SCOPE OF CONFERENCE

The Intermag 2006 Conference, sponsored by the IEEE Magnetics Society, will be held on May 8-12, 2006 at the Town and Country Resort & Convention Center in San Diego, California. You are invited as members of the scientific community interested in recent advances in magnetism and related technologies.

This is the premiere international conference on applications of magnetism including information storage technology. An exciting program is planned. Invited symposia are scheduled on topics covering spin transfer effects, future date storage technologies, biosensors, advances in characterization and imaging, chemical synthesis of nanomagnets, and advanced recording media. A tutorial session on noise mechanisms in magnetic devices will also be held in the evening of the first day. This year's plenary speaker is Dr. Mark Kryder, Chief Technical Officer and Senior Vice President of Seagate Corporation, who will talk about *Magnetic Data Storage and Where It Is Taking Us.*

Intermag 2006 will provide an excellent opportunity for participants to interact with colleagues around the globe, to share insights and latest accomplishments, and to see the latest products offered by our technical exhibitors.

LOCATION

The City of San Diego offers a wide variety of things to see and do as well as a climate that is mild and pleasant all year. For complete information about traveling to San Diego visit the web site at: www.sandiego.org. There you can obtain a travel and vacation planning guide, current weather information, and maps of both the downtown area and the area surrounding the Town and Country Resort & Conference Center where Intermag 2006 will be held.

HOTEL INFORMATION

The Conference will be held in The Town and Country Resort & Conference Center, which is located in San Diego's Mission Valley and is served by the new light-rail trolley system. Complimentary parking is also available. All Conference activities are located on one level, with easy access for all. The Intermag Conference sleeping room rates will be $139/single or $149/double plus tax.

Making a hotel room reservation via the web site is the fastest way to book a room at The Town and Country Resort & Conference Center, and will provide you with an immediate confirmation. To book your room, please follow the following link: https://reservations.ihotelier.com/crs/g_reservation.cfm?groupID=13254&hotelID=2903 and fill in the online form. The hotel can serve all special needs, so please make your requests when you reserve your room.

You can also book a room by going directly to The Town and Country reservations web site at http://www.towncountry.com/ or call the hotel's Reservation Office at 1-800-772-8527. Be sure to use the Promotional Code "INTERMAG" in order to obtain the special Intermag 2006 group rates.

Alternatively, you may download the reservation form from http://www.intermagconference.com/intermag2006/hotel.pdf and send it to The Town & Country by fax or mail. Full contact information is found on the hotel's reservation form. You should receive confirmation of your hotel reservation by mail, **unless you clearly mark your fax number and/or email address on your reservation form.** If you do not receive your confirmation within two weeks of making your reservation, please call the hotel to confirm your reservation, and ask for your confirmation number so that you can carry it with you when you come. **Each Conference participant is responsible for making his/her own hotel reservation and for paying all personal bills upon checkout.** Your hotel room reservation must be received by The Town and Country Resort & Conference Center no later than **Monday, April 10, 2006** in order for you to receive the special Intermag Conference rates. **Cancellations of reservations must be received at the hotel before 6:00 PM 48 hours in advance of the check-in date.**

CONFERENCE REGISTRATION

You can register **in advance at a reduced rate** by completely filling out the Advance Registration Form. Payment in U.S. dollars must be made by personal or corporate check **(drawn on a U.S. bank only)**, or by MasterCard, Visa or American Express credit cards. Make checks payable to "IEEE Intermag 2006." **All Conference attendees, including speakers, must pay registration fees.**

The Conference Advance Registration Form and complete instructions for submitting it can be found on the Intermag 2006 web site at: www.intermagconference.com. You are encouraged to register via the secure web site to save time and to ensure that you are registered well in advance of the deadline of April 10, 2006.

There will also be onsite registration, but at higher rates. After April 10th, only the higher registration fees will be accepted, and only onsite at the Conference. **Forms not accompanied by payment or with incomplete or incorrect credit card information will be considered "late" and the higher rates will be collected onsite at the Conference.**

Registration Fees:	Until April 10th	After April 10th/ Onsite
Full Registrant IEEE Member	$525	$650
Full Registrant Non-Member	$630	$775
Student Registrant	$250	$250
Unemployed Retiree	$250	$250

All registrants paying the full registration fees will receive the Digest Book in both printed and CD form, and these will be distributed at the Conference Registration Desks. They will also receive the Conference Proceedings, scheduled to be published in the Fall of 2006 in the *IEEE Transactions on Magnetics.* **Students and unemployed retirees who register at the lower fees will not receive a copy of the Proceedings, except through their membership in the IEEE Magnetics Society.**

Additional copies of the Digest Book may be purchased for $ 25 each onsite at the Registration Desks, but only on a first-come-first-served basis. All attendees will be required to wear Intermag 2006 name badges to enter the Technical Sessions and Exhibits. **The use of cameras, videotaping and/or recording devices in the technical sessions is strictly prohibited.**

REMEMBER: All "Advance Registration" forms must be accompanied by full payment and must be received by April 10, 2006.

The Conference Registration Desks, located in the Grand Foyer of the Town and Country Convention Center, will be open during the following hours:

Monday, May 8th	4:00 PM – 8:00 PM
Tuesday, May 9th	7:00 AM - 2:30 PM
Wednesday, May 10th	7:00 AM – 2:30 PM
Thursday, May 11th	7:00 AM – 2:30 PM
Friday, May 12th	7:00 AM – 12:00 NOON

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received at Event Solutions Unlimited no later than Monday, April 10, 2006. Refunds of the original payment, less a $75 service fee, will be mailed following the Conference. Substitutions may be made at any time, including onsite, for a registrant who cannot attend but has paid the registration fee in advance.

VISA REQUIREMENTS FOR ENTRY INTO THE US

Citizens of other countries must carry a valid passport and current visa to enter the USA. Foreign participants should contact the United States Embassy, Consulate, or Office of Tourism in their home country as soon as possible to determine their particular visa requirements. If you need a personal letter of invitation to attend Intermag 2006, please contact Courtesy Associates at intermag2006@courtesyassoc.com. You must provide your full name and complete mailing address. An original, signed letter will be sent to you via standard mail service since only an original copy (not faxed or e-mail version) will be accepted with the visa application. Please note that the Intermag Conference cannot and will not contact or intervene with any U.S. Embassy or Consulate office on a participant's behalf. We strongly urge you to begin the process immediately to obtain a visa.

The Visa Waiver Program (VWP) enables nationals of certain countries to travel to the USA for stays of 90 days or less without

obtaining a visa. Not all countries participate in the VWP, and not all travelers from VWP countries are eligible for this program. All travelers to the USA must now carry machine-readable passports. Those machine-readable passports issued after October 25, 2005 require a digital photograph printed on the data page or an integrated chip with information from the data page. To determine if your passport is in order, and whether or not you require a visa, you must check locally with your country's embassy or consulate.

PUBLICATIONS ROOM

The Publications Room, where authors can check the status of their manuscripts, will be located in Terrace Salon I (between the Atlas and Grand Foyers). The status of all papers will be posted here and authors should check periodically on their individual papers. Authors may leave messages for their Editors. Each Editor will post a notice of the time at which he/she can be found in the Publications Room. Editors will respond to messages and questions as promptly as possible. This room will be open as follows:

Tuesday, May 9th – Thursday, May 11th	9:00 AM – 5:00 PM
Friday, May 12th	9:00 AM – 2:00 PM

LCD PROJECTORS

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

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

SPEAKER PRACTICE ROOM

Speakers are reminded that the Conference is planning an all-electronic presentation format. Speakers may use one of the Pacific Salons (located upstairs above the Grand Ballroom) to practice their presentations. Audiovisual equipment (LCD projec-

tor and screen) will be available there for authors to use from 8:00 AM until 5:00 PM on Tuesday through Friday. This rehearsal room will also be available on Monday from 12:00 Noon until 6:00 PM. Speakers are urged to use this facility to practice their presentation, either alone or with colleagues.

POSTER SESSIONS

The hours of the Poster Sessions are 8:00 AM–12:00 Noon and 1:00 PM–5:00 PM. Authors should set up their materials at least half an hour before session start times. They must be by their posters from 8:00–9:00 AM and 11:00 AM-12:00 Noon for the morning sessions, and from 1:00-2:00 PM and 4:00-5:00 PM for the afternoon sessions. Authors are reminded to remove all of their materials, excluding the pushpins that have been provided by the Conference, promptly at the end of their session. The Conference Coordinators will discard materials that are not removed promptly, in order to prepare for the next session.

TUTORIAL ON "NOISE MECHANISMS IN MAGNETIC DEVICES"

The IEEE Magnetics Society Education Committee has organized a tutorial on *Noise Mechanisms in Magnetic Devices*. The tutorial will be especially aimed at the novice, but should be of interest to both specialists and non-specialists.

Date: Monday, May 8, 2006
Time: 7:00 – 9:15 pm
Room: San Diego Ballroom

"Introduction to Noise and Measurements Techniques" – Ed Nowak
"Noise Characteristics in Magnetic Recording Media" – Neal Bertram
"Limitations of Magnetic Devices due to Noise and Thermal Fluctuations" – Stephen Russek

Session Chair: J.W. Harrell

IEEE MAGNETICS SOCIETY ANNUAL GENERAL MEETING

This meeting is open to all Intermag participants. Please come to learn what the IEEE Magnetics Society is doing for you and/or the benefits of joining the Society. The meeting will be held on Tuesday, May 9th, at 3:00-3:45 PM, just prior to the Plenary Session and Awards Ceremony. The location will be the Royal Palm Ballroom.

PLENARY SESSION

During the Conference Plenary Session on Tuesday May 9, starting at 3:45 PM in the Town and Country Ballroom, the IEEE Magnetics Society will recognize the 2006 award recipients. The IEEE Reynold B. Johnson Information Storage Systems Award will be presented to Dr. Jaishankar M. Menon, Director and Chief Technologist of Storage Systems Architecture and Design, IBM Systems and Technology Group. The IEEE Magnetics Society Achievement Award will also be presented. The following newly elected IEEE Fellows will be recognized: Dr. Charles M. Falco, University of Arizona, Dr. Frank E. Talke, University of California San Diego, and Dr. Edgar M. Williams, Read Rite Corporation (retired). Additionally, the 2005 Distinguished Lecturers Dr. Chai-Ling Chien (Johns Hopkins University), Dr. Robert E. Fontana (Hitachi Global Storage Technologies) and Dr. Burkard Hillebrands (Technische Universität Kaiserslautern) will be thanked for their many lectures given throughout the world, and the Intermag Student Travel Grant winners will also be recognized. Afterwards, a plenary lecture will be presented:

Magnetic Data Storage and Where it is Taking Us

Dr. Mark H. Kryder
Chief Technical Officer and Senior Vice President, Research, Seagate Technology

The exponential growth of areal density in magnetic recording has exceeded that of semiconductor devices and is at least as responsible, if not more so than advances in semiconductors for the progress in computing that has taken place over the past several decades. Without the reduction in cost of storage that has occurred, we would have neither the large software programs, nor the large databases we have today, and, consequently, the internet as we currently know it would not exist. Recently magnetic data storage has begun to spread outside of the computing industry, enabling entirely new devices and industries. The MP3 player exists today, not because of advances in semiconductors, but because 1-inch hard drives provided sufficient storage at an attractive cost point to make it possible. In the video area, magnetic disc drives enabled TiVo and PVR's in general. Today wide-screen TV's have begun to be shipped with an installed hard drive, and both digital still cameras and video cameras are beginning to use hard drives for storage and therefore offer considerably more capacity and ease of use than could be offered before. Automobiles are increasingly coming with hard drives, both for navigation and entertainment systems. Encrypted hard drives are beginning to make loss of data on stolen laptops a thing of the past, and home servers powered by hard drives are enabling us to interconnect all the audio, video and computing components in our home and backup the portable ones that we take to the office or on vacation. This talk will provide a perspective on this amazing history and attempt to project new applications and industries that could arise as the areal density of storage continues to increase.

