf, Switzerland; 2. Physics, University of Basel, Basel, Switzerland*

9:42

GF-05. Exchange Biased Nanostructures. ***(Invited)*** *I.K. Schuller*[1], R. Morales[2], M. Velez[3], O. Petracic[4], I.V. Roshchin[5], X. Batlle[6], J.M. Alameda[3], M. Kovylina[6], M. Erekhinsky[1], J.E. Villegas[7], A. Labarta[6], A. Porat[8] and S. Bar-Ad[8] *1. Physics, UCSD, La Jolla, CA; 2. U of the Basque Country and IKERBASQUE Basque Foundation for Science, Bilbao, Spain; 3. University of Oviedo-CINN, Oviedo, Spain; 4. Ruhr University, Bochum, Germany; 5. Texas A & M, College Station, TX; 6. University of Barcelona, Barcelona, Catalonia, Spain; 7. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 8. Tel Aviv University, Tel Aviv, Israel*

10:18

GF-06. The origin and evolution of positive exchange bias in Co/CoO nanostructures with in plane uniaxial anisotropy. *A.K. Suszka*[1], O. Idigoras[1] and A. Berger[1] *1. Nanomagnetism Group, CIC Nanogune, Donostia-San Sebastian, Spain*

10:30

GF-07. Distribution of blocking temperatures in exchange biased multiferroic-based heterostructures.S. Chenattukuzhiyil[1], J. Allibe[2], C. Carretero[2], C. Deranlot[2], E. Jacquet[2], M. Bibes[2], A. Barthé lé my[2], *H. Bea*[1] and V. Baltz[1] *1. Spintec, Grenoble Cedex 9, France; 2. UMR CNRS/Thales, Palaiseau, France*

10:42

GF-08. Tuning the isothermally-induced exchange-bias in perpendicularly coupled ferromagnetic [Pt/Co]/NiFe multilayers. *A. Bollero*[1], V. Baltz[2], L.D. Buda-Prejbeanu[2], P. Perna[1], J. Sort[3], J. Nogué s[4], B. Rodmacq[2], J. Camarero[1,5], R. Miranda[1,5] and B. Dieny[2] *1. IMDEA Nanoscience, Instituto Madrileño de Estudios Avanzados en Nanociencia, Madrid, Spain; 2. SPINTEC, UMR-8191 CNRS/CEA-INAC/UJF-Grenoble 1/Grenoble-INP, Grenoble, France; 3. Institució Catalana de Recerca i Estudis Avançats (ICREA) and Departament de Física, Universitat Autónoma de Barcelona, Bellaterra, Barcelona, Spain; 4. Institució Catalana de Recerca i Estudis Avançats (ICREA) and Institut Català de Nanotecnologia, Bellaterra, Barcelona, Spain; 5. Departamento de Física de la Materia Condensada and Instituto "Nicolás Cabrera", Universidad Autónoma de Madrid, Madrid, Spain*

10:54

GF-09. Switching process and large positive exchange-bias in TbFe/(Co/Pt)×5. *M.A. Marioni*[1], S. Romer[1], N.R. Joshi[2], S. Oezer[2], K. Thorwarth[1], L. Castaldi[4], M. Parlinska-Wojtan[1], T.V. Ashworth[3], H. Rohrmann[4] and H.J. Hug[1,2] *1. EMPA, Duebendorf, Switzerland; 2. University of Basel, Basel, Switzerland; 3. Nanoscan AG, Duebendorf, Switzerland; 4. OC Oerlikon Balzers AG, Balzers, Liechtenstein*

11:06

GF-10. $L1_0$ $Cr_{50}Pt_{50}$ phase formation and magnetic properties. *R. Zhang*[1,2], R. Skomski[1,2], P. Manchanda[3], A. Kashyap[3], S. Liou[1,2] and D.J. Sellmyer[1,2] *1. Physics & Astronomy, Univ. of Nebraska-Lincoln, Lincoln, NE; 2. Nebraska Center for Materials and Nanoscience, Lincoln, NE; 3. LNM Institute of Information Technology, Jaipur, Rajasthan, India*

11:18

GF-11. The Origin of Training in Polycrystalline Exchange Bias Systems. B. Kaeswurm[1] and *K. O'Grady*[1] *1. Department of Physics, The University of York, York, United Kingdom*

THURSDAY MORNING 8:30

GRAND CANYON 12-13

Session GG
BORIDES II
Jeffrey Shields, Chair

8:30

GG-01. Characterisation and Modelling of Interfaces in Nd-Fe-B Permanent Magnets.*(Invited)* *T.G. Woodcock*[1], G. Hrkac[2], T. Schrefl[3] and O. Gutfleisch[1] *1. IFW Dresden, Dresden, Germany; 2. University of Sheffield, Sheffield, United Kingdom; 3. St. Pölten University of Applied Sciences, St Pölten, Austria*

9:06

GG-02. Studies of sintered MRE-Fe-B magnets by DyF3 addition or diffusion treatment (MRE=Nd+Y+Dy). *W. Tang*[1], Y. Wu[1], K.W. Dennis[1], N.T. Oster[1], M.J. Kramer[1], I.E. Anderson[1] and R.W. McCallum[1] *1. Ames Lab of DOE, Ames, IA*

9:18

GG-03. Coercivity enhancement in nanocrystalline NdFeB hot pressed magnets by diffusion of DyF_3 *S. Sawatzki*[1], M. Mohr[1], J. Thielsch[1], L. Schultz[1] and O. Gutfleisch[1] *1. IFW Dresden, Institute for Metallic Materials, Dresden, Germany*

9:30

GG-04. Effects of Ag additions on melt-spun $RE_2Fe_{14}B$ microstructure and texture. *N. Oster*[1], D.T. Cavanaugh[2], K.W. Dennis[2], M.J. Kramer[1,2], R.W. McCallum[1,2] and I.E. Anderson[1,2] *1. Materials Science & Engineering, Iowa State Univeristy, Ames, IA; 2. Ames Laboratory USDOE, Ames, IA*

9:42

GG-05. Single-crystal and textured polycrystalline $Nd_2Fe_{14}B$ flakes with a submicron thickness. *B. Cui*[1,2], L. Zheng[2], W. Li[2], M. Marinescu[1], J. Liu[1] and G.C. Hadjipanayis[2] *1. Electron Energy Corporation, Landisville, PA; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE*

9:54

GG-06. Synthesis and Characterization of $Nd_{4+x}Fe_{72}Co_5Ga_2B_{17-x}$ Nanocomposite Ribbons. M. Daniil[2], M. Brandes[3] and *M.A. Willard*[1] *1. Magnetic Materials and Nanostructures Section, U. S. Naval Research Laboratory, Washington, DC; 2. Department of Physics, George Washington University, Washington, DC; 3. Department of Materials Science and Engineering, The Ohio State University, Columbus, OH*

10:06

GG-07. Magnetic microstructural uniformity of die-upset Nd-Fe-B magnets.Y. Fang[1,2], *X. Yin*[1], R. Zhao[2], S. Valloppilly[1], W. Li[2], M. Zhu[2] and S. Liou[1]*1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE; 2. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China*

10:18

GG-08. Phase and Microstructural Evolution Study of Nd-Fe-B Sintered Magnet during the Post-sintering Annealing. *T. Kim*[1], S. Lee[1], S. Namkung[2] and T. Jang[2]*1. Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Hybrid Engineering, Sunmoon University, Asan, Korea, Republic of*

10:30

GG-09. FORC Studies of Permanent Magnets. *G. Zimanyi*[1], T. Schrefl[2], T. Shoji[3], M. Winklhofer[4] and M. Yano[3]*1. Department of Physics, University of California, Davis, CA; 2. University of Applied Sciences, St. Polten, Austria; 3. Toyota Motor Corp., Toyota City, Japan; 4. Department of Geophysics, University of Munchen, Munich, Germany*

10:42

GG-10. Coercivity and microstructure of Nd-Fe-B textured polycrystalline thin films. *W. Cui*[1], Y. Takahashi[1] and K. Hono[1]*1. Magnetic Materials Unit, National Institution For Materials Science, Tsukuba, Ibaraki, Japan*

10:54

GG-11. High performance hard magnetic materials for MEMS. ***(Invited)*** *N. Dempsey*[1], F. Dumas-Bouchiat[1], Y. Zhang[1], G. Ciuta[1], L.F. Zanini[1,2] and D. Givord[1]*1. Institut Neel - CNRS/UJF, Grenoble, France; 2. G2Elab - Grenoble INP/UJF/CNRS, St Martin d'Hères, France*

THURSDAY MORNING 8:30

GRAND CANYON 1

Session GH
MAGNETIC NANOSTRUCTURES AND DEVICES FOR BIOMEDICAL APPLICATIONS

Olga Kazakova, Chair

8:30

GH-01. A Fully Automated IVD System Based on MTJ Arrays and Superparamagnetic Particles. *J. Lian*[1], Y. Gao[1] and S. Shi[1]*1. Institute of Physics and Chemistry, Beijing, China*

8:42

GH-02. On-chip platform based on magnetic tunnel junctions for bead magnetorelaxometry.M. Donolato[1], *D. Petti*[1], E. Sogne[1], B.T. Dalslet[2], M. Cantoni[1], J. Cao[3], F. Cardoso[3], S. Cardoso[3], P.P. Freitas[3], M.F. Hansen[2] and R. Bertacco[1]*1. Centro LNESS - Dipartimento di Fisica, Politecnico di Milano, Como, Italy; 2. Department of Micro- and Nanotechnology, Technical University of Denmark, Kongens Lyngby, Denmark; 3. INESC MN, Lisboa, Portugal*

8:54

GH-03. Magnetoresistive biosensor for lateral flow immunoassays.S.C. Freitas[1,2], *F.A. Cardoso*[1], P.P. Freitas[1,2], C. Marquina[3,4], D. Saurel[5], J. Marzo[5], D. Serrate[4,5], J.M. deTeresa[3,4] and M.R. Ibarra[4,5]*1. Microsystems and Nanotechnologies, INESC-MN, Lisbon, Portugal; 2. Physics Department, IST, Lisbon, Portugal; 3. Instituto de Ciencia de Materiales de Aragón ICMA, CSIC-Universidad de Zaragoza, Zaragoza, Spain; 4. Departamento de Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 5. Instituto de Nanociencia de Aragón (INA), Universidad de Zaragoza, Zaragoza, Spain*

9:06

GH-04. Detection and Susceptibility Measurements of a Single Dynal Bead.L. Di Michelle[1,2], C. Shelly[1], P. de Marco[1,2], P. See[1], A. Manzin[3] and *O. Kazakova*[1]*1. NPL, Teddington, Middlesex, United Kingdom; 2. Universita degli Studi dell'Aquila, L'Aquilla, Italy; 3. INRIM, Torino, Italy*

9:18

GH-05. Magneto-mechanical resonant detection of superparamagnetic microbeads trapped by magnetic domain walls. *E. Rapoport*[1] and G.S. Beach[1]*1. Materials Science and Engineering, MIT, Cambridge, MA*

9:30

GH-06. Domain walls arrays on PDMS substrate for magnetic particles actuation. *M. Donolato*[1] and P. Vavassori[1]*1. CiC Nanogune, San Sebastian, Spain*

9:42

GH-07. Magnetic Domain Wall Conduits for Single Cell Application. *A.M. Torti*[1], M. Donolato[3], N. Kostesha[2], M. Deryabina[2], P. Vavassori[3], M.F. Hansen[2] and R. Bertacco[1]*1. L-NESS - dipartimento di Fisica, Politecnico di Milano, Milano, Italy; 2. Department fo Micro and Nanotechnology, DTU Nanotech, Lyngby, Denmark; 3. CIC nanoGUNE consolider, Donostia San Sebastian, Spain*

9:54

GH-08. Synthesis of magnetic-optical Ni-Au core-shell nanowires and observation of cellular responses. *I. Jeon*[1,3], M. Cho[1], J. Cho[2], B. An[1], J. Wu[3], R. Kringel[4], D.S. Choi[4] and Y.K. Kim[1,3] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Korea Electronics Technology Institute, Seongnam, Gyeonggi, Korea, Republic of; 3. Pioneer Research Center for Biomedical Nanocrystals, Korea University, Seoul, Korea, Republic of; 4. Department of Chemical and Materials Engineering, University of Idaho, Moscow, ID*

10:06

GH-09. Disrupting Fe3O4 Nanocube Magnetic Cross-Talk With FePt Inclusions. *K. Krycka*[1], C. Lai[2], B.J. Kirby[1] and J.A. Borchers[1] *1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

10:18

GH-10. Innovative biomagnetic imaging sensors for breast cancer: a model-based study. *Y. Deng*[1] *1. Electrical Engineering, Bioengineering, University of Colorado Denver, Denver, CO*

10:30

GH-11. Magnetic Anisotropy and its Role in Magnetic Particle Imaging. E.A. Olson[1,2], C. Gruettner[3] and *C. Dennis*[1] *1. NIST, Gaithersburg, MD; 2. University of Virginia, Charlottesville, VA; 3. Micromod Partikeltechnologie, GmbH, Rostock, Germany*

10:42

GH-12. Potential bimodal, luminescent and magnetic, imaging probes based on Polyol-made Zn1-xMnxS nanoparticules. *M. Giraud*[1], M. Gaceur[1], M. Hemadi[1], N. Menguy[2], J. Von Bardeleben[3], M. Boissiè re[4] and S. Ammar[1] *1. Chemistry, University Paris Diderot, Paris Cedex 13, France; 2. IMPMC, Université Pierre et Marie Curie, IPGP, CNRS UMR-8104,, Paris, France; 3. INSP, Université Pierre et Marie Curie, CNRS UMR- 7588, Paris, France; 4. ERRMECe EA1391, Institut des Matériaux, Université de Cergy-Pontoise et Marie Curie, CNRS UMR- 7588, Cergy, France*

10:54

GH-13. Enhancing cancer therapeutics using size-optimized magnetic fluid hyperthermia. *A. Khandhar*[1], R.M. Ferguson[1], J.A. Simon[2] and K.M. Krishnan[1] *1. Materials Science & Engineering, University of Washington, Seattle, WA; 2. Division of Clinical Research, Fred Hutchinson Cancer Research Center, Seattle, WA*

11:06

GH-14. Magnetically-driven spinning nanowires as effective materials for eradicating living cells. *D. Choi*[1], J. Park[1], X. Hopkins[1], R. Kringel[1], I. Jeon[2] and Y.K. Kim[2] *1. Chemical & Materials Engineering, University of Idaho at Moscow, Moscow, ID; 2. Materials Science & Engineering, Korea University, Seoul, Korea, Republic of*

11:18

GH-15. FePt magnetic capsules and their applications to magnetically guided drug delivery system. *T. Fuchigami*[1], R. Kawamura[1], Y. Kitamoto[1], M. Nakagawa[2] and Y. Namiki[3] *1. Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 3. Institute of Clinical Medicine and Research, The Jikei University School of Medicine, Kashiwa, Japan*

THURSDAY MORNING 8:00 — SAGUARO BALLROOM

Session GP
HYSTERESIS AND MAGNETIC MODELING (Poster Session)

Alberto Guimaraes, Chair

GP-01. Effect of rounded corners on the magnetic properties of pyramidal-shaped shell structures. A. Knittel[1], *M. Franchin*[1], F. Nasirpouri[2], S.J. Bending[3] and H. Fangohr[1] *1. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 2. Department of Materials Engineering, Sahand University of Technology, Tabriz, Iran, Islamic Republic of; 3. Department of Physics, University of Bath, Bath, United Kingdom*

GP-02. Modeling the effects of nanosized precipitates on magnetic hysteresis and Barkhausen effect signal. *C. Lo*[1] *1. Center for NDE and Ames Laboratory, Iowa State University, Ames, IA*

GP-03. Dynamic Hysteresis Modeling of Silicon Steel Having Nonuniform Magnetic Property. *R. Mitsuoka*[1], T. Mifune[1] and T. Matsuo[1] *1. Department of Electrical Engineering, Kyoto University, Kyoto, Japan*

GP-04. An Efficient Vector Preisach Hysteresis Model Based on a Novel Rotational Operator. *A. Sutor*[1], J. Kallwies[1] and R. Lerch[1] *1. Chair of Sensor Technology, University Erlangen-Nuremberg, Erlangen, Germany*

GP-05. Permanent Magnet Online Magnetization Performances Analysis of a Flux Mnemonic Double Salient Motor Using an Improved Hysteresis Model. X. Zhu[1], L. Quan[1], *H. Li*[1] and Y. Chen[1] *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China*

GP-06. Description of Materials with Two-Magnetic-Phase Behavior in Jiles-Atherton Theory of Hysteresis. *A. Raghunathan*[1], Y. Melikhov[2], J. Snyder[2] and D. Jiles[3] *1. JFWTC, GE Global Research, Bangalore, KA, India; 2. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom; 3. Electrical and Computer Engineering, Iowa State University, Ames, IA*

GP-07. Effect of size distribution on properties of magnetic nanoparticles. *X. Han*[1,2], J. Du[1] and J. Liu[2,1] *1. Magnetic Materials and Advanced Devices, Ningbo Institute of Material Technology and Engineering, Ningbo, Zhejiang, China; 2. Department of Physics, University of Texas at Arlington, Arlington, TX*

GP-08. Hysteresis and entropy changes in itinerant electron. *N.A. de Oliveira*[1], L.G. de Medeiros Jr[2] and A. Troper[3] *1. Instituto de Fisica, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil; 2. INFES, Universidade Federal Fluminense, Santo Antonio de Padua, Rio de Janeiro, Brazil; 3. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Rio de Janeiro, Brazil*

GP-09. Approach to a limiting cycle in thermally relaxing media. *K. Ivo*[1] and C. Chang[1] *1. Department of Physics, National Taiwan University, Taipei, Taiwan*

GP-10. Influence of noise color on stochastic resonance in hysteretic systems. *M. Dimian*[1], O. Manu[1] and P. Andrei[2] *1. Electrical Engineering and Computer Science, Stefan cel Mare University, Suceava, Romania; 2. Electrical and Computer Engineering, Florida State, Tallahassee, FL*

GP-11. Extended Finite Element Method and the Application in Electromagnetic Field. N. Duan[1], S. Wang[1], J. Qiu[1], W. Xu[1], *J. Zhu*[2], Y. Guo[2] and Z. Lin[2] *1. Xi'an Jiaotong University, Xi'an, China; 2. University of Technology, Sydney, Sydney, NSW, Australia*

GP-12. Multiple 360°DW switching in thin ferromagnetic nanorings in an applied circular field. *K. Aidala*[1], A. Goldman[1], A.S. Licht[1], Y. Li[1], N.R. Pradhan[1,2] and M.T. Tuominen[2] *1. Physics, Mount Holyoke College, South Hadley, MA; 2. Physics, University of Massachusetts, Amherst, MA*

GP-13. Comparison of Parameter Determination Techniques for Jiles-Atherton Theory of Hysteresis. *Y. Melikhov*[1], A. Raghunathan[2] and D. Jiles[3] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, Wales, United Kingdom; 2. JFWTC, GE Global Research, Bangalore, KA, India; 3. Electrical and Computer Engineering, Iowa State University, Ames, IA*

GP-14. Micromagnetic study of magnetization processes in permalloy antidot arrays. L. Torres[2], D. Gonzalez[3], O. Alejos[3], K.J. Merazzo[1], M. Vazquez[1] and *R. Perez*[1] *1. ICMM-CSIC, Madrid, Madrid, Spain; 2. Universidad de Salamanca, Salamanca, Salamanca, Spain; 3. Dpto. Electricidad y Electrónica, Universidad de Valladolid, Valladolid, Valladolid, Spain*

GP-15. Magnetization Process Modeling for Silicon Steel Using Simplified Domain-Structure Model. *M. Sudo*[1] and T. Matsuo[1] *1. Electrical Engineering, Kyoto University, Kyoto, Japan*

THURSDAY MORNING 8:00 — SAGUARO BALLROOM

Session GQ
FERROMAGNETIC SEMICONDUCTOR OXIDES (Poster Session)

Jaceck Furdyna, Chair

GQ-01. Ferromagnetic spin ordering in Co doped amorphous InGaZnO by hydrogen mediation. *S. Lee*[1], W. Kim[1], S. Seo[2], Y. Cho[1], J. Bae[3], H. Koinuma[1,4] and S. Jeong[1] *1. Department of Cogno-Mechatronics Engineering, Pusan National University, Miryang, Gyeongsangnam-do, Korea, Republic of; 2. Department of Nanomaterials Engineering, Pusan National University, Miryang, Gyeongsangnam-do, Korea, Republic of; 3. Korea Basic Science Institute, Busan, Korea, Republic of; 4. Graduate School of Frontier Science, The University of Tokyo, Kashiwa, Chiba, Japan*

GQ-02. Practical limits for detection of ferromagnetism using high sensitivity magnetometry. *L.M. Pereira*[1,2], J.P. Araujo[1], M.J. Van Bael[3], K. Temst[2] and A. Vantomme[2] *1. IFIMUP and IN-Institute of Nanoscience and Nanotechnology, University of Porto, Porto, Portugal; 2. IKS - Nuclear and Radiation Physics and INPAC, K. U. Leuven, Leuven, Belgium; 3. Laboratory of Solid-State Physics and Magnetism and INPAC, K. U. Leuven, Leuven, Belgium*

GQ-03. Room temperature ferromagnetism in monoclinic Mn-doped ZrO2 thin films. *H. Nguyen*[1], C. Park[1], A. Raghavender[1], O. Ciftja[2], N.S. Bingham[3], M. Phan[3] and H. Srikanth[3] *1. Physics & Astronomy, Seoul National University, Seoul, Korea, Republic of; 2. Physics, Prairie View A&M University, Prairie View, TX; 3. Physic, University of South Florida, Tampa, FL*

GQ-04. Structural and Magnetic Investigations of DMS SnO_2:Co Thin Films Grown by RF Sputtering. *G.M. Stoian*[1], P.A. Stampe[2], R.J. Kennedy[2], Y. Xin[3], E. Lochner[1] and S. von Molnár[1] *1. Physics, Florida State Univ, Tallahassee, FL; 2. Physics, Florida A & M University, Tallahassee, FL; 3. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL*

GQ-05. Ion irradiation as a controllable approach to study the defect-induced ferromagnetism. *S. Zhou*[1], K. Potzger[1], Z. Yang[2], M. Helm[1] and J. Fassbender[1] *1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, Anhui, China*

GQ-06. Charge-transfer induced ferromagnetism in a nanostructured ZnO-Al system: An x-ray absorption near edge structure study. *S. Chen*[1], J. Garitaonandia[1,2] and K. Suzuki[1] *1. Materials Engineering, Monash University, Clayton, VIC, Australia; 2. Zientzia eta Teknologia Fakultatea, Euskal Herriko Unibertsitatea, Bilbao, Spain*

GQ-07. Iron doped Zirconia as Diluite Magnetic Semiconductor. D. Sangalli[1], E. Cianci[1], *A. Lamperti*[1] and A. Debernardi[1] *1. Laboratorio MDM, IMM-CNR, Agrate Brianza, (MB), Italy*

GQ-08. The spin ordering in ZnCoO by hydrogen mediation and its applications. *S. Jeong*[1], S. Lee[1], Y. Cho[1], J. Shin[2], W. Kim[1], S. Kim[2], C. Cho[2] and H. Koinuma[1,3] *1. Department of Cogno-Mechatronics Engineering, Pusan National University, Miryang, Korea, Republic of; 2. Department of Nano fusion technology, Pusan National University, Miryang, Korea, Republic of; 3. Graduate School of Frontier Science, The University of Tokyo, Kashiwa, Chiba, Japan*

GQ-09. Magnetic and transport properties of Al-doped TiO2 thin films. X. Wang[1,2], Y. Song[1], Y. Sui[1], Z. Liu[1], P. Liu[2] and *J. Tang*[2] *1. Harbin Institute of Technology, Harbin, China; 2. Department of Physics & Astronomy, University of Wyoming, Laramie, WY*

GQ-10. Size, Surface Structure and Doping Effects on Ferromagnetism in SnO_2 *G.A. Alanko*[1], A. Thurber[1] and A. Punnoose[1] *1. Physics, Boise State University, Boise, ID*

GQ-11. Unusual crystallite expansion and modification of ferromagnetism due to aging in pure and doped ZnO nanoparticles. *A.P. Thurber*[1], G.L. Beausoleil[1], K.N. Dodge[1] and A. Punnoose[1] *1. Physics, Boise State University, Boise, ID*

GQ-12. Carrier-mediated Interaction of Magnetic Moments in Oxygen Vacancy Controlled Epitaxial Mn doped ZnO Thin Films. *D. Mukherjee*[1], P. Mukherjee[1], H. Srikanth[1] and S. Witanachchi[1] *1. Department of Physics and Center for Integrated Functional Materials (CIFM), University of South Florida, Tampa, FL*

GQ-13. Ferromagnetic and ferroelectric properties of Cu-doped ZnO. *X. Huang*[1], T. Herng[1], K. Zeng[2] and J. Ding[1] *1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Mechanical Engineering, National University of Singapore, Singapore, Singapore*

GQ-14. Room Temperature Spontaneous Magnetization in Undoped ZnO Nanoparticles. *D. Ortega*[1,2], S.J. Chen[3], K. Suzuki[3] and J.S. Garitaonandia[4] *1. Physics and Astronomy, University College London, London, Greater London, United Kingdom; 2. The Davy-Faraday Research Laboratory, The Royal Institution of Great Britain, London, United Kingdom; 3. Department of Materials Engineering, Monash University, Melbourne, VIC, Australia; 4. Fisika Aplikatua II, Euskal Herriko Unibertsitatea, Bilbao, Bizkaia, Spain*

GQ-15. *Ab initio* calculation of ferromagnetism in Ti:ZnO with a corrected-band-gap scheme. B. Shao[1], H. Liu[2] and *X. Zuo*[1] *1. College of Information Technical Science, Nankai University, Tianjin, China; 2. Office of International Academic Exchanges, Nankai University, Tianjin, Tianjin, China*

THURSDAY MORNING 8:00 — SAGUARO BALLROOM

Session GR
RARE-EARTH ALLOY NANOSTRUCTURES (Poster Session)

Narayan Poudyal, Chair

GR-01. Fine grained NdFeB magnets prepared by low temperature pre-sintering and subsequent hot pressing. *R. Chen*[1,2], X. Tang[1,2], C. Yan[1,2], W. Yin[1,2], M. Lin[1,2], D. Lee[1,2] and A. Yan[1,2] *1. Key Laboratory of Magnetic Materials and Devices, Ningbo Institute of Material Technology and Engineering, Ningbo, China; 2. Zhejiang Province Key Laboratory of Magnetic Materials and Application Technology, Ningbo Institute of Material Technology and Engineering, Ningbo, China*

GR-02. Novel Sm-Fe-N Nanoflakes Produced by Surfactant-Assisted High Energy Ball Milling. *N. Gunduz Akdogan*[1], L. Zheng[1,2], W. Li[1] and G.C. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. School of Electromechanical Engineering, Hebei University of Engineering, Handan, China*

GR-03. Effect of milling time on magnetic properties and structures of bulk Sm-Co/(Fe, Co) nanocomposite magnets. *Y. Shen*[1,5], M. Huang[2,5], Z. Turgut[2,5], M. Lucas[3,5], E. Michel[4,5] and J. Horwath[5] *1. UDRI, University of Dayton, Dayton, OH; 2. UES Inc., Dayton, OH; 3. UTC Inc., Dayton, OH; 4. Wright State University, Dayton, OH; 5. AFRL, Wright-Patterson Air Force Base, Dayton, OH*

GR-04. The mixing of Fe/Co and its effect on the exchange interaction in $SmCo_5$/[|#11#|]α–Fe nano-composite: a first-principles study. *X. Liu*[1] and Z. Altounian[1] *1. physics department, McGill University, Montreal, QC, Canada*

GR-05. Temperature effect on dipolar and exchange interactions for $SmCo_5$ + $Fe_{65}Co_{35}$ nanocomposite powders. L.P. Muñ oz Ortega[1], *J.T. Elizalde Galindo*[1], C.R. Santillan Rodriguez[2] and J.A. Matutes Aquino[2] *1. Physics and Mathematics, Universidad Autónoma de Ciudad Juárez, Cd. Juárez, Chihuahua, Mexico; 2. Centro de Investigación en Materiales Avanzados, Chihuahua, Chihuahua, Mexico*

GR-06. Highly coercive and textured $SmCo_5$ nanoflakes prepared by surfactant assisted high energy ball milling. *S.K. Pal*[1], J. Thielsch[1], L. Schultz[1] and O. Gutfleisch[1] *1. Institute of Metallic Materials, Leibniz IFW Dresden, Dresden, Germany*

GR-07. Structure and magnetic properties of magnetic field annealed Nd2Fe14B/α-Fe composite magnets. *X. Zhang*[1], Y. Liu[1], Q. Ma[1], Q. Zhang[1] and L. Xu[1] *1. School of Mathmatics,Physics and Biologcal Engineering, Inner Mongolia University of Science and Technology, Baotou, Inner Mongolia, China*

GR-08. Influence of in situ precipitated α-Fe atoms on structure and magnetic properties of NdFeB/α-Fe nanocomposite magnets based NdFeB melt-spun. *J. Nie*[1], J. Liu[1], J. Du[1], D. Lee[1], W. Li[1,2] and A. Yan[1] *1. Ningbo Institute of Material Technology & Engineering,CAS, Ningbo, China; 2. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China*

GR-09. Synthesis, microstructure and magnetic properties of low Nd content Fe90Nd5B3.5M1.5 (M= Hf, Ti and Ta) alloys. *Z. Zeqiang*[1], S. Parmanand[2], Y. Kunio[2] and M. Akihiro[2] *1. Graduate School, Tohoku,University,980-8577, Sendai, Japan; 2. Institute for Materials Research, Tohoku University,980-8577, Sendai, Japan*

GR-10. Hexagonal nanorods in disproportionated Sm2Fe17 and Nd(Fe,Mo)12 alloys. *Z. Lin*[1], J. Han[1], M. Xing[1], S. Liu[1], J. Yang[1] and Y. Yang[1] *1. Peking University, Beijing, China*

GR-11. Melt spun and suction cast Nd-Fe-Co-B-Nb hard magnets with high Nd contents. X. Cui[1], *Z. Liu*[1] and D. Zeng[1] *1. School of Material Science and Engineering, South China University of Technology, Guangzhou, China*

GR-12. Structure and magnetic properties of nanocrystalline Sm2Co17/Co magnet prepared by SPS. *D. Zhang*[1,2], W. Geng[1], M. Yue[1], W. Liu[1], J. Zhang[1] and Y. Qiang[2] *1. College of Science and Engineering, Beijing university of technology, Beijing, China; 2. Physics Department, University of Idaho, Moscow, ID*

GR-13. Magnetic excitations in rare earth based nanosystems. *K. Dumesnil*[1], C. Dufour[1], S. Petit[2] and A. Bataille[2] *1. Institut Jean Lamour, Vandoeuvre les Nancy, France; 2. Laboratoire Léon Brillouin, Saclay, France*

GR-14. Microstructure and magnetic properties of the FePt film on a membrane of anodized aluminium oxide. *C. Chang*[1], S. Chen[1,2] and Y. Yao[2] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan*

GR-15. Effects of Ta spacer layers on the thermal stability, microstructures and magnetic properties of FePt films on Si(100). *S. Chen*[1,2], Y. Yao[2] and C. Yu[3] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Applied Science and Engineering, Fu Jen University, Taipei, Taiwan; 3. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

THURSDAY MORNING 8:00 — SAGUARO BALLROOM

Session GS
SPINTRONIC EFFECTS AND DOMAIN WALLS (Poster Session)

Vasil Tiberkevich, Chair

GS-01. Oscillatory interlayer exchange coupling in CPP-GMR trilayer with $Co_2Fe(Al_{0.5}Si_{0.5})$ Heusler alloy layers and a Ag spacer. *T.M. Nakatani*[1], T. Furubayashi[1] and K. Hono[1] *1. National Institute for Materials Science, Tsukuba, Japan*

GS-02. Observation of anomalous Hall-Effect in perpendicular magnetized $Mn_{3-x}Ga$ thin films. *D. Ebke*[1], M. Glas[1], S. Fabretti[1], P. Thomas[1] and G. Reiss[1] *1. Thin Films and Physics of Nanostructures, Bielefeld University, Bielefeld, Germany*

GS-03. Determination of Magnetoresistance of Single Domain Wall in Perpendicularly Magnetized TbFeCo Wire. S. Li[1], T. Amagai[1], *X. Liu*[1,2] and A. Morisako[1,2] *1. Information Engineering, Faculty of Engineering, Shinshu University, Nagano, Japan; 2. Spin Device Technology Center, Faculty of Engineering, Shinshu University, Nagano, Japan*

GS-04. Anomalous Hall Effect in Co-based Heusler Compounds Co_2FeAl and Co_2FeSi. *I. Imort*[1], G. Reiss[1] and A. Thomas[1] *1. University Bielefeld, Bielefeld, Germany*

GS-05. Magnetic and Transport Properties of Perpendicularly Magnetized Co/Pd Nano-wires. *X. Liu*[1] and A.O. Adeyeye[1] *1. Electrical and Computer Engineering, Information Storage Materials Laboratory, Singapore, Singapore*

GS-06. Magnetization and magnetoresistance First-Order-Reversal-Curves in spin-valves. *L. Alonso*[1], L.C. Nagamine[1] and D.R. Cornejo[1] *1. Physics of Materials Dept., University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil*

GS-07. Observation of Anomalous Hall effect in Cu-Py-crossed structure with in-plane magnetization. D. Chen[1], *Y. Yao*[2], Y. Chiu[3] and S. Lee[3] *1. Department of Material Science and Engineering, National Cjiao Tung University, Hsinchu, Taiwan; 2. Graduate Institute of Applied Science and Engineering, Fu Jen Catholic University, New Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

GS-08. Effect of different compositions of CoFeB spin polarizer on magnetoresistance and switching property of Co/Pd multilayers with PMA. *T. Tahmasebi*[1,2], S. Piramanayagam[1], R. Sbiaa[1], H. Tan[1] and T. Chong[3] *1. Data Storage Institute (DSI), Data Storage Institute (DSI), A*STAR (Agency for Science, Technology and Research), 5, Engineering Drive 1, Singapore, Singapore; 2. Electrical and Computer Engineering Department, National University of Singapore, NUS, Singapore, Singapore; 3. Singapore University of Technology and Design (SUTD), Singapore, Singapore*

GS-09. Magnetotransport properties of ferromagnetic semiconductor superlattices based on GaMnAs. S. Chung[1], *S. Lee*[1], H. Lee[1], T. Yoo[1], S. Lee[1], X. Liu[2] and J.K. Furdyna[2] *1. Department of physics, kroea university, Seoul, Korea, Republic of; 2. Department of physics, University of Notre Dame, Notre Dame, IN*

GS-10. Effect of inserting a permalloy film in current-perpendicular-to-plane Co-HfO2 granular film device. S. Regunathan[1] and *V. Ng*[1] *1. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National Univ Singapore, Singapore, Singapore*

GS-11. Enhanced junction magnetoresistance in La0.7Sr0.3MnO3/ZnO:Fe,Al carrier induced dilute magnetic semiconductor heterojunctions. *T.K. Nath*[1], S. Chattopadhyay[1] and J. Panda[1] *1. Physics and Meteorology, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India*

GS-12. Temperature Dependence of Spin Polarization in Co/Ni Determined from Current Induced DW Motion. *K. Ueda*[1], T. Koyama[1], D. Chiba[1,2], Y. Nakatani[3] and T. Ono[1] *1. Institute for Chemical Research, Kyoto Uni., Uji, Kyoto, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. University of Electro-Communications, Chofu, Tokyo, Japan*