PLENARY RECEPTION

Immediately following the Plenary Session and Awards Ceremony, there will be a Reception for all registered participants. This will be in lieu of the Bierstube on Tuesday evening, May 9th. The Reception will be held outdoors, weather permitting, or in the Atlas Ballroom Foyer if the weather is inclement.

BIERSTUBE AND COFFEE

Coffee service will be available on Wednesday through Friday mornings from 8:00 AM – 10:00 AM in the Grand Ballroom among the Exhibits and Poster Sessions. On Tuesday morning, when there are no Poster Sessions, the coffee service will be in the Atlas Foyer.

On Monday evening the Bierstube will be in the Grand Foyer adjacent to the Conference Registration Desks from 5:00 PM – 8:00 PM. On Wednesday and Thursday evenings, the Bierstube will be held from 5:00-6:00 PM inside the Grand Ballroom adjacent to the Exhibits.

EXHIBITS

The **Exhibitor Pavilion** will present the latest products and services in the magnetics industry. Located in the Grand Ballroom alongside the Poster area, the Pavilion will afford attendees the opportunity to learn first-hand about consumable materials, deposition tools and techniques, metrology tools, and other laboratory and manufacturing equipment.

Pavilion hours will be:

Wednesday, May 10th	9:00 AM – 6:00 PM
Thursday, May 11th	9:00 AM – 6:00 PM
Friday, May 12th	9:00 AM – 12:00 Noon

Each day, the Exhibitor Theater will feature presentations by companies on their specific areas of expertise. Presentation times and titles will be posted by the theater and included in the onsite Exhibitor Directory.

Intermag 2006 Exhibitors (as of printing) are:

ADE Technologies
Asylum Research
Canon ANELVA Corporation
Capres A/S
GMW Associates
Hitachi Metals America, LTD
Heraeus Incorporated
Imago Scientific Instruments
Lake Shore Cryotronics, Inc.
Materials Today
Nanomagnetics Instruments
Neoark Corporation
Princeton Measurements Corporation

SHB Instruments, Inc.
Singulus Technologies AG
SwissProbe Ltd.
Veeco Instruments
Walker Scientific, Inc.
Williams Advanced Materials

If you are interested in becoming an exhibitor, please contact intermag2006@courtesyassoc.com or visit www.intermagconference.com/intermag2006 and click on the Exhibits link.

IEEE MAGNETICS SOCIETY MEMBERSHIP

If you are not already a member of the IEEE Magnetics Society we cordially invite you to join at your earliest convenience. Why? Well, please look at the discount for this conference alone. The difference between the Advance Member rate and the Onsite Non-Member rate is enough to cover the membership fee right off the bat. So, if you join now by going online via the Society website www.ieeemagnetics.org and follow the links, joining is made easy. Having done that, for the rest of the year you can access other valuable member benefits. This includes discounts at other IEEE events, conferences and symposia, group insurance, health and finance benefits. Through the Magnetics Society you get unlimited access to all issues of the ***IEEE Transactions on Magnetics*** since the journal's inception in 1969 with unlimited downloads! This includes all Intermag Proceedings as well as other topical conferences published in these *Transactions* (e.g. The Magnetic Recording Conference). Membership also includes a CD-ROM copy of the *Transactions* each year that you are a member. By joining you become a part of the world's best known magnetics organization. You gain access to local chapter events, technical activities and can sponsor students for conference travel grants. And you will be recognized as being a part of the established and vibrant IEEE technical community. So don't delay! Join immediately so you can enjoy the maximum discount at this upcoming Intermag Conference in San Diego, California.

FREE STUDENT MEMBERSHIP IN THE IEEE AND THE MAGNETICS SOCIETY OFFERED TO STUDENTS REGISTERED AT THE 2006 INTERMAG CONFERENCE!

If you are registered at the 2006 Intermag Conference as a **Student** attendee, at the Student rate, you can obtain a FREE membership in the IEEE and the Magnetics Society by **completing and returning an IEEE membership application form.**

- Completed forms must be handed in at the Membership Desk at the Conference to obtain this free Student Membership.
- This offer is only valid at the 2006 Intermag Conference.
- Submissions sent/received after the final day of the Intermag Conference CANNOT be processed.

- This free student membership will run for the remainder of 2006.
- This free student membership is only available to students who are ***NOT*** currently members of the IEEE and the Magnetics Society.

STUDENT TRAVEL AWARDS

The IEEE Magnetics Society is awarding travel grants of up to $750 each to a limited number of students working in basic and applied magnetism. These grants are intended to partially offset travel costs to attend Intermag 2006. Support is for current graduate students only, including Ph.D. candidates and students in Masters only programs. Postdoctoral fellows, undergraduates or non-students are not eligible. Preference will be given to students who are student members of the magnetics society, who are nearing completion of their graduate studies and are presenting Conference papers. Preference will also be given to students whose advisors are members of the Magnetics Society. Students who have previously received travel support from the Magnetics Society are not eligible. Shortly after the Conference grant recipients must submit a short account of their experience for possible inclusion in the Magnetics Society Newsletter. The deadline for submission of the completed application was February 28, 2006. The Student Travel Grant Co-Coordinators are: Matthew J. Carey (Hitachi GST, San Jose, CA) and Sara Majetich (Carnegie Mellon University, Pittsburgh PA).

IEEE MAGNETICS SOCIETY

President: . . . . . .Kevin O'Grady
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Terms Expiring December 31, 2006
B. Dieny; R. Hasegawa; Y. Miura; D. Jiles; T. Dong Lee; K. Ounadjela; J-U Thiele; S. Ueno;
Terms Expiring December 31, 2007
J. Chapman; W. Doyle; L. Folks; B. Hillebrands; H. Muraoka; M. Pardavi-Horvath; B. Terris; S. Wang;
Terms Expiring December 31, 2008
G. Bertotti; J. Fidler; S. Majetich; M. Pasquale; C. Ross; T. Suzuki; D. Weller; R. Wood

FUTURE CONFERENCES

10th Joint MMM-Intermag Conference: January 7-11, 2007, Baltimore, MD
52nd Conference on Magnetism and Magnetic Materials: November 5-9, 2007, Tampa, FL

Intermag Conference: May 4-8, 2008, Madrid, Spain
53rd Conference on Magnetism and Magnetic Materials: November 10-14, 2008, Austin, TX

CONFERENCE MANAGEMENT COMMITTEE

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ADDITIONAL INFORMATION

If you would like to receive more information about Intermag 2006 or to be placed on the Intermag Conference Mailing List, please contact Courtesy Associates at:

INTERMAG 2006
c/o Courtesy Associates
2025 M Street, N.W.
Suite 800
Washington, D.C. 20036, USA.
EMAIL: Intermag2006@courtesyassoc.com

You may also access complete Conference information through the Web at the Intermag home page at: www.intermagconference.com

PROGRAM AT A GLANCE

Monday			
7:00 PM	XA	Tutorial on Noise Mechanisms in Magnetic Devices	San Diego
Tuesday			
9:00 AM	AA	Symposium on Spin transfer: new physics and applications	Town and Country
	AB	Perpendicular Media I - Structure	San Diego
	AC	Magnetic Nanoparticles	Golden West
	AD	Micromagnetic Modeling I	California
	AE	Soft Films and Wires	Royal Palm 1/2
	AF	Transformers, inductors, electromagnetic comptibility I	Royal Palm 3/4
Tuesday			
1:30 PM	BA	Fast switching	San Diego
	BB	Transport in magnetic tunneling I	Golden West
	BC	Inductive Recording Heads and Materials	California
	BD	Magnetocaloric Materials	Royal Palm 1/2
	BE	Head Disk Interface & Tribology I	Royal Palm 3/4
	BF	Thin films and interfaces I	Royal Palm 5/6
Tuesday			
3:00 PM	YA	Magnetics Society General Meeting	Royal Palm
Tuesday			
3:45 PM	ZA	Plenary Session	Town and Country
Wednesday			
9:00 AM	CA	Symposium on Data storage devices in 10 years: HDD or Solid State?	Town and Country
	CB	Biosensors, Biomedical and Biological applications	San Diego
	CC	Transport and spin injection	Golden West
	CD	Soft magnetic materials and applications I	California
	CE	Magnetic Semiconductors I	Royal Palm 1/2
	CF	Computational Magnetism I	Royal Palm 3/4
Wednesday			
8:00 AM	CP	Thin films and interfaces II	Grand Ballroom
	CQ	Thin films and interfaces III	Grand Ballroom
	CR	Magnetic structure, characterization and imaging	Grand Ballroom
	CS	Motors and Actuators I	Grand Ballroom
	CT	MEMS, Power and Control Magnetics	Grand Ballroom
	CU	Transformers, inductors, electromagnetic compatibility II	Grand Ballroom
	CV	Permanent Magnets - Structure and Properties I	Grand Ballroom
	CW	Permanent Magnets - Structure and Properties II	Grand Ballroom
	CX	Magnetooptic and other materials	Grand Ballroom
Wednesday			
2:00 PM	DA	Symposium on Magnetic Biosensors and Microsystems	Town and Country
	DB	Perpendicular Media II - Novel Structures	San Diego
	DC	Spin Transfer: Dynamics	Golden West
	DD	Magnetoresistive Heads I	California
	DE	Nanowires and Nanoparticles	Royal Palm 1/2
	DF	Recording Systems I: Coding, Detection and Equalization	Royal Palm 3/4

Wednesday			
1:00 PM	DP	Permanent Magnet Motors I	Grand Ballroom
	DQ	Permanent Magnet Motors II	Grand Ballroom
	DR	Micromagnetic Modeling II	Grand Ballroom
	DS	Computational Magnetism II	Grand Ballroom
	DT	Recording Physics - mostly Experimental	Grand Ballroom
	DU	Soft magnetic materials and applications II	Grand Ballroom
	DV	Magnetic Semiconductors II	Grand Ballroom
	DW	Magnetoresistive Oxides and Half-Metallic Materials	Grand Ballroom
Thursday			
9:00 AM	EA	Symposium on Advances in Magnetic Characterization and Imaging	Town and Country
	EB	MRAM	San Diego
	EC	Exchange bias and anisotropy	Golden West
	ED	Head-Disk Interface & Tribology II	California
	EE	High frequency properties and devices	Royal Palm 1/2
	EF	Recording Physics	Royal Palm 3/4
	EG	Magnetoelastic and optical materials	Royal Palm 5/6
Thursday			
8:00 AM	EP	Magnetic Nanoparticles and Nanocomposites	Grand Ballroom
	EQ	Perpendicular Media III - mostly High Ku materials	Grand Ballroom
	ER	Patterned media	Grand Ballroom
	ES	Magnetoresistive heads II	Grand Ballroom
	ET	Motor Modeling and Design	Grand Ballroom
	EU	Microwave materials and devices	Grand Ballroom
	EV	Magnetic sensors (non recording) I	Grand Ballroom
	EW	Magnetic fluids and hyperthermia	Grand Ballroom
	EX	Biosensors and other biological applications	Grand Ballroom
Thursday			
2:00 PM	FA	Symposium on Synthesis of Magnetic Nanoparticles	Town and Country
	FB	Advanced Recording Technologies	San Diego
	FC	Exchange-biased multilayers I	Golden West
	FD	Magnetic Characterization and Instrumentation	California
	FE	MEMS and Motors	Royal Palm 1/2
	FF	Recording Systems II: Servo, Dynamics and Systems	Royal Palm 3/4
	FG	GMR, magnetic contacts, constrictions	Royal Palm 5/6
Thursday			
1:00 PM	FP	Perpendicular Media IV - Mostly SUL and IL	Grand Ballroom
	FQ	Particulate Media And Tape Systems	Grand Ballroom
	FR	Head-Disk Interface & Tribology III	Grand Ballroom
	FS	Computational Magnetism III	Grand Ballroom
	FT	Computational Magnetism IV	Grand Ballroom
	FU	Magnetoelastic and magnetocaloric materials	Grand Ballroom
	FV	High-frequency materials, devices and magnetoimpedance	Grand Ballroom