GS-13. Direct Imaging of Non-Adiabatic Spin Torque Effects on Vortex Core Orbits. *S. Pollard*[1], L. Huang[1], K.S. Buchanan[2], D.A. Arena[3] and Y. Zhu[1] *1. Condensed Matter Physics and Materials Science, Brookhaven National Laboratory, Upton, NY; 2. Department of Physics, Colorado State University, Fort Collins, CO; 3. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY*

GS-14. Spinmotive force as a universal probe of domain-wall dynamics. *O. Tretiakov*[1], Y. Liu[1] and A. Abanov[1] *1. Physics, Texas A&M University, College Station, TX*

GS-15. Magnetic ripple dynamics under spin current. *Y. Togawa*[1,4], K. Takayanagi[1], Y. Nakatani[2], S. Mori[3,4] and K. Harada[3] *1. Nanoscience and Nanotechnology Research Center, Osaka Prefecture University, Sakai, Osaka, Japan; 2. Graduate School of Informatics and Engineering, University of Electro-Communications, Choufu, Tokyo, Japan; 3. Department of Materials Science, Osaka Prefecture University, Sakai, Osaka, Japan; 4. CREST, Japan Science and Technology Corporation (JST), Chiyoda, Tokyo, Japan*

THURSDAY MORNING 8:00 SAGUARO BALLROOM

Session GT
MAGNETOELECTRONIC MATERIALS II (Poster Session)

Jing Lou, Chair

GT-01. E-field tuning microwave frequency performance of nanocomposite Co2FeSi/PZN-PT magnetoelectric coupling structure. *S. Li*[1], M. Liu[2,3], J. Lou[2], J. Qiu[1], J. Lin[1], X. Cai[1], F. Xu[4], N. Sun[2] and J. Duh[5] *1. Physics, Fujian Normal University, Fuzhou, Fujian, China; 2. Electrical and Computer Engineering, Northeaster University, Boston, MA; 3. Center for Nanoscale materials, Argonne National Laboratory, Argonne, IL; 4. Materials Science and Technology, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 5. Materials Scinece and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

GT-02. Epitaxial BaTiO3-Mn0.4Zn0.87Fe2O4 magnetodielectric nanocomposite films. *F. Bai*[1,2] and H. Zhang[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of Materials Science and Engineering, Virginia Tech, Blacksburg, VA*

GT-03. Electrical control of reversible and permanent magnetization reorientation for magnetoelectric memory devices. *T. Wu*[1], A. Bur[1], K. Wong[2], P.K. Amiri[2], K.L. Wang[2] and G.P. Carman[1] *1. Mechanical and Aerospace Engineering, UCLA, Los Angeles, CA; 2. Electrical Engineering, UCLA, Los Angeles, CA*

GT-04. Highly Self-biased magnetoelectric response in magnetostrictive/piezoelectric composite with two different ferromagnetic materials. L. Chen[1], *P. Li*[1], Y. Wen[1], J. Qiu[1] and P. Wang[1] *1. College of Optoelectronic Engineering, Chongqing University, ChongQing, China*

GT-05. Dimension-dependent frequency multiplying behavior in magnetoelectric laminate devices. W. Zhang[1], G. Yin[1], J. Bai[1], J. Cao[1], D. Wei[2], X. Liu[3] and *F. Wei*[1] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Lab of Advanced Materials, Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China; 3. Department of Information Engineering, Shinshu University, Nagano, Japan*

GT-06. Magnetoelectric effect in AlN/CoFe bi-layer thin film composites. *N.B. Simhachalam*[1] and L. Malkinski[1] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA*

GT-07. High Magnetoelectric Tuning Effect in Polymer-Based Laminates of Epoxy-Bonded Terfenol-D Pseudo-1–3 Magnetostrictive Composite and PVDF Piezoelectric Polymer under Resonance Drive. *Y. Duan*[1,2], C. Leung[2] and S. Or[2] *1. College of Civil Engineering and Architecture, Zhejiang University, Hangzhou, China; 2. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China*

GT-08. Magneto-Electric Effects on A Single Slab of Sr Z-type Hexa-Ferrite at Room Temperature. *K. Ebnabbasi*[1], Y. Chen[1], A. Geiler[1], V. Harris[1] and C. Vittoria[1] *1. Northeastern University, Boston, MA*

GT-09. Electric field modulation of magnetism and electroresistance in magnetoelectric heterostructures. S. Chen[1,2], Q. Ye[1], F. Liu[1], *S. Li*[1,3], Z. Huang[1] and D. Wang[2] *1. Department of Physics, Fujian Normal University, Fuzhou, Fujian, China; 2. Department of Physics, Nanjing University, Nanjing, jiansu, China; 3. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA*

GT-10. Electrical and magnetic properties of La-doped Bi2FeCrO6 synthesized by high pressure sintering. *F. Bai*[1], L. Shi[1] and H. Zhang[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

GT-11. Effects of local structural distortion on electric polarization and magnetization in $BiFeO_3$ with Pr, Ba co-doping. G. Cheng[1], Z. Jiang[1], J. Du[1] and *X. Wu*[1] *1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China*

GT-12. Effect of reduced particle size on the magnetic and dielectric properties of chemically synthesized multiferroic $DyFeO_3$ Nanocrystals. *A. Jaiswal*[1], R. Das[1], T. Maity[1] and P. Poddar[1] *1. Physical Chemistry Div., National Chemical Laboratory, Pune, India*

GT-13. Electric field control of magnetic anisotropy in Fe/$BaTiO_3$ *V. Gorige*[1], Y. Shirahata[1], M. Itoh[1] and T. Taniyama[1] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan*

GT-14. $L1_0$ ordered $Fe_{50}Pt_{50}$ and Co-based superlattices as perpendicular magnetic electrodes for tunnel junctions. *Z. Kugler*[1], G. Reiss[1] and A. Thomas[1] *1. Thin Films and Physics of Nanostructures, Bielefeld University, Bielefeld, NRW, Germany*

GT-15. Comprehensive analysis on the magnetoelectric response of magnetostrictive/piezoelectric laminate transducers. *Y. Wen*[1], P. Li[1], J. Yang[1], D. Wang[1] and J. Qiu[1] *1. Optoelectric Eng Dept, Chongqing Univ., Chongqing, China*

THURSDAY MORNING 8:00 — SAGUARO BALLROOM

Session GU
CONTINUOUS RECORDING MEDIA (Poster Session)

Hans-Juergen Richter, Chair

GU-01. Microstructure and Pinning Site Study of Highly (0001) Textured Sm(Co,Cu)5 Thin Films Grown on Ru Underlayer. *H. Zhao*[1], H. Wang[1], X. Liu[1] and J. Wang[1] *1. MINT Center, Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

GU-02. Effects of oxide additives on inter-grain coupling. *H. Hou*[1], J. Liao[1], L. Wang[1], C. Lai[1], R. Chen[2], C. Chiu[2], H. Lin[3] and F. Chang[3] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. China Steel Corporation, Kaohsiung, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan*

GU-03. Relationship between magnetic viscosity, reptation and adjacent track interference in advanced exchange-coupled perpendicular recording media. *K. Srinivasan*[1] and E. Roddick[1] *1. Western Digital, San Jose, CA*

GU-04. Switching Phase Diagrams of ECC media Using Two-Particle Model. K. Zhang[1], Z. Han[1], D. Wei[1] and *K. Gao*[2] *1. Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China; 2. Advance Technology Development, Seagate Technology, Bloomington, MN*

GU-05. Ferro-Magnetic Resonance with Coupling Mode for Magnetic Nano-Column Assembly. *D. Hasegawa*[1] and S. Saito[2] *1. Waseda Institute for Advanced Study, Waseda University, Tokyo, Tokyo, Japan; 2. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan*

GU-06. Quantitative Evaluation of Intergranular Exchange Field for Granular Media by Ferromangetic Resonance. *S. Hinata*[1], S. Saito[1], D. Hasegawa[2] and M. Takahashi[1] *1. Electronic Engineering, Tohoku Univ., Sendai, Miyagi, Japan; 2. Waseda Institute for Advanced Study, Waseda Univ., Shinjuku-ku, Tokyo, Japan*

GU-07. Magnetic anisotropy of $L1_0$ type FePt-X (X=C, SiO_2 and TiO_2) granular media. *Y. Inaba*[1,2], T. Shimatsu[1], D. Inoue[1,2], K. Kudo[1,3], H. Aoi[1], S. Okamoto[4] and O. Kitakami[4] *1. RIEC, Tohoku University, Sendai, Japan; 2. Fuji Electric Co., Ltd., Matsumoto, Japan; 3. Tanaka Kikinzoku Kogyo K.K., Tsukuba, Japan; 4. IMRAM, Tohoku University, Sendai, Japan*

GU-08. Magnetic studies of FePt(001) films with graded anisotropy deposited on glass substrates. *F. Yuan*[1], J. Hsu[1], Y. Lin[2], P. Kuo[2] and J.K. Mei[3] *1. Physics, National Taiwan University, Taipei, Taiwan; 2. Materials Science & Engineering, National Tawian University, Taipei, Taiwan; 3. Department and Institute of Electrical Engineering, Minghsin University of Science and Technology, Hsin-Chu, Taiwan*

GU-09. Grain segregation and thermal stability for thin $L1_0$-FePt-C granular media. *K. Kudo*[1,2], Y. Inaba[1,3], D. Inoue[1,3], H. Aoi[1] and T. Shimatsu[1] *1. RIEC, Tohoku University, Sendai, Japan; 2. Tanaka Kikinzoku Kogyo K.K., Tsukuba, Japan; 3. Fuji Electric Co., Ltd., Matsumoto, Japan*

GU-10. Fabrication of Ultra Thin $L1_0$-FePt Based Exchange Coupled Composite Media. *H. Zhao*[1], H. Wang[1] and J. Wang[1] *1. MINT center, Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

GU-11. Magnetic Properties and Magnetization reversal process of $L1_0$ FePt/Fe bilayers magnetic thin films. L. Liu[1], W. Sheng[1], L. Zhang[1], *J. Bai*[1], B. Ma[2], F. Wei[1] and J. Lu[3] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. State Key Laboratory for Advanced Photonic Materials and Devices, and Department of Optical Science and Engineering, Fudan University, Shanghai, China; 3. Center for Geo-environment Science, Faculty of Engineering and Resource Science, Akita Universtiy, Akita, Japan*

GU-12. Structural and magnetic properties of L10-FePt/[Co/Pt]N exchange coupled media. H. Guo[1], J. Liao[1], *B. Ma*[1], Z. Zhang[1] and Q. Jin[1] *1. Department of Optical Science and Engineering, Fudan University, Shanghai, Shanghai, China*

GU-13. Influence of the reversible and irreversible magnetization changes in reversal processes. I. Bodale[1] and *A. Stancu*[1] *1. Alexandru Ioan Cuza University, Iasi, Romania*

GU-14. Capped $L1_0$-ordered FePt granular media for reducing surface roughness. *I. Takekuma*[1], H. Nemoto[1], H. Matsumoto[1], S. Ito[1], J. Sayama[1], A. Hirotsune[1] and Y. Hirayama[1] *1. Central Research Lab., Hitachi, Ltd., Odawara, Kanagawa, Japan*

GU-15. Effect of annealing temperature on microstructure and magnetism of FePt/TaO_x bilayer. G. Li[1], C. Leung[2], Y. Chen[3], *K. Lin*[3] and P. Pong[1] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong; 2. Department of Applied Physics, Hong Kong Polytechnic University, Hong Kong, Hong Kong; 3. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan*

THURSDAY MORNING 8:00 SAGUARO BALLROOM

Session GV
CRYSTALLINE ALLOYS I (Poster Session)

Akimitsu Morisako, Chair

GV-01. Multiple phase-transformation and resultant magnetic properties in Fe_3Pt thin films. *S. Hsiao*[1,2], S. Chen[1] and H. Lee[2] *1. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 2. Materials science and engineering, Feng Chia University, Taichung, Taiwan*

GV-02. High frequency Magnetic properties and microstructure of NiZn/Co2Z composite ferrite material. *Z. Zheng*[1], Z.H. Wu[1], J.L. Jun[1], L.W. Wing[1] and W.L. Guo[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China*

GV-03. Effect of attrition time on the microwave permeability of magnetic Fe-Si-Al flakes. *M. Han*[1], J. Qin[1], D. Liang[1] and L. Deng[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

GV-04. Cation Distribution in Nickel Manganese oxide. *S. Cheng*[1,2], J. Line[1], K. Kuo[3] and G. Chern[3] *1. Center for Condensed Matter and Sciences, National Taiwan University, Taipei, 10617 Taiwan(R.O.C), Taiwan; 2. Department of Materials Science and Engineering, National Taiwan University, Taipei, 10617, Taiwan; 3. Department of Physics, National Chung Cheng University, Chiayi, 621, Taiwan*

GV-05. Preparation and characterization of metastable bcc-Co thin films on GaAs substrates with different orientations. *Y. Nonaka*[1], M. Ohtake[1], M. Futamoto[1], H. Ohashi[2], M. Sakamoto[2] and N. Inaba[2] *1. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Department of Electrical and Electronic Engineering, Yamagata University, Yamagata, Japan*

GV-06. Magnetic properties of the FeCo films deposited onto various underlayer. *X. Liu*[1] and A. Morisako[1] *1. Department of Information Engineering, Shinshu University, Nagano, Japan*

GV-07. Electromagnetic and Microwave Absorption Properties of Magnetic Stainless Steel Powder in 2-18 GHz. *R. Yang*[1], W. Liang[2], C. Lou[3] and J. Lin[3] *1. Department of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Department of Aeronautics and Astronautics, National Cheng Kung University, Tainan, Taiwan; 3. Department of Fiber and Composite Materials, Feng Chia University, Taichung, Taiwan*

GV-08. Unusual magnetization characteristics in Fe-Ni films with graded composition. *L. Malkinski*[1], A.L. Fogel[2], S. Min[1] and R. Eskandari[1] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 2. Department of Engineering and Technology, Western Washington University, Bellingham, WA*

GV-09. The Microstructures and Magnetostriction of Fe-Ga-Al Alloys. *Y. Zhou*[1,2], X. Wang[1] and B. Wang[3] *1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. School of Science, Tianjin University of Commerce, Tianjin, China; 3. Research center of Magnetic Technique and Magnetic Materials, Hebei University of Technology, Tianjin, China*

GV-10. Microstructures and magnetic properties of Bi-substituted NiCuZn ferrite. *L. Jia*[1], H. Zhang[1], X. Wu[1] and B. Liu[1] *1. University of Electronic Science and Technology of China, Chengdu, China*

GV-11. Preparation and structural characterization of Fe thin films epitaxially grown on Cu(100) single-crystal underlayers. *K. Shimamoto*[1], M. Ohtake[1] and M. Futamoto[1] *1. Faculty of Science and Engineering, Tokyo, Japan*

GV-12. Analysis of magnetic anisotropy of FeCoAlON thin films by the domain structures. Y. Lou[1], G. Yin[1], F. Zheng[1], *J. Bai*[1], D. Wu[1], D. Wei[2], X. Liu[3] and F. Wei[1] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Lab of Advanced Materials, Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China; 3. Department of Information Engineering, Shinshu University, Nagano, Japan*

GV-13. Morphology and its effect on magnetization of Fe_3O_4 nanoparticles. K.L. López Maldonado[1], *J.T. Elizalde Galindo*[1], E. Flores Tavizón[2], J.R. Farias Mancilla[1], P. De la Presa[3] and J.A. Matutes Aquino[4] *1. Physics and Mathematics, Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Chihuahua, Mexico; 2. Civil Engineering and Environmental, Universidad Autónoma de Ciudad Juárez, Ciudad Juárez, Chihuahua, Mexico; 3. Instituto de Magnetismo Aplicado - UCM-ADIF-CSIC, Madrid, Las Rozas, Spain; 4. Centro de Investigación en Materiales Avanzados, Chihuahua, Chihuahua, Mexico*

GV-14. Synthesis of Iron Oxide Nanoparticles Using an Electrolysis Method. *J. Lee*[1], J. Cheon[1], S. Cho[1], J. Kim[1,2] and J. Kim[1] *1. Metallurgy and Materials Engineering, Hanyang university, Ansan, Korea, Republic of; 2. Research Institute of Engineering and Technology, Hanyang university, Ansan, Korea, Republic of*

GV-15. A study on structure and magnetic properties of Mg–Cu–Zn ferrite synthesized by co-precipitation method. H. Zhou[1], *Z. Wang*[1] and L. Ni[1] *1. tianjin university, Tianjin, tianjin, China*

THURSDAY MORNING 8:00

SAGUARO BALLROOM

Session GW
SPIN TRANSFER TORQUE OSCILLATORS II (Poster Session)

Yizheng Wu, Chair

GW-01. Control of spin-wave emission characteristics of spin-torque nano-oscillators. *V.E. Demidov*[1], S. Urazhdin[2] and S.O. Demokritov[1] *1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Department of Physics, Emory University, Atlanta, GA*

GW-02. Microwave oscillations in Serially Coupled Spin Transfer Nano-Oscillators. *J. Park*[1], B. Min[1], S. Park[2], K. Lee[3] and K. Shin[1] *1. Spin Device Research Center, Korea Institute of Science and Technology, Seoul, Korea, Republic of; 2. Division of Materials Science, Korea Basic Science Institute, Daejeon, Korea, Republic of; 3. Department of Materials Science, Korea University, Seoul, Korea, Republic of*

GW-03. Direct evidence of high power and low critical current spin torque oscillation from in-plane right angle magnetic tunnel junction. *Y. Zhang*[1], H. Zhang[1], A. Lyle[1], P. Crowell[2] and J. Wang[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Department of Physics, University of Minnesota, Minneapolis, MN*

GW-04. Variation of Spin Torque Nanocontact Oscillators with Field Sign and Direction. *M. Pufall*[1], W.H. Rippard[1] and S. Russek[1] *1. Electromagnetics Division, NIST, Boulder, CO*

GW-05. 1/f and white frequency noise in a synchronized spin torque oscillator pair. *A. Eklund*[1], S. Bonetti[1], S.R. Sani[1], J. Persson[1], S. Mohseni[1], B. Malm[1] and J. Åkerman[1,2] *1. School of Information and Communication Technology, KTH Royal Institute of Technology, Kista, Sweden; 2. Department of Physics, University of Gothenburg, Gothenburg, Sweden*

GW-06. Current-induced Precession of Composite Free Layer with Interlayer Exchange Coupling in MTJ. R. Sugano[1,4], *M. Ichimura*[1,4], S. Takahashi[2,4] and S. Maekawa[3,4] *1. CRL, Hitachi, Ltd., Hatoyama, Saitama, Japan; 2. IMR, Tohoku Univ., Sendai, Japan; 3. ASRC, JAEA, Tokai, Ibaraki, Japan; 4. JST-CREST, Chiyoda, Tokyo, Japan*

GW-07. Finite-element modeling of the electrical properties of magnetic nanocontact devices. S. Petit-Watelot[1], *R. M. Otxoa*[1], M. Manfrini[2,3], J. Kim[1], A. Vansteenkiste[4], B. Van de Wiele[5] and T. Devolder[1] *1. Institut d'Electronique Fondamentale, Univ. Paris-Sud, and UMR 8622, CNRS, 91405 Orsay, France; 2. IMEC, Leuven, Belgium; 3. Physics and Astronomy department, K.U. Leuven, Leuven, Belgium; 4. Department of Solid State Science, Ghent University, B-9000 Ghent, Belgium; 5. Department of Electrical Energy, Systems and Automation, Ghent University, B-9000 Ghent, Belgium*

GW-08. Noise-Induced Synchronization of Spin Torque Nano Oscillators. *K. Nakada*[1], S. Yakata[1,2] and T. Kimura[1,2] *1. INAMORI FRC, Kyushu University, Fukuoka, Japan; 2. CREST, Japan Science and Technology, Tokyo, Japan*

GW-09. Giant magnetoresistance and spin-transfer in spin-valves with CoFe/Pd multilayers. *A.M. Deac*[1,2], W.H. Rippard[2] and M. Pufall[2] *1. Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 2. National Institute of Standards and Technology, Boulder, CO*

GW-10. Delay detection of frequency modulation of spin-torque oscillator for read head application. *T. Nagasawa*[1], H. Suto[1], K. Kudo[1], T. Yang[1], K. Mizushima[1] and R. Sato[1] *1. Frontier Research Laboratory, Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*

GW-11. Analysis of thermally-induced synchronization between magnetization regimes in spin-transfer nano-oscillators. *M. d'Aquino*[1], C. Serpico[2], R. Bonin[3], G. Bertotti[4] and I.D. Mayergoyz[5] *1. Dipartimento per le Tecnologie, Università di Napoli "Parthenope", Napoli, Italy; 2. Dipartimento di Ingegneria Elettrica, Università di Napoli Federico II, Napoli, Italy; 3. Politecnico di Torino - sede di Verres, Aosta, Italy; 4. Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 5. ECE Dept. and UMIACS, University of Maryland, College Park, MD*

GW-12. Spin-transfer-torque switching in spin-valve structures with perpendicular, canted, and in-plane magnetic anisotropies. H. Seinige[1], *U. Roy*[2], F. Ferdousi[2], J. Mantey[2], M. Tsoi[1] and S.K. Banerjee[2] *1. Physics Department, University of Texas at Austin, Austin, TX; 2. Microelectronics Research Center, University of Texas at Austin, Austin, TX*

GW-13. Dynamic role of coupled edge solitons in vortex-core magnetization reversals. *K. Lee*[1] and S. Kim[1] *1. Research Center for Spin Dynamics & Spin-Wave Devices, Nanospinics Laboratory, and Research Institute of Advanced Materials, Department of Materials Science and Engineering, Seoul Natl Univ, Seoul, Korea, Republic of*

GW-14. Spin-transfer-driven spin waves in perpendicular spin valve nanopillar. *W. Lin*[1], H. Zhang[2], Y. Liu[2] and S. Mangin[1] *1. Institut Jean Lamour, Nancy-Université, Vandoeuvre-lès-Nancy, France; 2. Department of Physics and Shanghai Key Laboratory of Special Artificial Microstructure Materials and Technology, Tongji University, Shanghai, China*

GW-15. Spin-transfer-torque reversal in perpendicular anisotropy spin valves with composite free layers. *I. Yulaev*[1], M. Lubarda[1], S. Mangin[2], V. Lomakin[1] and E.E. Fullerton[1] *1. Center for Magnetic Recording Research, UC San Diego, La Jolla, CA; 2. Institut Jean Lamour,, Nancy Université/CNRS, Nancy, France*

THURSDAY AFTERNOON
1:30

GRAND CANYON 6

Session HA
SYMPOSIUM ON ARTIFICIAL SPIN ICE: DISCOVERING FRUSTRATION AND EMERGENT MONOPOLES WITH NANOMAGNETS

John Cumings, Co-Chair
Laura Heyderman, Co-Chair

1:30

HA-01. Frustration by design: Artificial Frustrated Magnets. ***(Invited)*** *P. Schiffer*[1], A. Balk[1], J. Bartell[1], V. Crespi[1], K. Kohli[1], X. Ke[2], P. Lammert[1], J. Li[1], C. Nisoli[3], N. Samarth[1] and S. Zhang[1] *1. Penn State, University Park, PA; 2. Oak Ridge National Laboratory, Oak Ridge, TN; 3. Los Alamos National Laboratory, Los Alamos, NM*

2:06

HA-02. Dynamics in Finite Two-Dimensional Square Spin Ices. ***(Invited)*** *R. Stamps*[1] *1. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom*

2:42

HA-03. Real and effective thermal equilibrium states in artificial square spin ice. ***(Invited)*** J. Morgan[1], J. Akerman[1,2], A. Stein[3], M. Evans[1], S. Langridge[4] and *C. Marrows*[1] *1. School of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom; 2. Instituto de Sistemas Optoelectrónicos y Microtecnología (ISOM), Universidad Politécnica de Madrid, Madrid, Spain; 3. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY; 4. ISIS, STFC Rutherford Appleton Laboratory, Didcot, Oxfordshire, United Kingdom*

3:18

HA-04. Dynamics and Thermodynamics of Artificial Spin Ices, and the Role of Monopoles. ***(Invited)*** *G. Möller*[1] and R. Moessner[2] *1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany*

3:54

HA-05. Emergent magnetic monopoles, Dirac strings and avalanches in artificial kagome spin ice. ***(Invited)*** *H. Braun*[1], L.J. Heyderman[2], E. Mengotti[2], A. Fraile Rodriguez[2], F. Nolting[2] and R. Hü gli[1] *1. Physics, University College Dublin, Dublin, Ireland; 2. Paul Scherrer Institute, Villigen PSI, Switzerland*

THURSDAY AFTERNOON 1:30 GRAND CANYON 7

Session HB
SPINTRONICS: Si AND GRAPHENE
Aubrey Hanbicki, Chair

1:30

HB-01. Spin transport and spin injection into turbostratic graphene. *S. Schweitzer*[1], A. Patra[1], Y. Hernandez[2], J. Heidler[3], M. Eltschka[1,3], X. Feng[2], K. Mü llen[2] and M. Klä ui[3,4] *1. FB Physik, University of Konstanz, Konstanz, Germany; 2. Max Planck Institute for Polymer Research, Mainz, Germany; 3. SwissFEL, Paul Scherrer Institut & Laboratory for Nanomagnetism and Spin Dynamics, Ecole Polytechnique Fédérale de Lausanne, Villigen PSI & Lausanne, Switzerland; 4. Institut für Physik, Johannes Gutenberg-Universität Mainz, Mainz, Germany*

1:42

HB-02. Universal Kondo effect in bilayer graphene. *K. Gopinadhan*[1,2], Y.J. Shin[1,2] and H. Yang[1,2] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. NUSNNI-Nanocore, National University of Singapore, Singapore, Singapore*

1:54

HB-03. Demonstration of nonlinear interaction between spin and charge in graphene. *I.J. Vera-Marun*[1], V. Ranjan[1] and B.J. van Wees[1] *1. Physics of Nanodevices, Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands*

2:06

HB-04. Bias dependence of spin transport in graphite spin valves using Cu/Si interfaces. *S. Parui*[1], J.v. Ploeg[1] and T. Banerjee[1] *1. Physics of Nanodevices Group,, University of Groningen, Groningen, Netherlands*

2:18

HB-05. Magnetic Anisotropy of Iron on Strained Graphene. *H. Choi*[1] and Y. Chung[1] *1. Material Science & Engineering, Hanyang University, Seoul, Korea, Republic of*

2:30

HB-06. Spin-pumping-induced spin transport in p-type Si at room temperature. *E. Shikoh*[1], K. Ando[2], E. Saitoh[2,3], T. Shinjo[1] and M. Shiraishi[1,4] *1. Engineering Science, Osaka University, Toyonaka, Osaka, Japan; 2. IMR, Tohoku University, Sendai, Japan; 3. CREST, JST, Sanbancho, Tokyo, Japan; 4. PRESTO, JST, Sanbancho, Tokyo, Japan*

2:42

HB-07. Spin transport in graphene. ***(Invited)*** *B. Ozyilmaz*[1] *1. Physics Department, NanoCore, Graphene Research Center, National University of Singapore, Singapore, Singapore*

3:18

HB-08. Comparing nonlocal and three terminal Hanle experiments in Silicon. *O. van 't Erve*[1], C.H. Li[1], A.T. Hanbicki[1], P.E. Thompson[1] and B.T. Jonker[1] *1. Naval Research Laboratory, Washington, DC*

3:30

HB-09. Non-local spin transport in highly-doped Si under a dc electric current. *M. Kameno*[1], E. Shikoh[1], T. Shinjo[1], Y. Suzuki[1], M. Shiraishi[1], T. Sasaki[2], T. Oikawa[2], K. Noguchi[2] and T. Suzuki[3] *1. Engineering Science, Osaka University, Toyonaka, Osaka, Japan; 2. TDK Corporation, Nagano, Japan; 3. AIT, Akita, Japan*

3:42

HB-10. Analysis of the Hanle effect in Si MOS inversion channels at 300 K. *Y. Takamura*[1] and S. Sugahara[1,2] *1. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. CREST, Japan Science and Technology Agency, Kawaguchi, Japan*

3:54

HB-11. Spin injection and detection in CoFe/AlOx/SOI junctions investigated by Hanle effect measurements. *T. Inokuchi*[1], M. Ishikawa[1], H. Sugiyama[1], Y. Saito[1] and N. Tezuka[2] *1. Toshiba Corporation, Kawasaki, Japan; 2. Tohoku University, Sendai, Japan*

4:06

HB-12. Effcient spin injection into silicon using SiO2/ferromagnet tunnel contact, demonstrating weak temperature dependence. *A. Dankert*[1] and S.P. Dash[1] *1. Chalmers University of Technology, Göteborg, Sweden*

4:18

HB-13. Local spin transport with spin precession in highly doped Si. *T. Sasaki*[1], T. Oikawa[1], T. Suzuki[2], M. Shiraishi[3], Y. Suzuki[3], H. Koike[1] and K. Noguchi[1] *1. SQ Research Center, TDK corporation, Saku, Nagano, Japan; 2. Akita Industrial Technology Center, Akita, Akita, Japan; 3. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan*

THURSDAY AFTERNOON 1:30

GRAND CANYON 8

Session HC
SPIN TRANSFER TORQUE OSCILLATORS III
Ilya Krivorotov, Chair

1:30

HC-01. Self-modulation in a perpendicular free layer spin torque nano oscillator. S. Mohseni[2], S. Sani[2], Y. Pogoryelov[1,2], P.K. Muduli[1], J. Persson[2], S. Bonetti[2] and *J. Akerman*[1,2] *1. Physics Department, University of Gothenburg, Gothenburg, Sweden; 2. Materials Physics, Royal Institute of Technology (KTH), Kista, Sweden*

1:42

HC-02. Injection locking at zero field in spin-valves composed by two free layers and perpendicular polarizers. *G. Finocchio*[1], M. Carpentieri[2], T. Moriyama[3], B. Azzerboni[1], R. Buhrman[3] and D. Ralph[3] *1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. University of Calabria, Cosenza, Italy; 3. Cornell University, Ithaca, NY*

1:54

HC-03. Frequency-Tunable Perpendicular Spin Torque Oscillator. *C.H. Sim*[1,2], M. Moneck[1] and J. Zhu[1] *1. Data Storage Systems Center, Carnegie Mellon Univ, Pittsburgh, PA; 2. A*STAR, Data Storage Institute, Singapore, Singapore*

2:06

HC-04. Influence of Dynamical Dipolar Coupling on Spin-Torque-Induced Excitations in a Magnetic Tunnel Junction Nanopillar. *K. Kudo*[1], T. Nagasawa[1], H. Suto[1], T. Yang[1], K. Mizushima[1] and R. Sato[1] *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*

2:18

HC-05. Temperature Dependence of Spin-Transfer Torque Evaluated by Spin-Torque Diode Measurement. *K. Ando*[1], S. Ishibashi[1], S. Miwa[1], T. Seki[2], T. Nozaki[1], H. Kubota[2], A. Fukushima[2], S. Yuasa[2] and Y. Suzuki[1,2] *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Nanospintronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

2:30

HC-06. Temperature Dependence of Magnetic Excitations in MgO-based spin torque oscillators. *J.F. Sierra*[1], M. Quinsat[2], I. Joumard[1], U. Ebels[1], M. Cyrille[2], B. Dieny[1] and J.A. Katine[3] *1. SPINTEC, UMR CEA/CNRS/UJF-Grenoble 1/Grenoble-INP, INAC, Grenoble, France; 2. CEA/LETI, MINATEC, DRT/LETI/DIHS, Grenoble, France; 3. Hitachi Global Storage Technologies, San José, CA*

2:42

HC-07. Noise characterization of the spin-torque diode in CoFeB/MgO magnetic tunnel junctions with large rectification sensitivity. *S. Miwa*[1], S. Ishibashi[1], H. Tomita[1], K. Ando[1], T. Saruya[2], T. Seki[2], T. Nozaki[2], H. Kubota[2], K. Yakushiji[2], A. Fukushima[2], S. Yuasa[2] and Y. Suzuki[1] *1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

2:54

HC-08. Spin-transfer-driven parametric resonance in magnetic multilayers. *H. Seinige*[1], C. Wang[1], T. Staudacher[1] and M. Tsoi[1] *1. Physics, University of Texas at Austin, Austin, TX*

3:06

HC-09. Curious interplay between in-plane and out-of-plane anisotropies in Pt/Permalloy bilayers. *P. Weinberger*[1] *1. Center for Computational Nanoscience, Vienna, Austria*

3:18

HC-10. Planar approximation for the frequencies of spin transfer oscillators. *Y.B. Bazaliy*[1,2] and F. Arammash[3] *1. Physics and Astronomy, University of South Carolina, Columbia, SC; 2. Institute of Magnetism, Kyiv, Ukraine; 3. Department of Physics and Engineering Department, Benedict College, Columiba, SC*

3:30

HC-11. Linear and Autonomous Magnetization Dynamics in Spin-Torque Auto-Oscillators: a Lagrangian approach. *G. Consolo*[1], G. Gubbiotti[2,3], L. Giovannini[4] and R. Zivieri[4] *1. Department of Sciences for Engineering and Architecture, University of Messina, Italy, Messina, Italy; 2. Department of Physics, CNISM Unità di Perugia, University of Perugia, Perugia, Italy; 3. Department of Physics, Istituto Officina dei Materiali del CNR (CNR-IOM), Unità di Perugia, Perugia, Italy; 4. Department of Physics, CNISM Unità di Ferrara, University of Ferrara, Ferrara, Italy*

3:42

HC-12. Linewidth of higher harmonics in Spin Torque Oscillators. *M. Quinsat*[1,2], J. Sierra[2], D. Gusakova[2], V. Tiberkevich[3], A. Slavin[3], U. Ebels[2], M. Cyrille[1], L. Buda-Prejbeanu[2] and J. Katine[4] *1. CEA-LETI, Grenoble, France; 2. SPINTEC, Grenoble, France; 3. Physics, Oakland University, Rochester, MI; 4. Hitachi Global Storage, San Jose, CA*

3:54

HC-13. Spin-torque induced rf-oscillation in half-metallic Co_2MnSi-based CPP-GMR devices. *Y. Sakuraba*[1], R. Okura[1], T. Seki[1], M. Mizuguchi[1] and K. Takanashi[1] *1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan*

4:06

HC-14. Reduced nonlinear phase noise and large amplitude microwave emission from Co2Fe(Ga0.5Ge0.5) Heusler alloy based pseudo spin valve nanopillars. *J. Sinha*[1], M. Hayashi[1], M. Drapeko[1], Y.K. Takahashi[1], T. Taniguchi[1], S. Mitani[1] and K. Hono[1] *1. National Intsitute for Materials Science, Tsukuba, Japan*

4:18

HC-15. Spin-transfer induced large power coherent microwave generation in NCMR device at a multi-domain state. *Y. Okutomi*[1], Y. Kozono[1], K. Miyake[1], S. Hashimoto[2], H. Iwasaki[2] and M. Sahashi[1] *1. Graduate school of engineering, Tohoku University, Sendai Miyagi, Japan; 2. TOSHIBA R&D Center, Kawasaki, Japan*

THURSDAY AFTERNOON 1:30

GRAND CANYON 9-11

Session HD
MULTIFERROIC MATERIALS III

Nian Sun, Chair

1:30

HD-01. The structure of the multiferroic $BaTiO_3$/Fe(001) interface. *H.L. Meyerheim*[1], F. Klimenta[1], A. Ernst[1], K. Mohseni[1], S. Ostanin[1], M. Fechner[1], S.S. Parihar[1], I.V. Maznichenko[2], I. Mertig[1,2] and J. Kirschner[1] *1. MPI Halle, D-06120 Halle, Germany; 2. Institut f. Physik, MLU Halle, D-06099 Halle, Germany*