	FW	Perpendicular and Longitudinal Recording Layers	Grand Ballroom
	FX	Spin Transfer switching	Grand Ballroom
Friday			
9:00 AM	GA	Symposium on Advanced Recording Media	Town and Country
	GB	Transport in magnetic tunneling II	San Diego
	GC	MRAM and Logic Devices I	Golden West
	GD	Ferrites	Royal Palm 1/2
	GE	Magnetism in nano-structured thin films I	Royal Palm 3/4
	GF	Motors and Actuators II	Royal Palm 5/6
Friday			
8:00 AM	GP	Head-Disk Interface & Tribology IV	Grand Ballroom
	GQ	Recording Systems III: Coding, Detection and Equalization	Grand Ballroom
	GR	Recording Physics - mostly theory	Grand Ballroom
	GS	Magnetic Shielding, Propulsion and Levitation	Grand Ballroom
	GT	Multilayers and superlattices	Grand Ballroom
	GU	Fundamental properties	Grand Ballroom
	GV	Soft Materials - Crystalline, Nanocrystalline and Amorphous	Grand Ballroom
Friday			
2:00 PM	HA	MgO Magnetic tunnel junctions	San Diego
	HB	FePt L10 and Multilayers	Golden West
	HC	Magnetic Sensors (non recording)II	California
	HD	Magnetic microscopy and imaging	Royal Palm 1/2
	HE	Soft Materials - Crystalline Alloys and Particles	Royal Palm 3/4
	HF	Permanent Magnets - Structure and Properties III	Royal Palm 5/6
Friday			
1:00 PM	HP	MRAM and logic devices II	Grand Ballroom
	HQ	Magnetism in nano-structured thin films II	Grand Ballroom
	HR	Magnetism in Nanostructured thin films III: Hard magnetic films	Grand Ballroom
	HS	Exchange-biased multilayers II	Grand Ballroom
	HT	In-plane and perpendicular exchange bias	Grand Ballroom
	HU	Motor and Actuators III	Grand Ballroom
	HV	Motors and Actuators IV	Grand Ballroom
	HW	Ferrite and Other Oxides	Grand Ballroom

MONDAY EVENING 7:00 — SAN DIEGO

Session XA
TUTORIAL ON NOISE MECHANISMS IN MAGNETIC DEVICES

JW Harrell, Chair
Alabama

7:00 **XA-01. Introduction to Noise and Measurement Techniques.** ***(Invited)*** *E. Nowak[1] 1. Physics & Astronomy, University of Delaware, Newark, DE, USA*

7:45 **XA-02. Noise Characteristics in Magnetic Recording Media.** ***(Invited)*** *N. Bertram[1,2] 1. ECE-CMRR, UCSD, La Jolla, CA, USA; 2. Hitachi San Jose Reasearch Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

8:30 **XA-03. Limitations of Magnetic Devices Due to Noise and Thermal Fluctuations.** ***(Invited)*** *S.E. Russek[1] 1. National Institute of Standards and Technology, Boulder, CO, USA*

TUESDAY MORNING 9:00 — TOWN AND COUNTRY

Session AA
SYMPOSIUM ON SPIN TRANSFER: NEW PHYSICS AND APPLICATIONS

Dafine Ravelosona, Chair
Orsay

9:00 **AA-01. Application of spin-torque diode effect to the analysis of spin-transfer switching in MgO-based magnetic tunnel junctions.** ***(Invited)*** *H. Kubota[1], A. Fukushima[1], Y. Ootani[1], S. Yuasa[1,2], K. Ando[1], H. Maehara[3], K. Tsunekawa[3], D.D. Djayaprawira[3], N. Watanabe[3] and Y. Suzuki[1,4] 1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. PRESTO, Japan Science and Technology Agency (JST), Kawaguchi, Japan; 3. Electron Device Equipment Division, Canon ANELVA, Fuchu, Japan; 4. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan*

9:30 **AA-02. Mutual Phase-Locking of Microwave Spin Torque Nano-Oscillators.** ***(Invited)*** *S. Kaka*[1], M.R. Pufall[2], W.H. Rippard[2], T.J. Silva[2], S.E. Russek[2] and J.A. Katine[3] *1. Research, Seagate, Pittsburgh, PA, USA; 2. Electromagnetic Technology, National Institutes of Standards and Technology, Boulder, CO, USA; 3. Hitachi Global Storage Technologies, San Jose, CA, USA*

10:00 **AA-03. Dynamic excitations of nanomagnet magnetization driven by spin-polarized current.** ***(Invited)*** *I.N. Krivorotov*[1], N.C. Emley[2], J.C. Sankey[2], D.C. Ralph[2] and R.A. Buhrman[2] *1. Department of Physics and Astronomy, University of California, Irvine, CA, USA; 2. Cornell University, Ithaca, NY, USA*

10:30 **AA-04. Switching by sub-nanosecond current pulses using spin angular momentum transfer.** ***(Invited)*** T. Devolder[1], K. Ito[2], J.A. Katine[3], P. Crozat[1], J. Kim[1], M.J. Carey[3] and *C. Chappert*[1] *1. Institut d'Electronique Fondamentale, Universite Paris Sud, Orsay, France; 2. Hitachi Cambridge Laboratory, Hitachi Europe, Ltd, Cambridge, United Kingdom; 3. San Jose Research Center, Hitachi GST, San Jose, CA, USA*

11:00 **AA-05. Current-induced magnetization reversal in nanopillars with perpendicular anisotropy.** ***(Invited)*** *S. Mangin*[1,2], D. Ravelosona[1,3], J.A. Katine[1] and E.E. Fullerton[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Laboratoire de Physique des Materiaux, Universite Nancy I, Vandoeuvre, France; 3. Institut d Electronique Fondamentale, Universite Paris Sud, Paris, France*

11:30 **AA-06. Current-driven magnetization switching in CoFeB/MgO/CoFeB magnetic tunnel junctions.** ***(Invited)*** *J. Hayakawa*[1,2], S. Ikeda[2], Y. Lee[2], R. Sasaki[2], F. Matsukura[2], T. Meguro[2], H. Takahashi[1,2] and H. Ohno[2] *1. Nano system laboratory, Hitachi Advanced research Laboratory, Sendai, Miyagi, Japan; 2. Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku university, Sendai, Miyagi, Japan*

TUESDAY MORNING 9:00 SAN DIEGO

Session AB
PERPENDICULAR MEDIA I - STRUCTURE

Yoshihiro Ikeda, Chair
Hitachi Global Storage Technologies

9:00 **AB-01. Stacking faults in perpendicular media; the relationship to anisotropy dispersion.** T. Klemmer[1], G. Ju[1], B. Lu[1], O. Mryasov[1] and *R. Chantrell*[2,1] *1. Seagate Research, Pittsburgh, PA, USA; 2. Physics, York University, York, United Kingdom*

9:15 **AB-02. Oxide mobility enhancement due to bias sputtering in perpendicular recording media.** *H. Lee*[1], J.A. Bain[1] and D.E. Laughlin[1] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

9:30 **AB-03. Magnetic and Recording Characteristics of Reactively Sputtered CoPtCr-(Si-O, Ti-O and Cr-O) Perpendicular Media.** *G. Choe*[1], A. Roy[1], Z. Yang[1], B. Acharya[1] and E. Abarra[1] *1. MMC Technology, San Jose, CA, USA*

9:45 **AB-04. Effect of Magnetic Recording Layer Thickness on Media Performance in CoCrPtO Perpendicular Media.** *U. KWON*[1], H. Jung[2], M. Kuo[2], E. Velu[2], S.S. Malhotra[2], G. Bertero[2] and R. Sinclair[1] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA; 2. Komag Inc., San Jose, CA, USA*

10:00 **AB-05. Novel Approach to Reduce Grain Size in CoCrPt-Oxide Perpendicular Recording Media.** *S. Piramanayagam*[1], C. Pock[2], C. Ong[1], J. Shi[1], C. Mah[1] and L. Lu[2] *1. Data Storage Institute, Singapore, Singapore; 2. Mechanical Engineering, National University of Singapore, Singapore, Singapore*

10:15 **AB-06. Formation of Grain- Isolated Co80Pt20 Magnetic Films for Granular-Type Perpendicular Media.** *R. Mukai*[1], T. Uzumaki[1] and A. Tanaka[1] *1. Advanced Magnetic Recording Lab., Fujitsu Laboratories Ltd., Atsugi, Japan*

10:30 **AB-07. EBL thickness and transition parameter in perpendicular oxide media.** *N.F. Supper*[1], D.T. Margulies[1], Y. Ikeda[1], A. Moser[1], T. Olson[1], B. Lengsfield[1] and A. Berger[1] *1. Hitachi, San Jose Research Center, San jose, CA, USA*

10:45 **AB-08. Pt-Cr alloy intermediate layer for granular perpendicular media.** *H. Nemoto*[1], R. Araki[1] and Y. Hosoe[1] *1. Central Research Laboratory, Hitachi, Ltd., Odawara-shi, Kanagawa-ken, Japan*

11:00 **AB-09. Novel Electroless CoNiFe Soft Magnetic Underlayer on a Si Disk Substrate for Perpendicular Recording Media.** *Y. Jyoko*[1], T. Tsumori[2], M. Ishii[2] and K. Ohashi[2] *1. Department of Chemistry & Biology Engineering, Fukui National College of Technology, Sabae, Fukui, Japan; 2. Magnetic Materials Research Center, Shin-Etsu Chemical Co., Ltd., Echizen, Fukui, Japan*

11:15 **AB-10. Highly-Oriented High-B_S Fe-Co Soft Underlayer for High Density Perpendicular Recording Media.** *K. Shintaku*[1] *1. Akita Research Institute of Advanced Technology, Akita, Japan*

11:30 **AB-11. Enhancement of interlayer exchange coupling for antiparallel coupled soft magnetic underlayers using FeCoB amorphous material.** *A. Hashimoto*[1], S. Saito[1], H. Takashima[3], T. Ueno[4] and M. Takahashi[2] *1. Electronic Engineering, Tohoku university, Aoba-ku, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku university, Aoba-ku, Sendai, Japan; 3. Metallurgical Research Laboratory, Hitachi Metals, Ltd., Yasugi-Cho,Yasugi-Shi, Japan; 4. Advanced Materials Center, Hitachi Metals, Ltd., Yasugi-Cho,Yasugi-Shi, Japan*

11:45 **AB-12. Side Erasure Analysis in Perpendicular Recording Media Using Dynamic Read-Back Microscopy.** *C. Albert*[1], E.N. Abarra[1] and G. Choe[1] *1. MMC Technology, San Jose, CA, USA*

TUESDAY MORNING 9:00 **GOLDEN WEST**

Session AC
MAGNETIC NANOPARTICLES
Massimo Pasquale, Chair
IEN Galileo Ferraris

9:00 **AC-01. Magnetophotonic crystals.** ***(Invited)*** *M. Inoue*[1,2], R. Fujikawa[1], A. Baryshev[1], A. Khanikaev[1], P. Lim[1], H. Uchida[1], O. Aktsipetrov[3], A. Fedyanin[3], T. Murzina[3] and A. Granovsky[3] *1. Dept. of Electrical & Electronic Eng., Toyohashi University of Technology, Toyohashi, Japan; 2. CREST, Japan Science & Technology Corporation, Saitama, Japan; 3. Dept. of Physics, Moscow State University, Moscow, Russian Federation*