1:42

HD-02. Strain-driven Anisotropy in Multiferroic Composites Observed with Soft X-ray Techniques. *R.V. Chopdekar*[1], V.K. Malik[2], A. Fraile Rodrí guez[3], L. Le Guyader[1], A. Scholl[4], Y. Takamura[5], C. Bernhard[2], F. Nolting[1] and L.J. Heyderman[1] *1. Paul Scherrer Institute, Villigen PSI, Switzerland; 2. Department of Physics, University of Fribourg, Fribourg, Switzerland; 3. Department of Fundamental Physics and Institute for Nanoscience and Nanotechnology, University of Barcelona, Barcelona, Spain; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 5. Department of Chemical Engineering and Materials Science, University of California, Davis, CA*

1:54

HD-03. Recurrent Electric-Field Writing of Magnetic Domain Patterns. *T. Lahtinen*[1], K. Franke[1] and S. van Dijken[1] *1. Department of Applied Physics, Aalto University, Espoo, Finland*

2:06

HD-04. Neutron Diffraction Investigations of Magnetism in BiFeO3 Epitaxial Films. ***(Invited)*** *W. Ratcliff*[1], D. Kan[2], W. Chen[1], S. Watson[1], S. Chi[1], R. Erwin[1], G.J. McIntyre[3], S.C. Capelli[3] and I. Takeuchi[2] *1. NCNR,, Gaithersburg, MD; 2. Materials Science and Engineering, University of Maryland, College Park, MD; 3. Institute Laue-Langevin, Grenoble, France*

2:42

HD-05. Neutron Diffraction, Magnetic and Magnetoelectric Study of Single Crystal $Mn_{0.9}Co_{0.1}W0_4$ Multiferroics. *I. Urcelay-Olabarria*[1], J.L. Garcí a-Muñ oz[2], V. Skumryev[3], E. Ressouche[1], A.M. Balbashov[4], A.A. Mukhin[5], V.Y. Ivanov[5], G.P. Vorob'ev[6], Y.F. Popov[6] and A.M. Kadomtseva[6] *1. Institut Laue Langevin, 38042 Grenoble, Cedex 9, France; 2. Instituto de Ciencia de Materiales de Barcelona, CSIC, E-08193 Bellaterra, Spain; 3. Institut Català de Recerca i Estudis Avançats (ICREA), E-08193 Barcelona, Spain; 4. Moscow Power Engineering Institute, 105835 Moscow, Russian Federation; 5. Prokhorov General Physics Institute of the Russian Acad. Sci., 119991 Moscow, Russian Federation; 6. M.V. Lomonosov Moscow State University, 119992 Moscow, Russian Federation*

2:54

HD-06. Multiferroic Effects in W-Type Hexagonal Ferrites. *Y. Sun*[1], Y. Song[1], Z. Wang[1] and M. Wu[1] *1. Department of Physics, Colorado State University, Fort Collins, CO*

3:06

HD-07. Electric Field Control of Magnetic Domains in $BiFeO_3$ thin films. *K. Kothapalli*[1,2], A. Varatharajan[1], T. Gao[1], P.A. Kienzle[2], . Takeuchi[1] and W. Ratcliff II[2] *1. Department of Materials Science & Engineering, University of Maryland, College Park, MD; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD*

3:18

HD-08. Nonvolatile resistive switching in Au/BiFeO3 rectifying junction. *Y. Shuai*[1,2], S. Zhou[1], C. Wu[2], W. Zhang[2], D. Bü rger[1], S. Slesazeck[3], T. Mikolajick[3], M. Helm[1] and H. Schmidt[1] *1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. State Key Laboratory of Electronic Thin Films and Integrated Devices, Chengdu, China; 3. Namlab gGmbH, Dresden, Germany*

3:30

HD-09. Electric and thermal control of spin polarization in trilayered GMR structure. *T. Taniyama*[1], T. Naito[1] and M. Itoh[1] *1. Tokyo Institute of Technology, Yokohama, Japan*

3:42

HD-10. Giant converse magnetoelectric effect in $Na_{0.5}Bi_{0.5}TiO_3$-$CoFe_2O_4$ lead-free multiferroic composites. *N.B. Simhachalam*[1] and L. Malkinski[1] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA*

3:54

HD-11. Chemical doping and magnetic fields effects on the multiferroic phases of single-crystalline $Co_xMn_{1-x}WO_4$ *K. Liang*[1], R.P. Chaudhury[1], Y.Q. Wang[1], Y.Y. Sun[1], B. Lorenz[1], F. Ye[2], J.A. Fernandez-Baca[2,3], H.A. Mook[2] and C.W. Chu[1,4] *1. TCSUH and Physics, University of Houston, Houston, TX; 2. Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, TN; 3. Physics and Astronomy, University of Tennessee, Knoxville, TN; 4. Lawrence Berkeley National Laboratory, Berkeley, CA*

4:06

HD-12. Magnetic anisotropy in composite CoFe2O4-BiFeO3 ultrathin films grown by pulsed-electron deposition. *R. Comes*[1], M. Khokhlov[2], H. Liu[1], J. Lu[1] and S.A. Wolf[1] *1. Materials Science and Engineering, University of Virginia, Charlottesville, VA; 2. Guilford College, Greensboro, NC*

4:18

HD-13. Magnetic phase competition in $Dy_{0.5}Y_{0.5}MnO_3$ *O. Vajk*[1], Y. Wang[1], J. Gunasekera[1], K. Tarwater[1] and T. Heitmann[2] *1. Physics and Astronomy, University of Missouri, Columbia, MO; 2. The Missouri Research Reactor, University of Missouri, Columbia, MO*

THURSDAY AFTERNOON
1:30

GRAND CANYON 2-3

Session HE
DOMAIN WALL DEVICES II

Geoffrey Beach, Co-Chair
Mathias Kläui, Co-Chair

1:30

HE-01. Current-driven domain wall motion in Co/Ni nano-wire with perpendicular magnetic anisotropy. ***(Invited)*** *T. Ono*[1] *1. Kyoto University, Uji, Japan*

2:06

HE-02. Spin Hall Effect-driven Spin Torque in Magnetic Textures. *A. Manchon*[1] and K. Lee[2] *1. Materials Science and Eng., KAUST, Thuwal, Saudi Arabia; 2. Materials Science and Eng., Korea University, Seoul, Korea, Republic of*

2:18

HE-03. Spin orbit field assisted current driven domain wall motion in perpendicularly magnetized ultrathin CoFeB/MgO nanowires. *M. Hayashi*[1], S. Fukami[2], T. Suzuki[3], M. Yamanouchi[2], J. Sinha[1], N. Ishiwata[2], Y. Nakatani[4], S. Mitani[1] and H. Ohno[2,5] *1. National Intsitute for Materials Science, Tsukuba, Japan; 2. CSIS, Tohoku University, Sendai, Japan; 3. Renesas Electronics Corporation, Sagamihara, Japan; 4. University of Electro-Communications, Chofu, Japan; 5. RIEC, Tohoku University, Sendai, Japan*

2:30

HE-04. Low Energy Magnetic Domain Wall Logic in Short, Narrow Ferromagnetic Wires with Tunnel Junction Readout. *J. Currivan*[1,3], M.A. Baldo[3] and C.A. Ross[2] *1. Physics, Harvard University, Cambridge, MA; 2. Materials Science and Engineering, MIT, Cambridge, MA; 3. Electrical Engineering and Computer Science, MIT, Cambridge, MA*

2:42

HE-05. Behavior of 360 Degree Domain Walls Driven by Simultaneous AC and DC Current. *M. Mascaro*[1], Y. Jang[1] and C.A. Ross[1] *1. Materials Science and Engineering, MIT, Cambridge, MA*

2:54

HE-06. Domain wall induced localised nanowire reversal. *L. O'Brien*[1], A. Beguivin[1], D. Read[2], D. Petit[1], A. Fernandez-Pacheco[1] and R.P. Cowburn[1] *1. Thin Film Magnetism, University of Cambridge, Cambridge, United Kingdom; 2. EXSS, Imperial College London, London, United Kingdom*

3:06

HE-07. Currentless Domain Wall Motion Along Biased Ferromagnet/Semiconductor Heterostructure. *X. Duan*[1], V.A. Stephanovich[2], Y.G. Semenov[1] and K. Kim[1] *1. ECE, NC State University, Raleigh, NC; 2. Institute of Physics, Opole University, Opole, Poland*

3:18

HE-08. Current-induced domain wall motion in magnetic stripes adjacent to conductive layers with strong spin-orbit interactions.*(Invited)* *A.V. Khvalkovskiy*[1], D. Apalkov[1], V. Nikitin[1], M. Krounbi[1], K.A. Zvezdin[2], A. Anane[3], J. Grollier[3], V. Cros[3] and A. Fert[3] *1. Grandis, Inc., Milpitas, CA; 2. A.M. Prokhorov General Physics Institute, RAS, Moscow, Russian Federation; 3. Unité Mixte de Physique CNRS/Thales and Université Paris Sud 11, Palaiseau, France*

3:54

HE-09. Current-induced domain wall motion by perpendicular injection in MgO-based magnetic tunnel junctions. *J. Grollier*[1], A. Chanthbouala[1], R. Matsumoto[1], V. Cros[1], A. Anane[1], A. Fert[1], A. Khvalkovskiy[1], K.A. Zvezdin[3], A. Fukushima[2] and S. Yuasa[2] *1. Unité Mixte CNRS/Thales, Palaiseau, France; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; 3. Istituto P.M., Torino, Italy*

4:06

HE-10. Influence of a transverse magnetic field on current-induced domain-walls motion in Pt/Co/AlOx trilayers. *E. Jué*[1], A. Hrabec[2], O. Boulle[1], I. Miron[1], S. Auffret[1], B. Rodmacq[1], S. Bandiera[1], S. Pizzini[2], J. Vogel[2], A. Schuhl[2] and G. Gaudin[1] *1. SPINTEC, CEA-INAC / CNRS / UJF-Grenoble 1 / Grenoble-INP, Grenoble, France; 2. Institut Néel, CNRS/UJF, Grenoble, France*

4:18

HE-11. Voltage control domain wall pinning through hybrid piezoelectric-magneto-resistive nanodevice. *N. Lei*[1], T. Devolder[1], G. Agnus[1], P. Lecoeur[1], D. Ravelosona[1] and C. Chappert[1] *1. Paris Sud University, Orsay, France*

THURSDAY AFTERNOON 1:30

GRAND CANYON 4-5

Session HF
EXCHANGE BIAS II
Hao Zeng, Chair

1:30

HF-01. Asymmetric Stochasticity of Magnetization Reversal Dynamics in Exchange-Biased IrMn/CoFe Film. *H. Lee*[1], K. Ryu[2], C. You[3], K. Jeon[1], S. Parkin[2], S. Yang[2] and S. Shin[1] *1. Department of physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, Republic of; 2. IBM Research Division, Almaden Research Center, San Jose, CA; 3. Department of Physics, Inha University, Incheon, Korea, Republic of*

1:42

HF-02. Exchange bias stability in GMR sensors for automotive applications. *W. Raberg*[1], T. Bever[1], K. Pruegl[2] and J. Zimmer[1] *1. Infineon Technologies AG, 85579 Neubiberg, Germany; 2. Infineon Technologies AG, 93049 Regensburg, Germany*

1:54

HF-03. Magnetization reversal of epitaxial Fe/IrMn exchange biased bilayers under a domain-wall nucleation model. *W. Zhang*[1] and K.M. Krishnan[1] *1. Materials Science and Engineering, University of Washington, Seattle, WA*

2:06

HF-04. New Magnetic State and Origin of Uncompensated Magnetization in FeF_2 *I.V. Roshchin*[1,2], K.E. Badgley[1], K.D. Belashchenko[3], M. Zhernenkov[4], M.R. Fitzsimmons[4], M. Erekhinsky[5] and I.K. Schuller[5] *1. Department of Physics and Astronomy, Texas A&M University, College Station, TX; 2. Material Science and Engineering Program, Texas A&M University, College Station, TX; 3. Department of Physics, University of Nebraska-Lincoln, Lincoln, NE; 4. Los Alamos Neutron Science Center, Los Alamos National Laboratory, Los Alamos, NM; 5. Department of Physics, University of California - San Diego, La Jolla, CA*

2:18

HF-05. Investigation of structural and magnetic properties in Cr_2Te_3 single crystal. *H. Lu*[1], S. Lim[1], J. Bi[1] and K. Teo[1] *1. Electrical and Computer Engineering Department, National University of singapore, Singapore, Singapore*

2:30

HF-06. Logarithmic scaling law of the exchange bias training effect in perpendicular and longitudinal bilayers. *Z. Shi*[1], Y. Chen[2], S. Zhou[1,2] and S. Mangin[3] *1. Department of Physics, Tongji University, Shanghai, Shanghai, China; 2. Surface Physics State Laboratory and Department of Physics, Fudan University, Shanghai, Shanghai, China; 3. Inst Jean Lamour, F-54506 Vandoeuvre Les Nancy, Nancy University, Nancy, France*

2:42

HF-07. Interface roughness induced asymmetric magnetic property in sputter-deposited Co/CoO/Co exchange biased trilayers. *J. Wang*[1], J. Shi[1] and Y. Nakamura[1] *1. Department of Metallurgy and Ceramics Science, Tokyo Institute of Technology, 2-12-1, Oh-okayama, Meguro-ku, Tokyo 152-8552, Japan*

2:54

HF-08. Electron Spin Alignment in Nickel- and Cobalt-Oxide Nanopolymers, and Possible Physical Mechanisms of Exchange Bias Development/Loss. *L.A. Pozhar*[1] *1. Department of Physics, University of Idaho, Moscow, ID*

3:06

HF-09. The role of magnetic interactions in Exchange Bias properties of $MnFe_2O_4$ Ferrofluid Nanoparticles. *F. Gomes da Silva*[1,2], R. Aquino[2], J. Depeyrot[2], F.A. Tourinho[2], R. Perzynski[1], V.I. Stepanov[3] and Y.L. Raikher[3] *1. Physics, Universite Pierre et Marie Curie, Paris, France; 2. Physics, Universidade de Brasilia, Brasilia, DF, Brazil; 3. Physics, Inst. of Continuous Media, Mechanics Ural Branch of RAS, Perm, Russian Federation*

3:18

HF-10. Observation of multiple magnetic transitions in nanosize layered α-$Ni(OH)_2$ *J.D. Rall*[1] and M.S. Seehra[1] *1. Department of Physics, West Virginia University, Morgantown, WV*

3:30

HF-11. Charge Order Suppression, Emergence of Ferromagnetism and Absence of Exchange Bias Effect in Bi0.25Ca0.75MnO3 Nanoparticles: EPR and Magnetization Studies. *G. Singh*[1] and S.V. Bhat[1] *1. Physics, Indian Institute of Science, Bangalore, Karnataka, India*

THURSDAY AFTERNOON 1:30

GRAND CANYON 12-13

Session HG
APPLIED PERMANENT MAGNETISM
Yaqiao Wu, Chair

1:30

HG-01. Atomic Scale Investigation of the Interface in the Alnico Spinodal Structure. *Y.Q. Wu*[1], M.J. Kramer[1,2], S.M. Long[1,2], K.W. Dennis[1], R.W. McCallum[1,2] and I.E. Anderson[1,2] *1. The Ames Laboratory of USDOE, Iowa State University, Ames, IA; 2. Department of Materials Science and Engineering, Iowa State University, Ames, IA*

1:42

HG-02. Magnetic Hardening of $Ce_2Fe_{14}B$. *J.F. Herbst*[1], M.S. Meyer[1] and F.E. Pinkerton[1] *1. Chemical Sciences and Materials Systems Laboratory, GM R&D Center, Warren, MI*

1:54

HG-03. Properties of HDDR NdFeB recycled powders prepared from sintered magnets. *E.A. Périgo*[1], S.C. da Silva[2], R.V. Martin[1], H. Takiishi[2] and F.J. Landgraf[1] *1. Institute for Technological Research, São Paulo, Brazil; 2. Nuclear and Energy Research Institute, São Paulo, Brazil*

2:06

HG-04. Effect of pressure rate on the texture of NdFeB nanocrystalline magnets. *C. Rong*[1], Y. Wu[2], D. Wang[1], Y. Zhang[2], N. Poudyal[1], M. Kramer[2] and J. Liu[2] *1. Department of Physics, University of Texas at Arlington, Arlington, TX; 2. Ames Laboratory of USDOE, Iowa State University, Ames, IA*

2:18

HG-05. Magnetic properties of isotropic Sm-Fe-N magnets produced by compression shearing method. *T. Saito*[1] and H. Kitazima[1] *1. Chiba Institute of Technology, Chiba, Japan*

2:30

HG-06. Effect of surfactant molecular weight on particle morphology of SmCo5 prepared by high energy ball milling.C.A. Crouse[1,2], E. Michel[1,3], Y. Shen[4,1], J.C. Horwath[1], Z. Turgut[1,2] and *M.S. Lucas*[1,5] *1. Air Force Research Laboratory, Wright Patterson Air Force Base, OH; 2. UES Inc., Dayton, OH; 3. Wright State University, Dayton, OH; 4. University of Dayton Research Institute, Dayton, OH; 5. UTC Inc., Dayton, OH*

2:42

HG-07. Controlled reversal of Co/Pt dots for nanomagnetic logic applications.S. Breitkreutz[1], J. Kiermaier[1], S. Karthik[2], G. Csaba[2], D. Schmitt-Landsiedel[1] and *M. Becherer*[1] *1. Lehrstuhl für Technische Elektronik, Technische Universität München, Munich, Germany; 2. Center for Nano Science and Technology, University of Notre Dame, Notre Dame, IN*

2:54

HG-08. Effect of magnetic fields on melt-spun Nd2Fe14B/Fe ribbons. *V.V. Nguyen*[1], C. Rong[1], Y. Ding[2] and P.J. Liu[1] *1. Physics, University of Texas at Arlington, Arlington, TX; 2. School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA*