9:30 **AC-02. Length Scales of Magnetic Correlations in ε-Co Nanoparticle Assemblies using Small Angle Neutron Scattering.** *M.S. Sachan*[1], S.A. Majetich[1], Y. Ijiri[2], J.A. Borchers[3] and J.J. Rhyne[4] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Physics and Astronomy, Oberlin College, Oberlin, OH, USA; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA; 4. Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, NM, USA*

9:45 **AC-03. Self-Assembly and Magnetic Properties of MnO Coated FePt Nanoparticles.** *S. Kang*[1], G. Miao[1], S. Shi[1], Z. Jia[1], D.E. Nikles[1] and J.W. Harrell[1] *1. MINT Center, The University of Alabama, Tuscaloosa, AL, USA*

10:00 **AC-04. On the $L1_0$ Ordering Kinetics In Fe-Pt Nanoparticles.** *B. Rellinghaus*[1,2], S. Stappert[2], M. Acet[2], E.F. Wassermann[2] and A. Kowalik[3] *1. Institute for Metallic Materials, IFW Dresden, Dresden, Germany; 2. Experimental Physics, AG Farle, University of Duisburg-Essen, Duisburg, Germany; 3. Institute of Combustion and Gas Dynamics, University of Duisburg-Essen, Duisburg, Germany*

10:15 **AC-05. Local Structure of Directly Synthesized $L1_0$ FePt Nanoparticles.** *K. Shinoda*[1], K. Sato[2], J. Balachandran[1] and K. Tohji[1] *1. Tohoku University, Sendai, Japan; 2. DOWA Mining Company, Tokyo, Japan*

10:30 **AC-06. Steering the magnetism of low-dimensional Fe-Pt nanostructures through coordination.** *J. Honolka*[1], A. Enders[1], K. Kuhnke[1], D. Repetto[1], V. Sessi[1] and K. Kern[1] *1. Nanoscale Science Department, Max-Planck Institute for Solid State Physics, Stuttgart, Germany*

10:45 **AC-07. Microwave Responses of the FePt Nanoparticles in Solution Phases.** *D. Hung*[1], P. Chiang[2], C. Ho[2] and Y. Yao[3] *1. Information & Telecommunications Engineering, Ming Chuang University, Taipei, Taiwan; 2. Department of Chemical Engineering, Tunghai University, Taichung, Taiwan; 3. Institute of Physica, Academia Sinica, Taipei, Taiwan*

11:00 **AC-08. Microwave resonances in nanogranular $(Fe_{0.7}Co_{0.3})_{71}B_{22}Ni_7$ films.** *M. Pasquale*[1], S. Perero[1], B. Giorgio[1], P. Kabos[2] and S. Lim[3] *1. Materials, IENGF, Torino, Italy; 2. Electromagnetic Division, NIST, Boulder, CO, USA; 3. Materials Science and Engineering, Korea University, Seoul, South Korea*

11:15 **AC-09. Structural and Magnetic Properties of Chemically Synthesized FexPt100-x Nanoparticles with Controlled Particle Size and Shape.** *Y. Huang*[1], L. Colak[1], H. Wang[1], C. Ni[2] and D. Weller[3] *1. Physics and Astronomy, Univ. of Delaware, Newark, DE, USA; 2. Dept of Materials Science, University of Delaware, Newark, DE, USA; 3. Seagate Technology, Fremont, CA, USA*

11:30 **AC-10. Size and Shape Control of Co Nanoparticles With a Cluster Gun.** *P. Liu*[1], Y. Huang[1], M. Bonder[1], G. Hadjipanayis[1], D. Vlachos[2] and S. Deshmukh[2] *1. Department of Physics & Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Chemical Engineering, University of Delaware, Newark, DE, USA*

11:45 **AC-11. Magnetic properties in β-FeSi2 nanoparticles.** *y. chen*[1] and Y. Wang[2] *1. Institute of Physics,, Academia Sinica, Taipei, Taiwan; 2. Department of Physics, Tung Hai University, Taichung, Taiwan*

TUESDAY MORNING 9:00 CALIFORNIA

Session AD
MICROMAGNETIC MODELING I
Manfred Schabes, Chair
Hitachi

9:00 **AD-01. Time Quantified Monte Carlo Method for Interacting Magnetic Nanoparticles.** *X. Cheng*[1], M. Jalil[1] and H. Lee[2] *1. Dept. of Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

9:15 **AD-02. Micromagnetic analysis of foldover, quasiperiodicity, and parametric instabilities in ultra-thin films.** *M. d'Aquino*[1], C. Serpico[1], G. Bertotti[2] and I. Mayergoyz[3] *1. Dept. of Electrical Engineering, University of Naples Federico II, Napoli, Italy; 2. Materials Dept., IEN Galileo Ferraris (INRiM), Turin, Italy; 3. Dept. of Electrical and Computer Engineering, Univ. of Maryland, College Park, MD, USA*

9:30 **AD-03. Large Angle Ferromagnetic Resonance.** *W. Scholz*[1] *1. Research, Seagate, Pittsburgh, PA, USA*

9:45 **AD-04. Enhancement of Recording using Magnetic Resonance.** *H. Lee*[1] and Z. Yuan[1] *1. Spintronics, Meida and Interface, Data Storage Institute, Singapore, Singapore*

10:00 AD-05. LLG simulation of MRAM switching rates. *P.B. Visscher*[1] and S. Wang[1] *1. Department of Physics and MINT Center, University of Alabama, Tuscaloosa, AL, USA*

10:15 AD-06. Micromagnetic energy barrier calculations of percolated media for perpendicular recording . *J. Fidler*[1], D. Suess[1], K. Porath[1], T. Schrefl[2] and D. Weller[3] *1. Solid State Physics, Vienna University of Technology, Wien, Austria; 2. Engineering Materials, The University of Sheffield, Sheffield, United Kingdom; 3. Seagate Recording Media Operations, Fremont, CA, USA*

10:30 AD-07. Hybrid finite element and fast Fourier on multipoles algorithm for micromagnetic modeling of perpendicular SOMA media. *H. Long*[1], E. Ong[2], P. Xiao[2] and Z. Liu[2] *1. Hitachi Global Storage Technology, Singapore, Singapore; 2. MRC, Data Storage Institute, Singapore, Singapore*

10:45 AD-08. Spin-wave radiation from a magnetic vortex core and its wave behaviors in confined magnetic structures. *S. Choi*[1], K. Lee[1] and S. Kim[1] *1. Materials Science and Engineering, Seoul National University, Seoul, South Korea*

11:00 AD-09. Dynamic origin of stripe domains. *M. Yan*[1], G. Leaf[1], H. Kaper[1], V. Novosad[2], P. Vavassori[3], R. Camley[4] and M. Grimsditch[2] *1. Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 3. Dipartamento di Fisica, Universita di Ferrara, Via Paradiso 12, I-44100 Ferrara, Italy; 4. Department of Physics, University of Colorado, Colorado Springs, CO, USA*

11:15 AD-10. Micromagnetic simulations of the dependence of domain wall width with grain size in systems with cubic and uniaxial anisotropy. *F. Johnson*[1], S. Amancherla[1], G.J. Parker[1], L.E. Iorio[1] and P.R. Subramanian[1] *1. Ceramic and Metallurgy Technologies, General Electric Global Research, Niskayuna, NY, USA*

11:30 AD-11. Orientation dependence of domain wall properties in FePt . D. Hinzke[1], O.N. Mryasov[2], *U. Nowak*[1] and R.W. Chantrell[1] *1. Physics, University of York, York, United Kingdom; 2. Seagate Research, Pittsburgh, PA, USA*

11:45 AD-12. Dynamic response of the magnetization to rapid heating in the picosecond regime. N. Kazantseva[1], J. Hohlfeld[2], A. Rebei[2], R.W. Chantrell[1] and *U. Nowak*[1] *1. Physics, University of York, York, United Kingdom; 2. Seagate Research, Pittsburgh, PA, USA*

TUESDAY MORNING 9:00

ROYAL PALM 1/2

Session AE
SOFT FILMS AND WIRES

Manuel Vazquez, Chair
ICMM

9:00 **AE-01. Soft Magnetic Properties of Obliquely Deposited Co-Zr-O Granular Films.** Y. Sun[1], W. Li[1], D. Kopp[2], F. Johnson[3], S.T. Taylor[3] and *C.R. Sullivan[1] 1. Thayer School of Engineering, Dartmouth College, Hanover, NH, USA; 2. Department of Electrical Engineering, Clarkson University, Potsdam, NY, USA; 3. GE Global Research, Niskayuna, NY, USA*

9:15 **AE-02. Noise Suppression Effect of Soft Magnetic Co-Pd-B-O Films with Large ρ and Bs .** *S. OHNUMA[1]*, T. IWASA[1], H. FUJIMORI[1] and T. MASUMOTO[1] *1. Thin films Gr., Research Institute for Electric and Magnetic Materials, Sendai, Japan*

9:30 **AE-03. Temperature and frequency dependence of the ferromagnetic resonance linewidth in Fe-Ti-N thin films – structural implications.** *S.S. Kalarickal[1]*, K. Kim[1], J. Das[1], K. Alargov[1] and C.E. Patton[1] *1. Department of Physics, Colorado State University, Fort Collins, CO, CO, USA*

9:45 **AE-04. Intergranular Interactions in Fe-Ti-N Thin Films.** *K. Srinivasan[1]*, J. Das[1] and C.E. Patton[1] *1. Dept. of Physics, Colorado State University, Fort Collins, CO, USA*

10:00 **AE-05. (002) oriented FeCo films as a soft magnetic underlayer for $L1_0$ ordered FePt perpendicular media.** *J. Hu[1]*, J. Chen[1], B. Lim[1] and T. Zhou[1] *1. Data Storage Institute, Singapore, Singapore*

10:15 **AE-06. Magnetic properties of nanocrystalline and amorphous FeCoC thin films.** T. Miyao[1], *X. Liu[1]* and A. Morisako[1] *1. Department of Information Engineering, Shinshu University, Nagano, Naganoken, Japan*

10:30 **AE-07. Ultra-Soft and High Magnetic Moment NiFe Films Prepared via Electrodeposition from A Cu2+ Contained Solution .** *B. Zong[1]*, G. Han[1], Y. Zheng[1], K. Li[1], Z. Guo[1], J. Qiu[1], L. Wang[1], Z. Liu[1], L. An[1], P. Luo[1], H. Li[1] and B. Liu[1] *1. SMI, Data Storage Institute, Singapore, Singapore*

10:45 **AE-08. Single-Domain wall velocity, energy and shape during magnetization reversal in Fe-based bistable microwires.** *K.L. Garcia*[1], K.R. Pirota[1] and M. Vazquez[1] *1. Instituto de Ciencia de Materiales de Madrid, Madrid, Madrid, Spain*

11:00 **AE-09. Effect of Magnetic Field annealing on magnetic properties of Co-rich amorphous nanowires.** *R. Shahid*[1], X. Han[1], Z.X. Qun[1] and X.L. Jiang[1] *1. State Key Lab.of Magnetism, Institute of Physics Chinese Academy of Science Beijing China, Beijing, China*

11:15 **AE-10. Magnetic Properties of Fe-Based Ribbons and Toroidal Cores Prepared by Continuous Stress-Annealing by Joule Heating.** *T. Yanai*[1], A. Shimada[1], K. Takahashi[1], M. Nakano[1], H. Fukunaga[1] and Y. Yoshizawa[2] *1. Department of Electrical Engineering and Electronics, Nagasaki University, Nagasaki, Japan; 2. Hitachi Metals Ltd., Kumagaya, Japan*

11:30 **AE-11. On the non-uniqueness of optimum thickness for the magnetic coating layer of NiFe/Cu composite wires.** *H. Seet*[1], X. Li[1,2] and N. Ning [1] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Division of Bioengineering, National University of Singapore, Singapore, Singapore*

11:45 **AE-12. Static and dynamic properties of FeSiBNbCu nanocrystallized ferromagnetic glass-coated microwires from 20°c to 250°C.** *D. Christophe*[1,2], A. Anne-Lise[1] and A. Olivier[1] *1. CEA Le Ripault, Monts, France; 2. LEMA, UMR 6157 Universite de Tours, Tours, France*

TUESDAY MORNING 9:00 **ROYAL PALM 3/4**

Session AF
TRANSFORMERS, INDUCTORS, ELECTROMAGNETIC COMPTIBILITY I

Toshiro Sato, Chair
Shinshu University

9:00 **AF-01. High Frequency Responses of Granular Magnetic Material CoFeHfO and Amorphous Material CoZrTa.** *L. Li*[1], D. Lee[1], S.X. Wang[1], M. Mao[2], T. Schneider[2], R. Bubber[2], K. Hwang[3] and Y. Min[3] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA; 2. Veeco Instruments Fremont, Fremont, CA, USA; 3. Intel Corporation, Chandler, AZ, USA*

9:15 **AF-02. Evidence of Magneto-Electric Moment Interactions in $CoFe_2O_4$-$BaTiO_3$ Composites.** *V. Giap*[1,2] and R. Groessinger[1] *1. Institute for Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Faculty of Chemical Engineering, Hanoi University of Technology, Hanoi, Viet Nam*

9:30 **AF-03. The effect of V_2O_5 on high-frequency properties for W-type barium ferrite composites.** *Z. Li*[1], Y. Wu[1], G. Lin[1] and T. Liu[2] *1. Temasek Laboratories, National University of Singapore, Singapore, Singapore; 2. Singapore Synchrotron Light Source, National University of Singapore, Singapore, Singapore*

9:45 **AF-04. New RF Magnetic Stripe Inductor with Flanges based on Exchange-Coupled Magnetic Films .** *J. Michel*[1], Y. Lamy[1], A. Royet[1] and B. Viala[1] *1. CEA-LETI, 38054 Grenoble Cedex 9, France*

10:00 **AF-05. The Effect of External Magnetic Field on Magnetic Film Inductors.** *N. Ning*[1], X. Li[1,2] and H. Seet[1] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Division of Bioengineering, National University of Singapore, Singapore, Singapore*

10:15 **AF-06. Fast analysis of proximity effects in integrated inductors with high permeability magnetic material.** *B. Orlando*[1,2], A. Royet[3] and B. Viala[3] *1. STMicroelectronics, 38926 Crolles, France; 2. IRCOM UMR 6615, 87060 Limoges cedex, France; 3. CEA-LETI, 38054 Grenoble Cedex 9, France*

10:30 **AF-07. Low Resistance Integrated Toroidal Inductors for Power Management.** *B. Orlando*[1,2], R. Hida[3], R. Cuchet[3], M. Audoin[3], B. Viala[3], D. Pellissier[1], X. Gagnard[1] and P. Ancey[1] *1. STMicroelectronics, 38926 Crolles, France; 2. IRCOM UMR 6615, 87060 Limoges cedex, France; 3. CEA-LETI, 38054 Grenoble cedex 09, France*

10:45 **AF-08. Analysis of Optimum Sheet Resisitance for Integrated Electromagnetic Noise Suppressor.** *M. Yamaguchi*[1], K. Maruta[1], M. Sugawara[1] and Y. Shimada[1] *1. ECE, Tohoku University, Sendai, Miyagi, Japan*

11:00 **AF-09. Effect of metal-to-glass ratio on the low field microwave absorption at 9.4 GHz of glass-coated CoFeBSi microwires.** H. Montiel[2], G. Alvarez[1], M. Gutierrez[1], I. Betancourt[1], R. Zamorano[3] and *R. Valenzuela*[1] *1. Materials Science, National University of Mexico, Mexico City, D.F., Mexico; 2. CCADET, National University of Mexico, Mexico City, D.F., Mexico; 3. Professional Unit, National Polytechnic Insitute, Mexico City, D.F., Mexico*

11:15 **AF-10. Electrically Tunable Susceptibility of Synthetic Antiferromagnet Lines.** *N. An*[1] and A. Jander[1] *1. EECS, Oregon State University, Corvallis, OR, USA*

11:30 **AF-11. Mechanism Investigation and Analytical Modeling for Winding Loss of Flyback Transformer.** *m. xingkui*[1], c. wei[1,2] and L. Zengyi[2] *1. College of Electrical Engineering& Automation, Fuzhou University, Fuzhou, China; 2. Research and Development Center, Delta Electronics (Shanghai) Co. Ltd, Shanghai, China*

11:45 **AF-12. Skin-Effect in Massive Conductors and Transients in Electrical Circuits of Pulsed Power Facilities.** *B.E. Fridman*[1] *1. STC "SINTEZ", D.V. Efremov Institute of Electrophysical Apparatus, St.-Petersburg, Russian Federation*

TUESDAY AFTERNOON 1:30 SAN DIEGO

Session BA
FAST SWITCHING
Robert McMichael, Chair
NIST, Gaithersburg

1:30 **BA-01. Femtosecond laser induced magnetization dynamics in single nanomagnets.** *A. Barman*[1], S. Wang[1], N. Qureshi[1,4], M.A. Lowther[2], A.R. Hawkins[2], S. Kwon[3], A. Liddle[3], J. Bokor[3] and H. Schmidt[1] *1. School of Engineering, University of California, Santa Cruz, Santa Cruz, CA, USA; 2. ECEn Department, Brigham Young University, Provo, UT, USA; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. CCADET, UNAM, 04511 Mexico D. F., Mexico*

1:30 **BA-02. Ultrafast Scanning Kerr Microscopy Study of Magnetization Switching of a Permalloy Square and a Ring.** *X. Zhu*[1], M.R. Freeman[1], K. Moriyama[2], T. Sato[2], F. Takano[2] and H. Akinaga[2] *1. Department of Physics, University of Alberta, Edmonton, AB, Canada; 2. Nanotechnology Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*

1:30 **BA-03. Nanosecond magnetization reversal of highly coercive FePt with pulsed microcoils: experiments and modelling.** *M. Weisheit*[1,2], M. Bonfim[1], V. Barthem[1], S. Faehler[1,2] and D. Givord[1] *1. Lab. Louis Neel, CNRS, Grenoble, France; 2. Inst. for Metallic Materials, IFW, Dresden, Germany*

1:30 BA-04. Spin excitations and magnetization reversal in elliptical Permalloy dots. F. Montoncello[1], L. Giovannini[1], *F. Nizzoli*[1], G. Carlotti[2], G. Gubbiotti[3], T. Okuno[4] and M. Grimsditch[5] *1. Department of Physics, University of Ferrara, Ferrara, Italy; 2. Department of Physics, University of Perugia, Perugia, Italy; 3. CRS-SOFT, CNR-INFM, c/o University of Rome La Sapienza, Rome, Italy; 4. Institute of Chemical Research, Kyoto University, Uji, Japan; 5. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA*

1:30 BA-05. Ferromagnetic Relaxation by Magnon-Electron Interaction. *A. Misra*[1] and R.H. Victora[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

1:30 BA-06. High Power Ferromagnetic Resonance in Thin Permalloy Films - The Steady State Response, Threshold Modifications, and Magnon Scattering. *P. Krivosik*[1,2], K. Srinivasan[1], H.M. Olson[1] and C.E. Patton[1] *1. Colorado State University, Fort Collins, CO, USA; 2. Slovak University of Technology, Bratislava, Slovakia*

TUESDAY AFTERNOON 1:30 — GOLDEN WEST

Session BB
TRANSPORT IN MAGNETIC TUNNELING I

Amanda Petford Long, Chair
Argonne National Laboratory

1:30 BB-01. Spin Precession of Electrons upon Reflecting from Ferromagnetic Surfaces. *(Invited)* L. Joly[1], J.K. Ha[1] and *W. Weber*[1] *1. Institut de Physique et Chimie des Materiaux de Strasbourg, Strasbourg, France*

2:00 BB-02. Magnetic Transport Study in NiFe-Al-NiFe Double-tunnel Junctions. *J. Shyu*[1,2], J. Chen[1], F. Tang[2] and Y. Yao[2] *1. National Taiwan University, Physics, Taipei, Taiwan; 2. Academia Sinica, Institute of physics, Taipei, Taiwan*

2:15 BB-03. Characteristics of magnetic tunnel junctions comprising ferromagnetic amorphous NiFeSiB layers. J. Rhee[2], *B. Chun*[1], J. Hwang[2], H. Yim[2], T. Kim[3] and Y. Kim[1] *1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Physics, Sookmyung Women's University, Seoul, South Korea; 3. Samsung Advanced Institute of Technology, Suwon, South Korea*

2:30 **BB-04. Bias voltage dependence of magnetic of tunnel junctions comprising double barriers and CoFe/NiFeSiB/CoFe free layer.** Y. Kim[1], *Y. Kim*[1], B. Chun[1], D. Kim[1], J. Hwang[2], S. Kim[2], J. Rhee[2] and T. Kim[3] *1. Department of Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Physics, Sookmyung Women's University, Seoul, South Korea; 3. Samsung Advanced Institute of Technology, Suwon, South Korea*

2:45 **BB-05. Giant Inverse Tunneling Magnetoresistance in Single CrO_2 / Vacuum / Ni_80Fe_20 Using Conductive AFM.** K. Suzuki[1], *J. Hoshino*[2], M. Itoh[2], T. Hiratsuka[3] and A. Sawada[4] *1. Integrated Arts and Sciences, Miyagi National College of Technology, Natori, Japan; 2. Production System Engineering, Miyagi National College of Technology, Natori, Japan; 3. Electrical Engineering, Miyagi National College of Technology, Natori, Japan; 4. Physics, Kyoto University, Kyoto, Japan*

TUESDAY AFTERNOON 1:30 CALIFORNIA

Session BC
INDUCTIVE RECORDING HEADS AND MATERIALS

Chris Rea, Chair
Seagate

1:30 **BC-01. New shielded single-pole head with planar structure.** *K. Ise*[1], S. Takahashi[1], K. Yamakawa[1] and N. Honda[1] *1. Akita Research Institute of Advanced Technology, Akita, Japan*

1:45 **BC-02. High Power Ferromagnetic Resonance, Resonance Saturation, and Spin Wave Instability in Thin Permalloy Films.** *H.M. Olson*[1], P. Krivosik[1,2], K. Srinivasan[1] and C.E. Patton[1] *1. Physics Department, Colorado State University, Fort Collins, CO, USA; 2. Slovak University of Technology, Bratislava, Slovakia*

2:00 **BC-03. Experimental Study of Perpendicular Write Head Performance Beyond 2 Gbps Data Rates .** *Y. Zhou*[1] and J. Zhu[2] *1. R&D, Headway Technologies, Milpitas, CA, USA; 2. ECE Department, Carnegie Mellon University, Pittsbugh, PA, USA*

2:15 **BC-04. Relationships between stray field on pole tip and occurrence of pole erasure.** *K. Hirata*[1], T. Roppongi[1], N. Ohta[1], M. Ohtsuki[1], A. Yamaguchi[1] and K. Noguchi[1] *1. Head Business Group, TDK Corporation, Saku-shi, Nagano, Japan*

2:30 **BC-05. Effect of Local Damping in Perpendicular Recording Head: a Micromagnetic Study.** *A. Kaya*[1], M. Benakli[2], M.L. Mallary[2] and J.A. Bain[1] *1. Data Storage Center Systems, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Maxtor Corp., Shrewsbury, MA, USA*