3:06

HG-09. TEM studies of sintered NdFeB magnet prepared by cyclic sintering. *J. Kim*[1], S. Kim[1], S. Song[1] and Y. Kim[1] *1. Division of Materials Science and Engineering, Hanyang University, Seoul, Korea, Republic of*

3:18

HG-10. Crystallographic alignment evolution and magnetic properties of Nd-Fe-B nanoflakes prepared by surfactant-assisted ball milling. *M. Yue*[1], R. Pan[1], R. Liu[1], W. Liu[1], D. Zhang[1], J. Zhang[1], X. Zhang[2], Z. Guo[3] and W. Li[3] *1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China; 2. School of Mathematics, Physics, and Biological Engineering, Inner Mongolia University of Science and Technology, Baotou, China; 3. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China*

3:30

HG-11. Effect of Particle Size on the Coercivity of R-Fe-B (R=Nd, Pr) Nanoparticles Prepared by Surfactant-Assisted Ball Milling. *N. Gunduz Akdogan*[1], D. Neil[1], W. Li[1], D. Niarchos[2] and G.C. Hadjipanayis[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Institute of Materials Science, NCSR ''Demokritos'' Ag. Paraskevi, Athens, Greece*

3:42

HG-12. Dynamic Modeling and Decoupling Control for Helical Movement of Linear and Rotary Permanent Magnet Actuator. *P. Jin*[1], H. Lin[1] and S. Fang[1] *1. School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China*

3:54

HG-13. Anomalous behavior of high-frequency ferromagnetic resonance caused by spin-reorientation phenomenon. *A. Namai*[1,3], M. Nakajima[2], T. Suemoto[2] and S. Ohkoshi[1,3] *1. Department of Chemistry, The University of Tokyo, Tokyo, Japan; 2. Institute for Solid State Physics, the University of Tokyo, Kashiwa, Japan; 3. CREST, JST, Tokyo, Japan*

4:06

HG-14. Combined effects of chromium and carbon on phase formation and magnetic behavior of melt-spun Sm-Co magnets. *X. Jiang*[1] and J. Shield[1] *1. Mechanical and Materials Engineering, University of Nebraska-Lincoln, Lincoln, NE*

4:18

HG-15. Effect of buffer and capping layers on the mechanical and magnetic properties of Nd-Fe-B films. *Y. Zhang*[1], D. Givord[1] and N.M. Dempsey[1] *1. Institut Néel - CNRS, Grenoble, France*

THURSDAY AFTERNOON 1:30 GRAND CANYON 1

Session HH
CRYSTALLINE ALLOYS II
Masaaki Futamoto, Chair

1:30

HH-01. Potential of sub-micron-sized Fe-Co alloy particles for Antenna Application.D. Kodama[1], R. Kasuya[2], S. Kozo[3], K. Tohji[4] and *J. Balachandran*[5] *1. DOWA Electronics Materials Co., Ltd, Okayama, Japan; 2. Institute of Multidiciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan; 3. National Institute of Advanced Industrial Science and Technology, Nagoya, Japan; 4. Graduate School of Environmental Studies, Tohoku University, Sendai, Japan; 5. Material Science, The University of Shiga Prefecture, Hikone, Japan*

1:42

HH-02. Nanostructure and oxygen distribution in Co-Fe electrodeposited films for magnetic field sensors. *S. Elhalawaty*[1], R. Carpenter[1], J. George[2] and S. Brankovic[2] *1. Arizona State University, Tempe, AZ; 2. university of Houston, Houston, TX*

1:54

HH-03. Crystalline and stress anisotropy dependent magnetic behavior in Co-base nanowire arrays. L.G. Vivas[1], P. Rodrí guez[1], *M. Vázquez*[1], V. Vega[2], J. Garcí a[2], W.O. Rosa[2] and V.M. Prida[2] *1. Institute of Materials Science of Madrid, CSIC. 28049 Madrid. Spain, Madrid, Spain; 2. Department of Physics, Fac. Sciences, Universidad de Oviedo, 30004. Spain, Oviedo, Spain*

2:06

HH-04. Microwave permeability of Fe/Al flakes fabricated by ball milling and jet milling. Y. Yang[1], Y. Yang[1], *X. Huang*[1] and J. Ding[1] *1. Materials Science & Engineering, National University of Singapore, Singapore, Singapore*

2:18

HH-05. Structural and magnetic properties of MgCexFe2-xO4 nanoferrites. *P.S. Mkwae*[1], T. Moyo[1] and J.Z. Msomi[2] *1. Physics, University of KwaZulu-Natal, Durban, KwaZulu-Natal, South Africa; 2. Physics, University of Free state, Phuthaditjhaba, Free state, South Africa*

2:30

HH-06. Electronic structure and magnetic properties of stoichiometric and non-stoichiometric NiFe2O4. *G.H. Jaffari*[1], A.K. Rumaiz[2], J. Woicik[3] and S.I. Shah[1] *1. Physics and Astronomy, University of Delaware, Newark, DE; 2. National Synchrotron Light Source, Brookhaven National Laboratory, National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY; 3. National Institute of Standard and Technology, 3. National Institute of Standard and Technology, Gaithersburg, MD*

2:42

HH-07. Bulk nanocomposite using self-forming core/shell nanoparticles and its magnetic properties for high-frequency applications. *T. Suetsuna*[1], K. Harada[1], T. Takahashi[1] and S. Suenaga[1] *1. Functional Materials Laboratory, Toshiba Corporation, Kawasaki, Japan*

2:54

HH-08. Magnetism in Amorphous and Crystalline FexSi1-x Thin Films. *J. Karel*[1], C. Bordel[2], Y. Zhang[3], R. Wu[3], S. Heald[4] and F. Hellman[2,1] *1. Materials Science and Engineering, University of California, Berkeley, Berkeley, CA; 2. Physics, University of California, Berkeley, Berkeley, CA; 3. Physics and Astronomy, University of California, Irvine, Irvine, CA; 4. Advanced Photon Source, Argonne National Laboratory, Argonne, IL*

3:06

HH-09. Effect of P Addition on Nanocrystallization and High Temperature Magnetic Properties of Low B and Nb Containing FeCo Nanocomposites. R.K. Roy[1], S. Shen[2], S.J. Kernion[2] and *M.E. McHenry*[2] *1. Material Science and Technology Division, National Metallurgical Laboratory, Jamshedpur, Jharkhand, India; 2. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA*

3:18

HH-10. Effect of External Magnetic Field on the Morphology and Magnetic Property of Nickel Nanoparticles. A. Sj[2], M. Bagheri[2], T. Yadavalli[1], *S. Ramaswamy*[1], C. Gopalakrishnan[1] and J.D. Thiruvadigal[2] *1. Nanotechnology Research Center, SRM University, Chennai, Tamil Nadu, India; 2. Dept of Nanoscience and Nanotechnology, SRM University, Chennai, Tamil Nadu, India*

3:30

HH-11. Exchange Bias Studies in Core/Shell and Hollow Nanoparticles. *H. Khurshid*[1], W. Li[1], E. Devlin[2] and G. Hadjipanayis[1] *1. Physics and Astronomy, Univ Delaware, Newark, DE; 2. Institute of Materials Science,, "Demokritos" Agia Paraskevi, Athens, Greece*

3:42

HH-12. Magnetization reversal and magnetic anisotropy in Fe90¬X10(X=Pt and Pd) nanowires and nanotubes. *N. Ahmad*[1], J. Chen[1], D. Shi[1] and X. Han[1] *1. Institute of Physics, Beijing, China*

3:54

HH-13. High Temperature XRD Determination of the BCC-FCC Transformation Temperature in $(Fe_{70}Ni_{30})_{88}Zr_7B_4Cu_1$ Nanocomposites. *J.J. Ipus*[1], P. Herre[2], P. Ohodnicki[3] and M.E. McHenry[1] *1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Institute for Metallic Materials, IFW Dresden, Dresden, Germany; 3. National Energy Technology Laboratory, US Department of Energy, Pittsburgh, PA*

4:06

HH-14. Ferromagnetic Resonance Studies of Fe Thin Films with Dilute Heavy Rare-earth Impurities. L. Sun[1], Y. Wang[1], *Y. Zhai*[1,2], M. Yang[2], J. Du[2] and H. Zhai[2] *1. Physics Department, Southeast University, Nanjing, 211189, China; 2. National Laboratory of Solid Microstructures, Nanjing University, Nanjing, 210093, China*

4:18

HH-15. Effects of compositional variation on the magnetic properties of CoFe/Au nanobarcodes. *S. Yoon*[1], I. Jeon[1,2], B. Kim[1], S. Kim[1] and Y.K. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Pioneer Research Center for Biomedical Nanocrystals, Korea University, Seoul, Korea, Republic of*

THURSDAY AFTERNOON 1:00 SAGUARO BALLROOM

Session HP
ACTUATORS, ENERGY TRANSFER AND OTHER APPLICATIONS (Poster Session)

Mani Mina, Chair

HP-01. A Novel Linear and Rotary Halbach Permanent Magnet Actuator with Two Degrees-of-freedom. H. Lin[1], *P. Jin*[1] and S. Fang[1] *1. School of Electrical Engineering, Southeast University, Nanjing, China*

HP-02. Optimization of Constant-Frequency Double-Rotor Generator for Minimizing Harmonics. M. Wang[1], *J. Zhang*[1] and M. Cheng[1] *1. Southeast University, Nanjing, China*

HP-03. Analytical Magnetic Torque Calculations and Experimental Testing of Radial Flux Permanent Magnet Type Eddy Current Brakes. *J. Choi*[1], S. Lee[2] and S. Jang[1] *1. Chungnam National University, Dae-jeon, Korea, Republic of; 2. Gwangju R&D Center, Korea Institute of Industrial Technology, Gwangju, Korea, Republic of*

HP-04. Fabrication of a Fully Magnetic Impeller for Improvement of the Magnetic Properties of Blood Pump. *S. Kim*[1], J. Shin[1], S. Hashi[1], K. Ishiyama[1], M. Ozaki[2] and S. Matsumura[2] *1. Research Institute of Electrical Communication, Tohoku Univ, Sendai, Japan; 2. I & P Co.Ltd, Oosaki, Japan*

HP-05. High Reliability Linear Drive Device for Artificial Hearts. J. Ji[1], W. Zhao[1] and *G. Liu*[1] *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China*

HP-06. Magnetic Navigation System for the Efficient Helical and Translational Motions of a Microrobot in the Human Body Utilizing Rotating Magnetic Field and Magnetic Gradient. *S. Jeon*[1], G. Jang[1], H. Choi[2], S. Park[2] and J. Park[2] *1. Dept. of Mechanical Engineering, PREM Lab., Hanyang University, Seoul, Korea, Republic of; 2. Dept. of Mechanical Engineering, Chonnam National University, Gwangju, Korea, Republic of*

HP-07. Magnetic Energy Coupling System based on MEMS Coils. *X. Li*[1,2], Q. Yuan[2], J. Liu[2] and H. Zhang[2] *1. School of Electronics and Information Engineering, Beijing Jiaotong University, Beijing, China; 2. institute of microelectronics, Peking University, Beijing, Beijing, China*

HP-08. Resonant Magnetic Coupling Power Transmission System with Circular Spiral Coils for Implantable Medical Devices. *J. Wang*[1,2], S. Ho[1], W. Fu[1] and M. Sun[2] *1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA*

HP-09. Magnetic Microwires Detection for Security Applications. *V. Petrucha*[1] and P. Kaspar[1] *1. Department of Measurement, FEE, Czech Technical University in Prague, Prague, Czech Republic*

HP-10. Spectral properties of emf induced by periodic magnetization reversal of arrays of coupled magnetic glass-covered microwires. V. Rodionova[1,2], M. Ilyn[1], M. Ipatov[1], *V. Zhukova*[1], N. Perov[3], J. Gonzalez[1] and A. Zhukov[1,4] *1. Materials Physics, University of the Basque Country, San Sebastian, Spain; 2. Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation; 3. Department of Physics, M.V. Lomonosov Moscow State University, Moscow, Russian Federation; 4. IKERBASQUE, Basque Foundation for Science, Bilbao, Spain*

HP-11. Graphene oxide added carbonyl iron microsphere system and its magnetorheology under applied magnetic fields. W. Zhang[1] and *H. Choi*[1] *1. Department of Polymer Science and Engineering, Inha Univ, Incheon, Korea, Republic of*

HP-12. The Role of Eddy Current Losses and Particle Size on AC Magnetic Field Induced Reflow in Solder/Magnetic Nanoparticle Nanocomposites. A.H. Habib[1], S. Xu[1], M.G. Ondeck[1], R. Swaminathan[2] and *M.E. McHenry*[1] *1. Materials Sc. and Engg., Carnegie Mellon Univ, Pittsburgh, PA; 2. Intel Corp., Chandler, AZ*

HP-13. Creation of magnetic lens effect employing Gd-Ba-Cu-O bulk superconductor in very high magnetic field. *S. Choi*[1], Z. Zhang[2], S. Matsumoto[2], T. Kiyoshi[2] and S. Lee[3] *1. Busan Center, Korea Basic Science Institute, Busan, Korea, Republic of; 2. Superconducting Materials Center, National Institute for Materials Science, Tsukuba, Japan; 3. Department of electrical engineering, Kyungpook National University, Daegu, Korea, Republic of*

HP-14. A high temperature superconducting axial flux generator. *M. Trapanese*[1] *1. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Università di Palermo, Palermo, Italy*

HP-15. Enhancing and broadening absorption properties of frequency selective surfaces absorbers using FeCoB-based thin film. *W. Ren*[1], Y. Nie[1], X. Xiong[1] and Z. Liao[1] *1. Department of Electronic Science & Technology, Huazhong University of Science and Technology, Wuhan, China*

THURSDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session HQ
PATTERNED FILMS II (Poster Session)
Steve McVitie, Chair

HQ-01. Ferromagnetic Resonance Spectroscopy of Bi-Component Antidot Nanostructures. *J. Ding*[1], D. Tripathy[1] and A.O. Adeyeye[1,2] *1. Department of Electrical and Computer Engineering, National Univ Singapore, Singapore, Singapore; 2. Advanced Materials for Micro- and Nano- Systems, Singapore-MIT Alliance, Singapore, Singapore*

HQ-02. Dry-etching damage to magnetic anisotropy of Co–Pt dot arrays characterized using anomalous Hall effect. *T. Shimatsu*[1], H. Kataoka[1,2], K. Mitsuzuka[1], H. Aoi[1], N. Kikuchi[3] and O. Kitakami[3] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Fuji Electric Co., Ltd, Matsumoto, Nagano, Japan; 3. IMRAM, Tohoku University, Sendai, Miyagi, Japan*

HQ-03. Field and current induced asymmetric domain wall motion in GMR spin-valve stripe with a circular ring. *K. Jaegwan*[1], S. Yoon[1], Y. Jang[1] and B. Cho[1] *1. Department of Nanobio Materials and Electronics, GIST, Gwangju, Korea, Republic of*

HQ-04. Magnetic and Transport Properties of [Co/Pd]4/Au/[Co/Pd]2 Pseudo Spin Valve Nano-wires. *X. Liu*[1] and A.O. Adeyeye[1] *1. Electrical and Computer Engineering, Information Storage Materials Laboratory, Singapore, Singapore*

HQ-05. Manipulation of magnetic reversal behavior in $Ni_{81}Fe_{19}$ nanoelliptical arrays by tuning shape anisotropy and magnetostatic interactions. *Y. Wang*[1,2], W.H. Shi[1], H.X. Wei[2], D. Atkinson[3], B.S. Zhang[1] and X.F. Han[2] *1. Nanofabrication facility, Suzhou institute of Nano-tech and Nano-bionics, Chinese Academy of Science, Suzhou, Jiangsu, China; 2. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Science, Beijing, Beijing, China; 3. Physics Department, Durham University, Durham, Durham, United Kingdom*

HQ-06. Switching field and microstructure in individual Co/Pt nanosized dots. *N. Kikuchi*[1], Y. Murayama[1], T. Yamaku[1], S. Okamoto[1], O. Kitakami[1], Y. Murakami[1] and D. Shindo[1] *1. IMRAM Tohoku University, Sendai, Japan*

HQ-07. Moment correlations dominated by indirect or distant interactions in an ordered nanomagnet array. *S. Zhang*[1], J. Li[1], J. Bartell[1], X. Ke[2], C. Nisoli[3], P.E. Lammert[1], V.H. Crespi[1] and P. Schiffer[1] *1. Department of Physics and Materials Research Institute, Pennsylvania State University, University Park, PA; 2. Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, TN; 3. Theoretical Division and Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, NM*

HQ-08. Magnetic properties of double vortices stabilized in isosceles triangular ferromagnetic dots. *M. Miyata*[1,2], S. Yakata[1,3], H. Wada[2] and T. Kimura[1,3] *1. INAMORI FRC, Kyushu university, Fukuoka, Japan; 2. Physics, Kyushu University, Fukuoka, Japan; 3. CREST, Japan Science and Technology Agency, Tokyo, Japan*

HQ-09. Magnetization processes in rectangular vs rhombic planar arrays of magnetic bars. *G.N. Kakazei*[1,2], Y.G. Pogorelov[1], J.M. Teixeira[1], A. Hierro-Rodriguez[3], F. Valdes-Bango[3], M. Velez[3], J.M. Alameda[3], J.I. Martin[3], J.O. Ventura[1] and J.B. Sousa[1] *1. IFIMUP-IN/Department of Physics, University of Porto, Porto, Portugal; 2. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; 3. Departamento de Física, Universidad de Oviedo - CINN, Oviedo, Spain*

HQ-10. Magnetostatically tunable magneto resistance response for a MTJ nanomagnet in one dimensional array. *A. Lentsch*[1], A. Lyle[1], J. Harms[1], T. Klein[1] and J. Wang[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN*