2:45 **BC-06. Design of CF-SPT Head Having Large Recording Field and Small Stray Field using 3-D ON/OFF Method .** *N. Takahashi*[1] and K. Akiyama[1] *1. Electrical and Electronic Eng., Okayama University, Okayama, Japan*

TUESDAY AFTERNOON 1:30 — ROYAL PALM 1/2

Session BD
MAGNETOCALORIC MATERIALS
Larry Bennett, Chair
George Washington University

1:30 **BD-01. Mechanisms of the magnetostructural transition in $Gd_5(Si_xGe_{1-x})_4$ giant magnetocaloric alloys.** *F. Casanova*[1,3], F. Perez-Reche[2,4], E. Vives[4], L. Manosa[4], A. Planes[4], A. Labarta[3] and X. Batlle[3] *1. Physics, University of California, San Diego, La Jolla, CA, USA; 2. Metodi e Modelli Matematici per le Scienze Applicate, Universita di Padova, Padova, Italy; 3. Fisica Fonamental, Universitat de Barcelona, Barcelona, Catalonia, Spain; 4. Estructura i Constituents de la Materia, Universitat de Barcelona, Barcelona, Catalonia, Spain*

1:45 **BD-02. Evidence for the enhanced magnetic order in In substituted Fe2VAl Heusler-like alloy.** *M. Vasundhara*[1], S. Veeturi[1] and V. Vutukuru[2] *1. Physics & Meteorology, Indian Institute of Technology,Kharagpur,INDIA, KHARAGPUR, WEST BENGAL, India; 2. Cryogenic Engg. Centre, Indian Institution of Technology, Kharagpur, INDIA, kharagpur, WEST BENGAL, India*

2:00 **BD-03. Magnetic and Magnetocaloric properties of some RNi (R = Ho, Er) compounds.** *S.K. Tripathy*[1], K. Suresh[1] and A. Nigam[2] *1. Dept. of Physics, IIT-Bombay, Mumbai, India; 2. Tata Institute of Fundamental Research, Mumbai, India*

2:15 **BD-04. Novel magnetocaloric materials: not only for cooling applications.** ***(Invited)*** *E. Bruck*[1], O. Tegus[1] and K. Buschow[1] *1. Van der Waals-Zeeman Instituut, Universiteit van Amsterdam, Amsterdam, Netherlands*

TUESDAY AFTERNOON 1:30

ROYAL PALM 3/4

Session BE
HEAD DISK INTERFACE & TRIBOLOGY I

James Kiely, Chair
Seagate

1:30 **BE-01. Investigation of inclined-pad type head for cylindrical magnetic storage system.** *H. YAMADA*[1], R. Tsuchiyama[2], H. Kikuchi[1], T. Shimatsu[1], I. Watanabe[1], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Storage Technology Research Center, Hitachi, Ltd., Odawara, Kanagawa, Japan*

1:45 **BE-02. Modeling and Simulation of the Interaction between 3-D Lubricant Droplets on the Slider Surface and Air Flow within the Head/Disk Interface of Disk Drives .** *L. Wu*[1] *1. ME, University of Nebraska-Lincoln, Lincoln, NE, USA*

2:00 **BE-03. Flying characteristics at ultra-low fly height in presence of van der Waals force: a comparative study.** *w. peng*[1], R. Crone[2], P.M. Jones[1] and Y. Hsia[1] *1. seagate technology, pittsburgh, PA, USA; 2. Seagate Technology, Bloomington, MN, USA*

2:15 **BE-04. Head Medium Spacing Measurement Using the Spectrum Method.** *J. Xu*[1], J.D. Kiely[2], Y. Hsia[2] and F.E. Talke[1] *1. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA, USA; 2. Seagate Technology, Pittsburgh, PA, USA*

2:30 **BE-05. Airbearing Simulation of Discrete Track Recording Media.** *M. Duwensee*[1], S. Suzuki[2], J. Lin[2], D.E. Wachenschwanz[2] and F.E. Talke[1] *1. Department for Mechanical and Aerospace Engineering, University of California, San Diego, La Jolla, CA, USA; 2. KOMAG Inc., San Jose, CA, USA*

2:45 **BE-06. Electrostatic Discharge (ESD) Breakdown between a Recording Head and a Disk with an Asperity.** *A. Wallash*[1] and H. Zhu[1] *1. Advanced Technology, Hitachi Global Storage Technologies, San Jose, CA, USA*

TUESDAY
AFTERNOON
1:30

ROYAL PALM 5/6

Session BF
THIN FILMS AND INTERFACES I

Takao Suzuki, Chair
Toyota Technological Institute

1:30 **BF-01. Nano-magnetic probing on magnetite (110).** *G. Maris*[1], L. Jdira[1], J. Hermsen[1], S. Murphy[2], I. Shvets[2] and S. Speller[1] *1. Exp. Solid State Physics II, Radboud University Nijmegen, Nijmegen, Netherlands; 2. SFI Nanoscience Laboratory, Department of Physics, Trinity College, Dublin, Ireland*

1:45 **BF-02. In-plane Anisotropies, Magnetostriction and Magnetoresistance of epitaxial Co films on GaAs(100) substrates.** *N.A. Morley*[1], M.R. Gibbs[1], E. Ahmad[2], I.G. Will[2] and Y. Xu[2] *1. Engineering Materials, Sheffield University, Sheffield, United Kingdom; 2. Electronics, University of York, York, United Kingdom*

2:00 **BF-03. Ultra thin Ni films on singular and vicinal GaAs substrates.** *W. Guan*[1], Y. Liu[1], T. Shen[1], M. Hopkinson[2] and M. Missous[3] *1. Joule Physics Laboratory, Institute for Materials Research, University of Salford, Salford, United Kingdom; 2. Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom; 3. Electrical and Electronic Engineering, University of Manchester, Manchester, United Kingdom*

2:15 **BF-04. A study on Ferromagnetic Resonance Linewidth of Single Crystalline Ultrathin Fe Film grown on GaAs Substrate.** C. Ni[1], Y. Xu[1], *Y. Zhai*[1,2], Y. Xu[2], J. Wu[3] and H. Zhai[4] *1. Department of Physics, Southeast University, Nanjing, Jiangsu, China; 2. Spintronics Laboratory, Depatment of Electronics, University of York, York, Yorkshire, United Kingdom; 3. Department of Physics, University of York, York, Yorkshire, United Kingdom; 4. National Laboratory of Solid Microstructures, Center for Materials Analysis, Nanjing University, Nanjing, Jiangsu, China*

2:30 **BF-05. Study of Spin-Polarized Scanning Tunneling Microscopy / Spectroscopy on Ultrathin Magnetic Films.** *T. Yamada*[1], A.L. Vazquez de Parga[2], M.M. Bischoff[3], T. Mizoguchi[1] and H. van Kempen[3] *1. Faculty of Science, Gakushuin University, Tokyo, Japan; 2. Dep. Fisica de la Materia Condensada, Universidad Autonoma de Madrid, Madrid, Spain; 3. IMM, Radboud University, Nijmegen, Netherlands*

2:45 **BF-06. Magnetization Relaxation in Sputtered Thin Fe Films; A FMR study.** *B.K. Kuanr*[1,2], A.V. Kuanr[3], R.E. Camley[1] and Z. Celinski[1] *1. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Zakir Husain College, Delhi University, Delhi, India; 3. Shaheed Rajguru College of Applied Science for Women, Delhi University, Delhi, India*

TUESDAY AFTERNOON 3:00 **ROYAL PALM 1/2**

Session YA
MAGNETIC SOCIETY GENERAL MEETING
Kevin O'Grady, Chair
York

TUESDAY AFTERNOON 3:45 **TOWN AND COUNTRY**

Session ZA
PLENARY SESSION
Mel Gomez, Chair
Univ. Maryland

WEDNESDAY MORNING 9:00 **TOWN AND COUNTRY**

Session CA
SYMPOSIUM ON DATA STORAGE DEVICES IN 10 YEARS: HDD OR SOLID STATE?
Bruce Terris, Chair
HGST

9:00 **CA-01. Prospects for Magnetic Recording over the next 10 years.** ***(Invited)*** *R.W. Wood*[1] and H. Takano[1] *1. HDD AdTech, Hitachi GST, San Jose, CA, USA*

9:30 **CA-02. Heat Assisted Magnetic Recording.** ***(Invited)*** *B. Rottmayer*[1], W.A. Challener[1], J. Hohlfeld[1], B. Lu[1], C. Mihalcea[1], C. Peng[1], T. Rausch[1] and S.A. Seigler[1] *1. Seagate Research, Pittsburgh, PA, USA*

10:00 **CA-03. Recent Progress in Patterned Magnetic Recording Media.** ***(Invited)*** *A. Kikitsu*[1], Y. Kamata[1], M. Sakurai[1] and K. Naito[1] *1. Storage Materials & Devices Laboratory, Toshiba Corp., Corporate R&D Center, Kawasaki, Kanagawa, Japan*

10:30 **CA-04. Solid State Storage, Limits of Flash Memory.** ***(Invited)*** *A. Fazio*[1] *1. Intel, Santa Clara, CA, USA*

11:00 **CA-05. The Future Prospect of Semiconductor Nonvolatile Memory.** ***(Invited)*** *K. Kim*[1] *1. Semiconductor R & D Center, Memory Business, Samsung Electronics Co, Yongin-City,, Kyungki-Do, South Korea*

11:30 **CA-06. 3-dimensional data storage in magnetic nanowire networks.** ***(Invited)*** *R.P. Cowburn*[1] *1. Blackett Physics Laboratory, Imperial College London, London, United Kingdom*

WEDNESDAY **SAN DIEGO**
MORNING
9:00

Session CB
BIOSENSORS, BIOMEDICAL AND BIOLOGICAL APPLICATIONS

Ben Yellen, Chair
Duke University

9:00 **CB-01. Magnetic Field Mediated Collection and Dispersion of Superparamagentic Beads on Micro-Hall Effect Biosensors Using Localized Integrated Field Gradients for Biomedical Applications.** *Y. Kumagai*[1], K. Togawa[1], M. Iino[1], s. sakamoto[4], H. Handa[4], M. Abe[2] and A. Sandhu[3,1] *1. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 3. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Tokyo, Japan; 4. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan*

9:15 **CB-02. Model for Label-Free Detection of Viruses inside Ferrofluid.** *R.M. Erb*[1] and B.B. Yellen[1] *1. Mechanical Engineering and Materials Science, Duke University, Durham, NC, USA*

9:30 **CB-03. Diamagnetic levitation with permanent magnet microarrays for precise contactless guiding and trapping of micro-droplets and bioparticles in fluids.** *H. Chetouani*[1,3], C. Jeandey[2], V. Haguet[3], H. Rostaing[1], G. Reyne[1] and C. Dieppedale[2] *1. Laboratoire d'Electrotechnique de Grenoble, SMH, France; 2. CEA Grenoble LETI / LMTES, Grenoble, France; 3. CEA Grenoble DRDC/Biopuces, Grenoble, France*

9:45 **CB-04. A New Method of Temperature Drift Compensation for Highly Sensitive Magnetoresistive Biochips.** *S. Han*[1], L. Xu[1], S.X. Wang[1], J. Xie[2] and S. Sun[2] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA; 2. Chemistry, Brown University, Providence, RI, USA*

10:00 **CB-05. On Anisotropic Mobility of Non-magnetic Microspheres in Ferrofluid.** S. Kalaghatgi[1], D. Halverson[1], M. Baden[1] and *G. Friedman*[1] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA*

10:15 **CB-06. High sensitive magnetic GMI-based sensing elements array for biosensor protoptype .** *H. Chiriac*[1], D.D. Herea[1,2] and S. Corodeanu[1,2] *1. National Institute for Research&Development for Technical Physics - IFT, Iasi, Romania; 2. "Al. I. Cuza" University, Iasi, Romania*

10:30 **CB-07. Efficient method to attach enzymes to monodispersive iron nanoparticles.** *A.M. Sharma*[1], J. Antony[1], D. Meyer[1], J. Nuttting[1], A. Paszczynski [2] and Y. Qiang[1] *1. Physics, University of Idaho, Moscow, ID, USA; 2. Environmental Biotechnology Institute, University of Idaho, Moscow, ID, USA*

10:45 **CB-08. Optimal Distribution of Magnetic Material for Catheter and Guidewire Cardiology Therapies.** *F.M. Creighton*[1] *1. Stereotaxis, Inc., St. Louis, MO, USA*

11:00 **CB-09. Modeling of electromagnetic heating effects during *in vivo* testing of prosthetic heart valves .** *Y. Tian*[1], S.S. Udpa[1], N.V. Nair[1] and S. Ramakrishnan[1] *1. Electrical and Computer, Michigan State University, East Lansing, MI, USA*

11:15 **CB-10. Dependence of Frequency and Magnetic field on Self Heating Effect of $NiFe_2O_4$ Nanoparticles for Hyperthermia.** *S. Bae*[1], S. Lee[1], Y. Takemura[2], Y. Choi[1], E. Yamashita[2], J. Kunisaki[2] and C. Kim[3] *1. Dept. of Electirc and Computer Engineering, Singapore, Singapore; 2. Electronic and Computer Engineering, Yokohama National University, Yokohama, Japan; 3. Physics, Kookmin University, Seoul, South Korea*

11:30 **CB-11. Iron Nanoparticles via "Ferrite Route," A Novel, High Yield, and Hazardous-Materials-Free Synthesis Method, Advantageous for Fabricating Magnetic Carriers for Bio-Screening.** *C.S. Kuroda*[1], T. Shimura[2], M. Maeda[2], M. Tada[2], H. Handa[3] and M. Abe[2] *1. Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan; 2. Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 3. Biological Information, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan*

11:45 **CB-12. Magnetic Structure and Power Absorption in Magnetite Nanoparticles from a MRI Contrast Agent. .** *G.F. Goya*[1], M.R. Ibarra[1], M.S. Lancarotte[2] and N. Cassinelli[3] *1. University of Zaragoza, Nanoscience Institute of Aragon, Zaragoza, Zaragoza, Spain; 2. Physics Institute, University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil; 3. Electronics Division, Bauer & Associates, La Plata, Bs. As., Argentina*

WEDNESDAY MORNING 9:00 **GOLDEN WEST**

Session CC
TRANSPORT AND SPIN INJECTION

Liesl Folks, Chair
Hitachi GST

9:00 **CC-01. Tunnelling Anisotropic MagnetoResistance (TAMR) .** ***(Invited)*** *C. Gould*[1], C. Ruester[1], G. Schmidt[1] and L. Molenkamp[1] *1. Physikalisches Institut (EP3), University of Wuerzburg, Wuerzburg, Germany*

9:30 **CC-02. Inhomogeneous spin injection and detection in the lateral FM/Au/FM spin valve device.** *J. Ku*[1], J. Chang[1], S. Han[1] and J. Eom[1,2] *1. Nano device research center, Korea Institute of Science and Technology (KIST), Seoul, South Korea; 2. Department of Physics, Sejong University, Seoul, South Korea*

9:45 CC-03. Probing enhanced spin lifetime through magneto-Coulomb effects in isolated nanometer size metallic clusters. *A. Bernand-Mantel*[1], P. Seneor[1], N. Lidgi[1], L. Calvet[1], V. Cros[1], K. Bouzehouane[1], S. Fusil[1], C. Deranlot[1], A. Vaures[1], F. Petroff[1] and A. Fert[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France*

10:00 CC-04. Spin Accumulation Measured in Non-local Geometry with Metal Nano-strips Fabricated by Sputtering. *M. Yamada*[1,2], M. Ichimura[3], M. Fujimori[3], S. Heike[3], T. Hashizume[3] and H. Takahashi[1,2] *1. Central Research Laboratory, Hitachi Ltd., Tokyo, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Advanced Research Laboratory, Hitachi Ltd., Hatoyama, Japan*

10:15 CC-05. Spin accumulation from the spin Hall effect studied using the effective mean-free-path model. S. Chen[1], *C. Chang*[2], T. Hong[1] and C. Lai[3] *1. Department of Physics, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan; 3. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

10:30 CC-06. Bias Field Free Spin Torque Driven Microwave High-Q Oscillator. *X. Zhu*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon Univ., Pittsburgh, PA, USA*

10:45 CC-07. Electrical control of ballistic spin-dependent conductance through magneto-electric barriers in the 2D-electron gas of GaAs heterostructure. S. Tan[1], M. Jalil[2], *S. Kumar*[1,2], K. Teo[2], Y. Zheng[1] and T. Liew[1] *1. SMI, DSI, Singapore, Singapore; 2. ISML, NUS/ECE, Singapore, Singapore*

11:00 CC-08. Transport mechanisms at Ni-Si Schottky barriers for spin injection. *M.E. Kiziroglou*[1], A.A. Zhukov[2], X. Li[1], D.C. Gonzalez[1], M. Abdelsalam[3], P.N. Bartlett[3], P.A. de Groot[2] and C.H. de Groot[1] *1. School of Electronics and Computer Science, University of Southampton, Southampton, Hampshire, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; 3. School of Chemistry, University of Southampton, Southampton, Hampshire, United Kingdom*

11:15 CC-09. Spin injection at CoFe/ITO heterojunction at low temperature. *Q. Wen*[1], Y. Song[1], J. Xiao[2] and H. Zhang[1] *1. School of Microelectronic and Solid-state Electronic, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of physics & Astronomy, Univerity of Delaware, Newark, DE, USA*

11:30 **CC-10. Electrical Detection of Spin Hall Effect in a Two-Dimensional Electron Gas.** *S. Huh*[1,2], H. Koo[1], J. Eom[1,2], J. Chang[1] and S. Han[1] *1. Nano device research center, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of Physics, Sejong University, Seoul, South Korea*

WEDNESDAY **CALIFORNIA**
MORNING
9:00

Session CD
SOFT MAGNETIC MATERIALS AND APPLICATIONS I

Hans Gatzen, Chair
Hannover University

9:00 **CD-01. Eddy-Current Loss in Electrical Steels Subjected to Matrix and Classical PWM Excitation Waveforms.** *J. Sagarduy*[1], A.J. Moses[1] and F.J. Anayi[1] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

9:15 **CD-02. Novel Transformer Core Design Using Consolidated Stacks of Electrical Steel.** *P. Marketos*[1] and T. Meydan[1] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

9:30 **CD-03. A Study of Distributing Parameters in High Voltage Transformer for HID ballast.** P. Dong[1], *K.E. Cheng*[1] and S. Ho[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

9:45 **CD-04. Low Core Losses and High Flux Density Attained for Ferrite/Permalloy Composite Cores.** *N. Matsushita*[1], D. Kim[2] and M. Abe[2] *1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

10:00 **CD-05. Permalloy Patterning Effects on RF Inductors .** *W. Ni*[1], J. Kim[1] and E. Kan[1] *1. Cornell University, Ithaca, NY, USA*

10:15 **CD-06. Study of FeCo-SiO2 Granular Films for High Frequency Application.** *s. ge*[1], D. Yao[1], K. Kim[2], X. Yang[1], L. Xi[1] and B. Li[1] *1. Lanzhou University, LanZhou, China; 2. Advanced Metals Research Center, Korea Institute of Science and Technology, Seoul, South Korea*

10:30 **CD-07. High Frequency Properties of Magnetodielectric Composites Consisting of Oriented Fe-based Flakes Embedded in a Polymeric Matrix.** *T.F. Ekiert*[1], M.C. Golt[2], X. Zhang[1], S. Yarlagadda[2], J.W. Gillespie, Jr.[2], K.M. Unruh[1] and J.Q. Xiao[1] *1. Physics and Astronomy, Univeristy of Delaware, Newark, DE, USA; 2. Center for Composite Materials, University of Delaware, Newark, DE, USA*

10:45 **CD-08. Investigation of high moment FeCo films for head writer applications.** *J. Dong*[1], R. Thunuguntla[1], S. Gupta[1] and M. Desai[2] *1. Metallurgical and Materials Engineering, The University of Alabama, Tuscaloosa, AL, USA; 2. Western Digital Technologies, Fremont, CA, USA*

11:00 **CD-09. Effects of Magnetic Field Annealing on a Micro-fluxgate Sensor.** *K. Na*[1], J. Yuan[1] and S. Choi[2] *1. Nano Fabrication Center, Samsung Advanced Institute of Technology, Yongin, Gyeonggi, South Korea; 2. Interaction Laboratory, Samsung Advanced Institute of Technology, Yongin, Gyeonggi, South Korea*

11:15 **CD-10. Development of a Linear Micro Inductosyn Sensor.** D. Dinulovic[1], *D. Hermann*[1], J. Fluegge[2] and H. Gatzen[1] *1. Institute for microtechnology, Hanover University, Garbsen, Germany; 2. Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany*

11:30 **CD-11. Magnetic Properties, Self-Temperature Rising Characteristics, and Biocompatibility of NiFe2O4 Nanoparticles for Hyperthermia Applications.** *S. Lee*[1], S. Bae[1], Y. Takemura[2], E. Yamashita[2], J. Kunisaki[2] and C. Kim[3] *1. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, 117576, Singapore; 2. Department of Electirc and Computer Engineering, Yokohama National University, Yokohama, Japan; 3. Department of Physics, Kookmin University, Seoul, 136-702, South Korea*

11:45 **CD-12. A Novel Planar Switched Reluctance Motor for Industrial Applications.** *N. Cheung*[1], J. Pan [1] and W. Gan[2] *1. Hong Kong Polytechnic University, Hong Kong, Hong Kong; 2. ASM Assembly Automation Hong Kong Ltd., Hong Kong, Hong Kong*

WEDNESDAY MORNING 9:00

ROYAL PALM 1/2

Session CE
MAGNETIC SEMICONDUCTORS I

Wendong Wang, Chair
University of New Orleans

9:00 **CE-01. Magneto-Transport Properties of Nonmagnetic Doped (Zn,Mn)O Dilute Magnetic Semiconductor.** *K.C. Ghosh*[1,2], G. Mundada[1], S. Manchiraju[1], T. Kehl[1,2], C. Vera[1,2], R.J. Patel[2], D. Ishiaho[1], S.R. Mishra[3] and P. Kahol[1] *1. Physics, Astronomy and Materials Science, Missouri State University, Springfield, MO, USA; 2. Center for Applied Science and Engineering, Missouri State University, Springfield, MO, USA; 3. Physics, University of Memphis, Memphis, TN, USA*

9:15 **CE-02. Cobalt-doped Zinc Oxide : Dilute Magnetic Semiconductor or Inhomogeneous Ferromagnet ?.** *M. Tay*[1,2] *1. Data Storage Institute, Singapore, Singapore; 2. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Department of Materials Science and Engineering, University of Michigan, Ann Arbor, MI, USA*

9:30 **CE-03. Ferromagnetism in Ti-Doped ZnO Nanoclusters above Room Temperature.** *J. Antony*[1], A. Sharma[1], D. Meyer[1], J. Nutting[1], Y. Qiang[1], D.E. McCready[2] and M. Engelhard[2] *1. Physics, University of Idaho, moscow, ID, USA; 2. Environmental Molecular Science Laboratory, Pacific Northwest National Laboratory, Richland, WA, USA*