HQ-11. Exchange-coupled Fe/FePt network. *J. Hsiao*[1], Y. Huang[1], I. Liu[1], L. Wang[1], J. Liao[1], D.A. Gilbert[2], K. Liu[2] and C. Lai[1] *1. Materials Science and Engineering, National Tsing-Hua University, Hsinchu, Taiwan; 2. Physics, University of California, Davis, California, CA*

HQ-12. Nanowire stray field detection using patterned magneto-resistive elements. *M.T. Bryan*[1], N.A. Porter[2], J.S. Claydon[2], M.A. Bashir[1], G. Burnell[2], C.H. Marrows[2], T. Schrefl[1,3] and D.A. Allwood[1] *1. Materials Science and Engineering, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 3. St. Poelten University of Applied Sciences, St. Poelten, Austria*

HQ-13. Magnetic Properties of Antiferromagnetically Coupled Antidots of Co/Pd Multilayers. *S.N. Piramanayagam*[1], M. Ranjbar[1,2], H. Tan[1], A. Poh[1], R. Sbiaa[1] and T. Chong[1,2] *1. A*STAR (Agency for Science, Technology and Research), Data Storage Institute, Singapore, Singapore; 2. ECE, National University of Singapore, Singapore, Singapore*

HQ-14. Switching Behavior of Lithographically Fabricated Nanomagnets for Logic Applications. *P. Li*[1], G. Csaba[1], V. Sankar[1], X.S. Hu[2], M.T. Niemier[2], W. Porod[1] and G.H. Bernstein[1] *1. Department of Electrical Engineering, University of Notre Dame, Notre Dame, IN; 2. Department of Computer Science and Engineering, University of Notre Dame, Notre Dame, IN*

HQ-15. Characterization of multi-layer magnetic structures via magneto-mechanical interactions. *T.M. Wallis*[1], D. Bouma[1], S. Lim[1], A. Imtiaz[1], J. Moreland[1] and P. Kabos[1] *1. N. I. S. T., Boulder, CO*

THURSDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session HR
SPIN TRANSFER TORQUE SWITCHING III (Poster Session)

Di Wu, Chair

HR-01. Observation of spin-torque-driven switching failures in the time-domain. *R. Heindl*[1], W.H. Rippard[1] and S.E. Russek[1] *1. National Institute of Standards and Technology, Boulder, CO*

HR-02. Thermal Relaxation Rates of Magnetic Nanoparticles in the Presence of Magnetic Fields and Spin-Transfer Effects. *W.H. Rippard*[1], R. Heindl[1], M. Pufall[1] and S. Russek[1] *1. NIST, Boulder, CO*

HR-03. Spin-Polarized Current-induced new direction of exchange bias in exchange coupled ferromagnetic/antiferromagnetic bilayers. *X. Tang*[1], H. Zhang[1], H. Su[1], Y. Jing[1] and Z. Zhong[1] *1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

HR-04. Spin Torque in Ferromagnetic Insulators. *Y. Yuan*[1] and A. Manchon[1] *1. Physical Science and Engineering, KAUST, Thuwal, Makkah, Saudi Arabia*

HR-05. Precessional Spin Transfer Switching under 200 ps in In-plane MgO MTJ. *H. Zhao*[1], B. Glass[2], P.K. Amiri[3], A. Lyle[1], Y. Zhang[1], Y. Chen[4], G. Rowlands[4], P. Upadhyaya[3], Z. Zhang[5], J.A. Katine[6], J. Langer[7], K. Galatsis[3], H. Jiang[5], K.L. Wang[3], I.N. Krivorotov[4] and J. Wang[1,2] *1. Electrial and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Physics and Astronomy, University of Minnesota, Minneapolis, MN; 3. Electrical Engineering, University of California, Los Angeles, Los Angeles, CA; 4. Physics and Astronomy, University of California, Irvine, Irvine, CA; 5. Physics and Astronomy, University of California, Los Angeles, Los Angeles, CA; 6. Hitachi Global Storage Technologies, San Jose, CA; 7. Singulus Technologies, 63796 Kahl/ Main, Germany*

HR-06. Wideband RF signal to trigger fast switching processes in magnetic tunnel junctions. M. Carpentieri[1], *M. Ricci*[2], P. Burrascano[2], L. Torres[3] and G. Finocchio[4] *1. University of Calabria, Rende, Italy; 2. University of Perugia, Terni, Italy; 3. University of Salamanca, Salamanca, Spain; 4. University of Messina, Messina, Italy*

HR-07. Using Co/Ni multilayers for designing perpendicular spin torque switching. *M. Arora*[1], C. Burrowes[1], W. Huttema[1], C. Eyrich[1], B. Kardasz[1], E. Montoya[1], E. Girt[1], B. Heinrich[1], D. Broun[1] and O. Myrasov[2] *1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Physics, University of Alabama, Tuscaloosa, AL*

HR-08. Spin-transfer switching of magnetic tunnel junctions using a conductive atomic force microscope with pulsed current. J. Lee[1], C. Lee[1,2], L. Ye[1], D. Yang[3], J. Wu[4], J. Su[5] and *T. Wu*[2,6] *1. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Douliou, Taiwan; 2. Graduate School of Materials Science, National Yunlin University of Science and Technology, Douliou, Taiwan; 3. Graduate School of Optoelectronics, National Yunlin University of Science and Technology, Douliou, Taiwan; 4. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 5. Department of Electrical Engineering, National Yunlin University of Science and Technology, Douliou, Taiwan; 6. Graduate School of Information Technology, Overseas Chinese University, Taichung, Taiwan*

HR-09. Spin transfer switching characteristics in $[Co/Pd]_m/Cu/[Co/Pd]_n$ pseudo spin-valve nanopillars with perpendicular anisotropy. *N. Thiyagarajah*[1] and S. Bae[1] *1. Biomagnetics Laboratory, Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

HR-10. Domain Wall Motion Cell with Perpendicular Anisotropy Wire and In-plane MTJ. *H. Honjo*[1], F. Shunsuke[2], R. Nebashi[1], N. Ishiwata[2], S. Miura[1], S. Noboru[1], S. Tadahiko[1], N. Kasai[2] and O. Hideo[2,3] *1. Green Innovation Research Laboratories, NEC, Tsukuba, Japan; 2. Center of Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*

HR-11. Current driven nucleation of domain walls in cylindrical nanowires. *M. Franchin*[1], G. Ashton[2], M. Albert[1], D. Chernyshenko[1], T. Fischbacher[1], A. Prabhakar[3] and H. Fangohr[1] *1. School of Engineering Sciences, University of Southampton, Southampton, Hampshire, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; 3. Department of Electrical Engineering, IIT Madras, Chennai, Tamil Nadu, India*

HR-12. Spin-transfer-torque efficiency in MgO/Co/Pt nanowires with perpendicular magnetic anisotropy. *J. Lee*[1,2], K. Kim[1], G. Gim[1], K. Shin[2] and S. Choe[1] *1. Department of physics, Seoul National University, Seoul, Korea, Republic of; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, Korea, Republic of*

HR-13. Increase of spin-transfer torque threshold current density in coupled vortex domain walls. *S. Lepadatu*[1], A.P. Mihai[1], J.S. Claydon[1], F. Maccherozzi[2], S.S. Dhesi[2], C.J. Kinane[3], S. Langridge[3] and C.H. Marrows[1] *1. School of Physics and Astronomy, The University of Leeds, Leeds, United Kingdom; 2. Diamond Light Source, Didcot, United Kingdom; 3. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom*

HR-14. Current-Induced Spin Torque due to Large Rashba Spin-Orbit Coupling. *W. Kim*[1], A. Manchon[2] and K. Lee[1] *1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, Korea, Republic of; 2. Div. of Phys. Sci. & Eng., KAUST, Thuwal, Saudi Arabia*

HR-15. Efficient switching of the domain-wall magnetization by current pulses: a new type of magnetic memory. *O. Tretiakov*[1], Y. Liu[1] and A. Abanov[1] *1. Texas A&M Univ, College Station, TX*

THURSDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session HS
BIOMEDICAL APPLICATIONS (Poster Session)

Shoogo Ueno, Chair

HS-01. A Highly Sensitive Integrated Micro-Device for Rapid Detection of Bacteria in Food. *C. Gooneratne*[1], C. Liang[1], I. Giouroudi[2] and J. Kosel[1] *1. King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. Vienna University of Technology, Vienna, Austria*

HS-02. A new biodection method using magnetic particles and magnetoresistive sensors. *F. Li*[1], I. Giouroudi[2], A. Useinov[1] and J. Kosel[1] *1. Division of Physical Sciences and Engineering, King Abdullah University of Science and Technology, Thuwal(Jeddah), Saudi Arabia; 2. Institute of Sensor and Actuator Systems, Vienna University of Technology, Vienna, Austria*

HS-03. Homogenous magnetic markers immunoassay measurements by Half Bridge SV-GMR Needle Probe. R. Haraszczuk[1], *S. Yamada*[1], M. Kakikawa[1] and T. Ueno[1] *1. Kanazawa University, Kanazawa, Japan*

HS-04. Comparison of Specific Absorption Rate (SAR) Induced in Brain Tissues of Child and Adult Using Mobile Phone. M. Lu[1] and *S. Ueno*[2] *1. Institute of Biophysics and Biomedical Engineering, Faculty of Sciences, University of Lisbon, Lisbon, Portugal; 2. Department of Applied Quantum Physics, Graduate School of Engineering, Kyushu University, Fukuoka, Japan*

HS-05. Developments in Deep Brain Stimulation using Time Dependent Magnetic Fields. *L.J. Crowther*[1], C.I. Nlebedim[1] and D.C. Jiles[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA*

HS-06. Transcranial Magnetic Stimulation of Deep Brain Regions by Consideration of Conventional Coils. M. Lu[1] and *S. Ueno*[2] *1. Institute of Biophysics and Biomedical Engineering, Faculty of Sciences, University of Lisbon, Lisbon, Portugal; 2. Department of Applied Quantum Physics, Graduate School of Engineering, Kyushu University, Fukuoka, Japan*

HS-07. Effects of Low-Frequency Repetitive Transcranial Magnetic Stimulation on Event Related Potential P300. *T. Torii*[1], A. Sato[1], M. Iwahashi[1] and K. Iramina[2] *1. Department of Medical Engineering, Junshin Gakuen University, Fukuoka, Japan; 2. Graduate School of Systems Life Science, Kyushu University, Fukuoka, Japan*

HS-08. Electromagnetic characteristics of eccentric figure-eight coil for transcranial magnetic stimulation: A numerical study. *T. Kato*[1], M. Sekino[1,2], T. Matsuzaki[2,3], A. Nishikawa[2,4], Y. Saitoh[2] and H. Ohsaki[1] *1. The University of Tokyo, Kashiwa, Japan; 2. Osaka University, Suita, Japan; 3. Teijin Pharma Limited, Tokyo, Japan; 4. Shinshu University, Ueda, Japan*

HS-09. Analysis of EEG and ECG at an Acupoint PC9 (Zhongchong) during Pulsed Magnetic Field Stimulus. S. Kim[1], J. Lee[1], D. Hwang[1] and *H. Lee*[1] *1. Oriental Biomedical Engineering, Sangji University, Wonju-si Gangwon-do, Korea, Republic of*

HS-10. Reliability of the Power Spectral Density in Frequency Domain Analysis for Photoplethysmography under Pulsed Magnetic Field Stimulation. *J. Lee*[1], S. Kim[1], H. Lee[1], S. Kim[1] and D. Hwang[1] *1. Oriental Biomedical Engineering, Sangji University, Wonju-si Gangwon-do, Korea, Republic of*

HS-11. The application of magnetic resonance perfusion imaging in the estimation of brain function using SVD method. Y. Li[1], D. Ma[1], R. He[2], L. Rao[3], G. Xu[1], *X. Shen*[1] and W. Yan[1] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin, China; 2. University of Texas at Houston, Houston, TX; 3. The Methodist Hospital Research Institute, The Methodist Hospital, Houston, TX*

HS-12. Transportation of superparamagnetic chains aggregation on solid plate. Z. Wei[1], *C. Lee*[1], S. Tsai[1] and M. Lai[2] *1. Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Institute of Nanoengineering and Microsystems, National Tsing Hua University, Hsinchu, Taiwan*

HS-13. Field evolution of magnetic droplet lattice under influence of magnetic dot array. C. Lee[1], *S. Yang*[1] and M. Lai[2] *1. Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Institute of Nanoengineering and Microsystems, National Tsing Hua University, Hsinchu, Taiwan*

HS-14. Numerical study of self-assembly of magnetic nanoparticles. *D.S. Chernyshenko*[1], J. Selmes[1], A. Forrester[1], M. Franchin[1] and H. Fangohr[1] *1. School of Engineering, University of Southampton, Southampton, United Kingdom*

HS-15. Clustering and Fragmentation Dynamics of Magnetic Nanoparticle Suspensions at Different Timescales. M. Gupta[1] and *M. Sharma*[1] *1. Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi, Delhi, India*

THURSDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session HT
NANOPARTICLE CHARACTERIZATION II (Poster Session)

Natalie Huls, Chair

HT-01. Investigation of cation distribution in single crystalline $Fe_{3-x}Mn_xO_4$ microspheres based on Mössbauer spectroscopy. *Y. Li*[1], T. Kouh[1], I. Shim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul, Korea, Republic of*

HT-02. Bentonite/iron oxide composites studied by NMR and Mössbauer spectroscopy. *P. Kristan*[1], V. Chlan[1], H. Stepankova[1], K. Kouril[1], R. Reznicek[1], K. Polakova[2,3], V. Prochazka[2], J. Cuda[2,3] and I. Medrik[2,3] *1. Faculty of Mathematics and Physics, Charles University in Prague, Prague 8, Czech Republic; 2. Centre for Nanomaterial Research, Faculty of Science, Palacky University, Olomouc, Czech Republic; 3. Regional Centre of Advanced Technologies and Materials, Departments of Physical Chemistry and Experimental Physics, Faculty of Science, Palacky University, Olomouc, Czech Republic*

HT-03. Self consistent measurement and removal of the dipolar interaction field in magnetic particle assemblies and the determination of their intrinsic switching field distribution. *J.M. Martínez Huerta*[1], J. De La Torre Medina[1], L. Piraux[2] and A. Encinas Oropesa[1,3] *1. Instituto de Física, Universidad Autónoma de San Luis Potosí, San Luis Potosí, San Luis Potosí, Mexico; 2. Institute of Condensed Matter and Nanosciences, Université Catholique de Louvain, Louvain-la-Neuve, Belgium; 3. Division de Materiales Avanzados, Instituto Potosino de Investigacion Cientifica y Tecnologica A. C., San Luis Potosí, San Luis Potosí, Mexico*

HT-04. Effect of particle size and Cu doping on the magnetism of CeO2 nanoparticles. *S. Suri*[1], V. Singh[1] and M.S. Seehra[1] *1. Physics, West Virginia University, Morgantown, WV*

HT-05. Correlation between magnetic ordering and electric polarization in nanosized $YMn_{1-x}Fe_xO_3$ ceramics. *T. Han*[1], P. Wu[1], Y. Shih[1] and C. Lin[2] *1. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Department of Mechanical Engineering and Institute of Nanotechnology, Southern Taiwan University, Tainan, Taiwan*

HT-06. Enhanced magnetization in of $V_xFe_{3-x}O_4$ Nanoparticles. *V.L. Pool*[1], M.T. Klem[2,3], C.L. Chorney[2,3], E.A. Arenholz[4] and Y.U. Idzerda[1] *1. Department of Physics, Montana State University, Bozeman, MT; 2. Chemistry, Montana Tech, Butte, MT; 3. Center for Advanced Supramolecular and Nano Systems, Montana Tech, Butte, MT; 4. Advanced Light Source, Lawrence Berkeley National Labs, Berkeley, CA*

HT-07. Electromagnetic Characteristics of Surface Modified Iron Nanowires at X-band Frequencies. *W. Liang*[1], R. Yang[2], W. Lin[3], Z. Jian[3], C. Tsay[4], S. Wu[3], H. Lin[3], S. Choi[1] and C. Lin[4] *1. Department of Aeronautics and Astronautics, National Cheng Kung University, Tainan, Taiwan; 2. Department of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 4. Department of Materials Science and Engineering, Feng Chia University, Taichung, Taiwan*

HT-08. Size effect of Fe nanoparticles on high frequency dynamics for highly densed self-organized assembly. *H. Kura*[1], T. Ogawa[1], R. Tate[1], K. Hata[2] and M. Takahashi[1] *1. Department of Electronic Engineering,, Graduated School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Osaka Branch, SAMUSUNG Yokohama Research Institute, Minoo, Osaka, Japan*

HT-09. High frequency study of core-shell and uncoated Fe_3O_4 nanparticles. *B.K. Kuanr*[1], V. Veerakumar[2], A.V. Kuanr[3], S.R. Mishra[4], R.E. Camley[1] and Z. Celinski[1] *1. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Seagate Technology, 7801 Computer Ave, Bloomington, MN 55435, MN; 3. Physics Department, Shaheed Rajguru College of Applied Science for Women (Delhi University), Jhilmil Colony, Delhi, India; 4. Department of Physics, University of Memphis, Memphis, TN*

HT-10. Ultrafast magnetization dynamics of Core/Shell CoPt nanoparticles.H. Kesserwan[1], V. Halté [1], T. Kim[2] and *J. Bigot*[1]*1. Institut de Physique et Chimie des Matériaux de Strasbourg, CNRS - Université de Strasbourg, Strasbourg, France; 2. Department of Physics, Ewha Womans University, Seoul, Korea, Republic of*

HT-11. Cobalt-driven enhancement of the magnetism of magnetoferritin-based nanoparticles. *E. Skoropata*[1], P. Ceci[2], O. Kasyutich[3] and J. van Lierop[1]*1. Physics & Astronomy, University of Manitoba, Winnipeg, MB, Canada; 2. CNR Institute of Molecular Biology and Pathology, University of Rome, Rome, Italy; 3. HH Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom*

HT-12. Magnetic Properties of Self-Assembled (In, Mn)As Nanodots: Effects of Dot Density and Size Distribution. *F. Xu*[1], P. Huang[2], J. Huang[2], W. Lee[2], T. Chin[2] and S. Li[3]*1. Department of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu, China; 2. National Tsinghua University, Hsinchu, Taiwan; 3. Fujian Normal University, Fuzhou, China*

HT-13. Derivation of the Moment Weighted Blocking Temeperature Distribution in the Nanoparticle Systems from Magnetization Measurements. *T. Lee*[1], S. Kim[1], B. Suh[2], Z. Jang[1] and K. Kim[3]*1. Physics, Kookim univ., Seoul, Seoul, Korea, Republic of; 2. Physics, The Catholic University of Korea, Bucheon, Gyunggido, Korea, Republic of; 3. Biotechnology & Bioinformatics, Korea University, Jochiwon, Chungchungnamdo, Korea, Republic of*

HT-14. Fe3O4 nanoparticles sedimentation in water solution under gradient magnetic fields. *I. Medvedeva*[1], S. Zhakov[1], I. Byzov[1], M. Uimin[1], A. Yermakov[1], A. Mysik[1], V. Tsurin[1], N. Shchegoleva[1] and K. Bä rner[2]*1. Institute of Metal Physics,RAS, Ekaterinburg, Russian Federation; 2. Dep.Phys., University of Göttingen, Göttingen, Germany*

HT-15. Magnetic NiFe/Au barcode nanowires with self-powered motions. *I. Jeon*[1,2], S. Yoon[1], B. Kim[1], J. Lee[1], B. An[1], J. Wu[2] and Y.K. Kim[1,2]*1. Department of Materials Science and Engineering, Korea University, Seoul, Korea, Republic of; 2. Pioneer Research Center for Biomedical Nanocrystals, Korea University, Seoul, Korea, Republic of*

THURSDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session HU
SUPERCONDUCTIVITY (Poster Session)

Mark Lumsden, Chair

HU-01. Effect of Fe composition on the superconducting properties (Tc, Hc2 and Hirr) of FexSe1/2Te1/2 (x=0.95, 1.00, 1.05 and 1.10).S. Sudesh[1], S. Rani[1], S. Das[3], R. Rawat[2], C. Bernhard[3] and *G.D. Varma*[1]*1. Physics, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India; 2. UGC-DAE C.S.R., Indore, M.P., India; 3. Physics, University of Fribourg, Fribourg, Switzerland*

HU-02. Quasiparticle relaxation across the multiple superconducting gaps in the electron-doped BaFe1.85Co0.15As2. *Y. Ren*[1], Y. Gong[1], T. Nosach[1], J. Li[2], J.J. Tu[2], L.J. Li[3], G.H. Cao[3] and Z.A. Xu[3]*1. Physics & Physics, Hunter College of the City University of New York, New York, NY; 2. Physics, City College of New York, New York, NY; 3. Physics, Zhejiang University, Hangzhou, Zhejiang, China*

HU-03. Magnetic characterizations of a $EuCo_2As_2$ single crystal.J. Ballinger[1], *L.E. Wenger*[1], Y.K. Vohra[1] and A.S. Sefat[2]*1. Physics, University of Alabama at Birmingham, Birmingham, AL; 2. Oak Ridge National Laboratory, Oak Ridge, TN*

HU-04. Angular dependence of transport, magnetic and flux pinning potential of $Ba(Fe_{1-x}Co_x)_2As_2$ superconducting single crystals. *M. Shahbazi*[1], X. Wang[1], K. Choi[2], Y. Ma[2] and S. Dou[1]*1. Institute for Superconducting and Electronic Materials, Wollongong, NSW, Australia; 2. sogang university, seoul, Korea, Republic of*

HU-05. London penetration depth measurements of Fe1+y(Te1−x Sex) single crystals at ultra low temperatures. *A. Diaconu*[1], J. Hu[2], T. Liu[2], B. Qian[2], Z. Mao[2] and L. Spinu[1]*1. Department of Physics / AMRI, University of New Orleans, New Orleans, LA; 2. Department of Physics and Engineering Physics, Tulane University, New Orleans, LA*

HU-06. A Mössbauer study of magnetic ordering and lattice dynamics in the iron-pnictide high-Tc superconductor: K0.80Fe1.76Se2.00. *D. Ryan*[1], W.N. Rowan-Weetaluktuk[1], R. Hu[2], S.L. Bud'ko[2] and P.C. Canfield[2]*1. Physics, McGill University, Montreal, QC, Canada; 2. Physics and Astronomy, Iowa State University, Ames, IA*

HU-07. Evidence for intrinsic superconductivity at T_{c1} in $PrOs_4Sb_{12}$ *B. Andraka*[1]*1. Physics, University of Florida, Gainesville, FL*

HU-08. Current densities of nano-SiC doped MgB_2/Fe wires by combined *ex situ/in situ* process.W. Li[1], *R. Zeng*[1], S. Zhou[1] and S. Dou[1]*1. Institute fro Superconducting and Electronic Materials, University of Wollongong, Fairy Meadow, NSW, Australia*

HU-09. Hysteresis of the Phase Diagram in the Ferromagnet-Superconductor Hybrids. *A.E. Ozmetin*[1], K. Kim[2], H. Lee[2], D.D. Rathnayaka[2], I.F. Lyuksyutov[2] and D.G. Naugle[2]*1. Department of Electrical and Electronics Engineering, Meliksah University, Kayseri, Turkey; 2. Department of Physics, Texas A&M University, College Station, TX*

HU-10. Magneto-optical Visualization of Flux Distribution in Fe-based Superconducting Materials. *Z.W. Lin*[1], J.G. Zhu[1], Y.G. Guo[1] and T.H. Johansen[2]*1. Faculty of Engineering and Information Technology, University of Technology, Sydney, Sydney, NSW, Australia; 2. Department of Physics, University of Oslo, Blindern, Norway*

HU-11. Transport measurements of lateral MgB_2/Fe/MgB_2 junctions. *S.M. Fabretti*[1], P. Thomas[1], M. Schä fers[1] and A. Thomas[1]*1. Physics, University, Bielefeld, NRW, Germany*

HU-12. Effect of Boron substitution on the superconductivity of MgCNi3. *A. Kumar*[1,2], R. Jha[1], R. Tandon[2] and V. Awana[1]*1. Quantum Phenomena and Application, National Physical Laboratory, New Delhi, Delhi, India; 2. Physics and Astrophysics, University of Delhi, New Delhi, Delhi, India*

HU-13. Magnetic and Superconducting Properties of Spin-Fluctuation-Limited Superconducting nanoporous VNx nanowires. *R. Zeng*[1]*1. University of Wollongong, Wollongong, NSW, Australia*

HU-14. Magnetism and superconductivity in the Heusler alloy Pd2YbPb. *Y.-. Oner*[1]*1. Department of Physics, Istanbul Technical University, Istanbul, Turkey*

HU-15. Annealing Effects on Superconductivity and Magnetism in Fe1+yTe1-xSx Single Crystals. *Z. Zhang*[1], Z. Yang[2], L. Li[1], L. Pi[1], S. Tan[1] and Y. Zhang[1]*1. High Magnetic Field Laboratory, Univ. of Sci. & Tech. of China, Hefei, Anhui, China; 2. Key Laboratory of Materials Physics, Institute of Solid State Physics, Hefei, Anhui, China*

THURSDAY AFTERNOON 1:00

SAGUARO BALLROOM

Session HV
MICROMAGNETIC MODELING II (Poster Session)

Xiaobin Wang, Chair

HV-01. Fast Magnetic Field Analysis by specialized multigrid method for laminated iron core. *R. Nagahama*[1] and S. Wakao[1]*1. Waseda University, Tokyo, Japan*

HV-02. A Tie-plate Core Loss Minimization of 24 MVA Power Transformer using Finite Element Analysis with an Optimization Method. *P. Shin*[1], Y. KIm[1] and C. Koh[2]*1. Eelectrical Engineering, Hongik University, Jochiwon, Chungnam, Korea, Republic of; 2. Electrical Engineering, Chung Bul National University, Cheongju, Korea, Republic of*

HV-03. Two-Phase Flow of Magnetic Nanofluids Driven by Surface and Body Force Densities Due to Total and External Fields Incorporating with Level-set Method.G. Jeong[1], Y. Kim[2], S. Choi[3], *S. Lee*[1] and H. Lee[1]*1. School of Electrical Eng. and Computer Science, Kyungpook National University, Daegu, Korea, Republic of; 2. Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA; 3. Korea Basic Science Institute, Busan, Korea, Republic of*

HV-04. Semargl: An Advanced Tool for Analysis of the Output from Micromagnetic Simulations. *M. Dvornik*[1] and V.V. Kruglyak[1]*1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom*

HV-05. Computing the demagnetising tensor for finite difference micromagnetic simulations via numerical integration. *D.S. Chernyshenko*[1], M. Franchin[1] and H. Fangohr[1]*1. School of Engineering, University of Southampton, Southampton, United Kingdom*

HV-06. A precise description of the magneto-optical Kerr effect. *R. Dost*[1], B. Paul[2], D.A. Allwood[1] and I.G. Hughes[2]*1. Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom; 2. Physics, Durham University, Durham, United Kingdom*

HV-07. Cyclical Magnetic Field Flow Fractionation. *T.O. Tasci*[1], W.P. Johnson[2] and B.K. Gale[3]*1. Bioengineering, University of Utah, Salt Lake City, UT; 2. Geology and Geophysics, University of Utah, Salt Lake City, UT; 3. Mechanical Engineering, University of Utah, Salt Lake City, UT*

HV-08. Effect of the surface layer on the magnetic behavior of nanoparticles. *F.R. Arantes*[1] and D.R. Cornejo[1]*1. Condensed Matter Physics, Institut of Physics, University of São Paulo, Sao Paulo, Sao Paulo, Brazil*

HV-09. Vortex dynamics simulation in two- and three-dimensional superconducting samples. *D. Velasco*[1]*1. CIMAV, Chihuahua, Chihuahua, Mexico*

HV-10. An efficient wavelet transform based algorithm for fast computation of the 3D demagnetizing field in micromagnetic simulations. *A. Kazmi*[1] and M.A. Sohail[1]*1. National University of Computer and Emerging Sciences, Lahore, Pakistan*

HV-11. Micromagnetic modeling of one-dimensional assemblies of magnetite nanocrystals. *M. Charilaou*[1], M. Winklhofer[1] and A.U. Gehring[1]*1. ETH Zurich, Zurich, Switzerland*

HV-12. Semi-implicit integration scheme for Landau–Lifshitz–Gilbert-Slonczewski equation. *A. Giordano*[1], G. Finocchio[1], L. Torres[2], M. Carpentieri[3] and B. Azzerboni[1] *1. University of Messina, Messina, Italy; 2. Universidad de Salamanca, Salamanca, Spain; 3. University of Calabria, Cosenza, Italy*

HV-13. Study on Micro-magnetic Simulation of Magnetic State of TbFeCo/Anodized Aluminum Oxide Film. *F. Jin*[1], X. Yang[2], W. Cheng[2] and Y. Li[2] *1. Faculty of Mechanical & Electronic Information, China University of Geosciences, Wuhan, Hubei, China; 2. Department of Electronic Science & Technology, Huazhong University of Science & Technology, Wuhan, Hubei, China*

HV-14. Controlling the core-to-core distance of vortex pairs in exchange biased iron elliptical nanoelements. T.R. Moura[1], F.F. Olivieira[1], G.O. Rebouç as[3], A.L. Dantas[2] and *A.S. Carriço*[1] *1. Department of Physics, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil; 2. Department of Physics, Universidade do Estado do Rio Grande do Norte, Mossoró, RN, Brazil; 3. Department of Physics, Universidade Federal Rural do Semi-Árido, Angicos, RN, Brazil*

HV-15. Geometric Structure, Electronic Structure, and Spin Transition of Several Fe^{II} Spin-crossover Molecules. *T.V. Nguyen*[1] and N.A. Tuan[1] *1. Faculty of Physics, Hanoi University of Science, Vietnam National University, Hanoi, Viet Nam*

THURSDAY AFTERNOON 1:00 SAGUARO BALLROOM

Session HW
TRANSFORMERS, MOTORS, INDUCTORS AND LEVITATION III (Poster Session)
Ichiro Sasada, Chair

HW-01. The optimization of dual-axis closed-loop fluxgate technology in precision current sensor. Z. Bo[1] and *Y. Xiaoguang*[1] *1. Electrical engineering, Tianjin, China*

HW-02. Optimized Secondary Overhang Design of Linear Induction Motor using Coupling 3D Finite Element Method and Electromagnetic Field Theory. S. Jang[1], *J. Jeong*[1], Y. Park[1], K. Ko[1] and D. You[2] *1. Electrical Engineering, Chungnam National University, Daejeon, Korea, Republic of; 2. Fire Safety Engineering, Chungnam Cheongyang College, Cheongyang-Gun, Korea, Republic of*

HW-03. Magnetic Properties and High-Frequency Characteristics of FeCoAlO Gradient Thin Films. F. Zheng[1], F. Luo[1], Y. Lou[1], *J. Bai*[1], D. Wei[2], X. Liu[3] and F. Wei[1] *1. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 2. Lab of Advanced Materials, Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China; 3. Department of Information Engineering, Shinshu University, Nagano, Japan*

HW-04. Development of a Hybrid Magnet Array for an Active Maglev Control System. W. Ko[1], *C.H. Ham*[2], K. Lin[3] and Y. Joo[4] *1. Electrical Engineering, Kyungwon University, Seongnam, Kyunggi, Korea, Republic of; 2. Mechatronics Engineering, Southern Polytechnic State University, Marietta, GA; 3. Mechanical, Materials, and Aerospace, University of Central Florida, Orlando, FL; 4. Corresponding author, Kunsan Nat'l University, Kunsan, Jeonbuk, Korea, Republic of*

HW-05. 3D Analysis of Behavior of Magnetic Flux Density on Transformer Core Joints. *S. Mousavi*[1] and G. Engdahl[1] *1. KTH, Stockholm, Sweden*

HW-06. Optimization of Active Electromagnetic Suspension Systems Using Particle Swarm Evolutionary Computation Approach. *A. Adly*[1] and S. Abd-El-Hafiz[2] *1. Elect. Power & Machines Dept., Cairo University, Giza, Egypt; 2. Engineering Mathematics Dept., Cairo University, Giza, Egypt*

HW-07. A New Fault-tolerant Permanent-magnet Machine for Electric Vehicle Applications. Q. Chen[1], *G. Liu*[1], W. Gong[1], Q. Li[1] and W. Zhao[1] *1. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China*

HW-08. Offline and Online modeling of flux linkage characteristics of SRM Using RBF neural networks. C. Jun[1], Z. Deng[1], S. Xiong[1] and *Y. Wu*[1] *1. College of automation, Nanjing University of Aeronautics and Astronautics, Nanjing, China*

THURSDAY AFTERNOON 1:00 SAGUARO BALLROOM

Session HX
MAGNETO-OPTICS AND MEMS II (Poster Session)
Charles Krafft, Chair

HX-01. Microscopic Magneto-Optic Kerr Effect Spectroscopy in $Ni_{75}Fe_{25}$ and Fe Ferromagnetic Thin Films on Organic Substrates. *K. Kondo*[1], H. Kaiju[1,2] and A. Ishibashi[1] *1. Laboratory of Quantum Electronics, Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan*

HX-02. Superprism phenomenon in two-dimensional magnetophotonic crystals: experiment and numerical simulation. *S. Baek*[1], A.V. Baryshev[1,2] and M. Inoue[1] *1. Toyohashi University of Technology, Toyohashi, Aichi, Japan; 2. Ioffe Physico-Technical Institute, St. Petersburg, Russian Federation*

HX-03. Magnetooptical Spectroscopy Characterization of Barium Hexagonal Ferrite Thin Films Grown by MOD Technique. *E. Liskova*[1], S. Visnovsky[1], J. Pistora[2], I. Harward[3], Y. Nie[3,4] and Z. Celinski[3] *1. Physics, Charles University, Praha 2, Czech Republic; 2. Physics, Technical University Ostrava, Ostrava, Czech Republic; 3. Center for Magnetism and Magnetic Nanostructures, University of Colorado, Colorado Springs, CO; 4. Electronic Science and Technology, University of Science and Technology, Wuhan, Hubei, China*

HX-04. Giant magnetorefractive effect in the optimally doped thin manganite films. *A. Telegin*[1], Y.P. Sukhorukov[1] and A. Granovsky[2] *1. Institute of Metal Physics RAS, Ekaterinburg, Russian Federation; 2. Moscow State University, Moscow, Russian Federation*

HX-05. Fabrication of scrolled magnetic thin film patterns. *S. Min*[1], J. Lim[2], J. Gaffney[1], K. Kinttle[3], J.B. Wiley[2] and L. Malkinski[1] *1. Advanced Materials Research Insitute(AMRI), The University of New Orleans, New Orleans, LA; 2. Department of Chemistry, University of New Orleans, New Orleans, LA; 3. Department of Electrical Engineering, Penn State Harrisburg, Middletown, PA*

HX-06. Epitaxial $Fe_{1-x}Ga_x$ / GaAs Structures via Electrochemistry for Spintronics and MEMS Applications. *K. Reddy*[1], J. Park[3], S. Na[3], M. Maqableh[2], A. Flatau[3] and B. Stadler[1,2] *1. Chemical Engineering and Materials Science, University of Minnesota - Twin Cities, Minneapolis, MN; 2. Electrical and Computer Engineering, University of Minnesota - Twin Cities, Minneapolis, MN; 3. Aerospace Engineering, University of Maryland, College Park, MD*

HX-07. Lateral RF MEMS Capacitive Switch Based on ALD Dielectrics for 35GHz Radar Application. *X. He*[1] *1. School of Applied Sciences, Harbin University of Science and Technology, Harbin, China*

- A -

- B -

- C -

- D -

- E -

- F -

- G -

- H -

- I -

- J -

- K -

- L -

- M -

- N -

- O -

- P -

- Q -

- R -

- S -

- T -

- U -

- V -

- W -

- X -

- Y -

- Z -

*student nominee