9:45 **CE-04. Local and Global Magnetic properties of $Zn_{1-x}Co_xO$, $ZnCo_2O_4$ and Mn-doped GaAs thin films .** W.A. Iwamoto[1], *P.G. Pagliuso*[1], R.R. Urbano[1], C. Rettori[1], K. Samanta[2], P. Bhattacharya[2], R. Katiyar[2], J. Da Silva [3], A. Pereira[3], G.A. Medeiros[4] and S.B. Oseroff[5] *1. DEQ, IFGW - Unicamp, Campinas, Sao Paulo, Brazil; 2. Department of Physics, University of Puerto Rico, San Juan, Costa Rica; 3. Departamento de Fisica, unesp, bauru, Sao Paulo, Brazil; 4. LNLS, Campinas, Sao Paulo, Brazil; 5. San Diego State University, San Diego, CA, USA*

10:00 **CE-05. Fe implanted ferromagnetic ZnO.** *K. Potzger*[1], S. Zhou[1], H. Reuther[1], A. Mucklich[1], F. Eichhorn[1], N. Schell[1], W. Skorupa[1], M. Helm[1], J. Fassbender[1], T. Herrmannsdorfer[2] and T. Papageorgiou[2] *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Germany; 2. Dresden High Magnetic Field Laboratory, Forschungszentrum Rossendorf, Dresden, Germany*

10:15 **CE-06. Co-Doped (La,Sr)TiO_3: A High-T_C Diluted Ferromagnet With Large Spin Polarization.**
G. Herranz[1], M. Basletic[2], M. Bibes[3], R. Ranchal[4], H. Jaffres[1], A. Hamzic[2], E. Tafra[2], J. Maurice[1], C. Colliex[5], K. Bouzehouane[1], E. Jacquet[1], J. Contour[1], A. Barthelemy[1] and A. Fert[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Dep. of Physics, Fac. of Science, Zagreb, Croatia; 3. IEF, Univ. Paris-Sud, Orsay, France; 4. Depto. Fisica de Materiales (UCM), Madrid, Spain; 5. Laboratoire de Physiques des Solides, Univ. Paris-Sud-UMR 8502, Orsay, France*

10:30 **CE-07. Room temperature ferromagnetic properties of Co-doped SnO2 system.**
Z. Yalu[1], *G. Shihui*[1], Z. Xueyun[1], X. Yuhua[1], Z. Yuxuan[1] and Y. Jinglei[1] *1. Lanzhou university, Lanzhou, Gansu, China*

10:45 **CE-08. Magnetic and transport properties of transition metal ion doped diluted magnetic semiconductors $In_{2-x}TM_xO_3$ (TM = Cr, Mn, Fe, V).**
G. Peleckis[1], X. Wang[1], S. Dou[1] and *Q. Yao*[1] *1. ISEM, University of Wollongong, Wollongong, NSW, Australia*

11:00 **CE-09. Preparation and Characterization of $Zn_{0.96}Mn_{0.04}O$ film on Si (100) with a high T_C.**
S. Park[1], P. Kim[1], Y. Lee[1], T. Kim[2] and J. Kang[3] *1. Physics, Hanyang University, Seoul, South Korea; 2. Physics, Ewha Woman University, Seoul, South Korea; 3. Physics, Kookmin University, Seoul, South Korea*

WEDNESDAY MORNING 9:00 **ROYAL PALM 3/4**

Session CF
COMPUTATIONAL MAGNETISM I
A. Stancu, Chair
UAIC

9:00 **CF-01. A Preisach-Stoner-Wohlfarth Vector Model.**
E. Cardelli[1,4], E. Della Torre[2] and O. Alejos[3] *1. Dept. of Industrial Engineering, University of Perugia, Perugia, Italy; 2. George Washington University, Washington DC, DC, USA; 3. University of Valladolid, Valladolid, Spain; 4. Center for Electric and Magnetic Applied Reserach, Terni, Italy*

9:15 **CF-02. Magnetic Stochastic Resonance in systems described by Dynamic Preisach Model.**
L. Testa[1] and *M. Trapanese*[1] *1. Dipartimento di Ingegneria Elettrica Palermo University, Palermo, Italy*

9:30 **CF-03. Preisach model study of nonlinear exchange bias in antiferromagnetically coupled bilayers.** *O. Hovorka*[1], A. Berger[2] and G. Friedman[1] *1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

9:45 **CF-04. Application of an extended hysteresis model to quantitative evaluation of surface-modified magnetic materials.** *C. Lo*[1] *1. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA*

10:00 **CF-05. A new algorithm for extraction of parameters of Jiles-Atherthon hysteresis model.** *J. Izydorczyk*[1] *1. Silesian University of Technology, Gliwice, Poland*

10:15 **CF-06. Modeling of Dynamic Hysteresis with Bergqvist's Lag Model .** *D. Ribbenfjaerd*[1] and G. Engdahl[1] *1. School of Electrical Engineering, Royal Institute of Technology, Stockholm, Sweden*

10:30 **CF-07. Vector Hysteresis Model at Micromagnetic Scale.** M. Carpentieri[2,3], P. Burrascano[1,2], *E. Cardelli*[1,2], E. Della Torre[4], A. Faba[1,2] and G. Finocchio[3] *1. Ingegneria Industriale, University of Perugia, Perugia, Perugia, Italy; 2. Center for Electric and Magnetic Applied Research, Terni, Terni, Italy; 3. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Messina, Messina, Italy; 4. Institute for Magnetic Research, George Washington University, Washington, WA, USA*

10:45 **CF-08. 2nd-Order Accurate FDTD Equations at Magnetic Media Interfaces .** *Q. Chu*[1] and H. Ding[1] *1. School of Electronic and Information Engineering, South China University of Technology, Guangzhou, China*

11:00 **CF-09. The study of the forces present in a planar actuator.** A.F. Flores Filho[1] and *M.A. da Silveira*[2] *1. Electrical Engineering, Federal University of Rio Grande do Sul, Porto Alegre, Brazil; 2. Departament of Electrical Engineering, Brazilian Lutheran University, Canoas, Brazil*

11:15 **CF-10. Nonlinear ferromagnetic shield modelling by the thin-shell approximation.** *O. Bottauscio*[1], M. Chiampi[2] and A. Manzin[1] *1. IEN Galileo Ferraris, Torino, Italy; 2. Dipartimento Ingegneria Elettrica, Politecnico di Torino, Torino, Italy*

11:30 **CF-11. Modeling of Anisotropic Magnetic Shielding Using the Two Scalar Potential Formulation.** *Z. Zeng*[1], L. Udpa[1] and S.S. Udpa[1] *1. Department of Electrical and Computer Engineering, Michigan State University, East Lansing, MI, USA*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session CP
THIN FILMS AND INTERFACES II (POSTER SESSION)

Satoshi Iwata, Chair
Nagoya University

CP-01. High quality Fe films on semiconductor (001) germanium (Ge) substrate. J. Lou[1], L. Chen[1], V. Harris[1], C. Vittoria[1] and *N. Sun[1] 1. Northeastern University, Boston, MA, USA*

CP-02. Room Temperature Study of the Magnetic Moment of Ultra-Thin Fe on GaAs(100) and InAs(100). J. LALOE[1], *F. van Belle*[1], A. Ionescu[1], C. Vaz[1], M. Tselepi[1], G. Wastlbauer[1], R. Dalgiesh[2], S. Langridge[2] and J. Bland[1] *1. Physics, University of Cambridge, Cambridge, United Kingdom; 2. Rutherford Appleton Laboratory, Chilton, United Kingdom*

CP-03. Scanning Tunnelling Microscopy Study of the Growth of 1-4 ML of Fe on GaAs(100)-2x6. *D. Gillingham*[1], M. Tselepi[1], A. Ionescu[1], S.J. Steinmuller[1] and J. Bland[1] *1. Physics, Cambridge University, Cambridge, United Kingdom*

CP-04. Structural and magnetic properties of manganese overlayer on Fe(100). *D. Spisak*[1] and J. Hafner[1] *1. Department of Materials Science, University of Vienna, Vienna, Austria*

CP-05. Electronic structure, magnetism, and half-metallicity of CrAs(110). *J. Lee*[1] and S. Hong[2] *1. Physics, Inha University, Incheon, South Korea; 2. Physics, University of Ulsan, Ulsan, South Korea*

CP-06. Morphology and coercivity of FePt thin films sputter deposited on Cu and Ag underlayers. *C. You*[1,2], K. Hono[1] and Y. Takahashi[1] *1. National Institute for Materials Science, Tsukuba, Japan; 2. Department of Materials, University of Oxford, Oxford, United Kingdom*

CP-07. ^{57}Fe Mossbauer study of FePtN films prepared by reactive sputtering. *R. Reddy*[1], S. Puranki[2] and A. Gupta[3] *1. UGC-DAE,CSR, Indore, India; 2. DAVV University, Indore, India; 3. UGC-DAE, CSR, Indore, India*

CP-08. Hard ferromagnetism in two-dimensional FePt surface alloys. *A. Enders*[1], J. Honolka[1], K. Kuhnke[1], K. Fauth[2], G. Schuetz[2], V. Sessi[1], T. Lee[1] and K. Kern[1] *1. Max Planck Institute for Solid State Research, Stuttgart, Germany; 2. Max Planck Institute for Metal Research, Stuttgart, Germany*

WEDNESDAY MORNING 8:00 **GRAND BALLROOM**

Session CQ
THIN FILMS AND INTERFACES III (POSTER SESSION)

Ko-wei Lin, Chair
National Chung Hsing University

CQ-01. The magnetic anisotropy properties of Ga0.93Mn0.07As by low-temperature annealing. *W. Lee*[1], Y. Chen[2], J. Huang [2], B. Huang [2], C. Kuo[1], T. Chin [2] and H. Ku[3] *1. Department of Materials Science & Engineering, National Chiao Tung University, Hsinchu 300, Taiwan, Hsinchu, Taiwan; 2. 2. Department of Materials Science & Engineering, Materials Science Center, National Tsing Hua University, Hsinchu 300, Taiwan, Hsinchu, Taiwan., Hsinchu, Taiwan; 3. 3. Department of Physics, National Tsing Huan University, Hsinchu 300, Taiwan, Hsinchu, Taiwan., Hsinchu, Taiwan*

CQ-02. The Incident Angle Effect of Al Adatom on the Growth Morphology of Al/Ni(001) System: Molecular Dynamics Simulation. *S. Lee*[1] and Y. Chung[1] *1. Ceramic Engineering, Hanyang University, Seoul, South Korea*

CQ-03. Thermal hysteresis of thin Dy films. *A.L. Dantas*[1,3], R.E. Camley[1] and A.S. Carrico[2] *1. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Departamento de Fisica, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil; 3. DCC, Universidade do Estado do Rio Grande do Norte, Natal, RN, Brazil*

CQ-04. Large Uniaxial Magnetic Anisotropy in $Co_{100-X}Pt_X$/Ru Disordered Perpendicular Films. *T. Shimatsu*[1], Y. Okazaki[1], H. Sato[1], O. Kitakami[2], S. Okamoto[2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Institute of Multidisciplinary Research for Advanced Material, Tohoku University, Sendai, Japan*

CQ-05. Andreef Reflection Studies of La0.7Sr0.3MnO3 Films Using NbN Junctions. *H. Asano*[1], K. Imaeda[1], M. Sugiyama[1] and M. Matsui[1] *1. Dept. of Cryst. Mat. Sci, Nagoya University, Nagoya, Japan*

CQ-06. Magnetic Anisotropy Enhancement for hcp Structured Co Alloy Thin Films through Pt Doping. *W. Shen*[1], A. Das[2], M. Racine[2], R. Cheng[2], J.H. Judy[1] and J. Wang[1] *1. MINT, Dept. of Elect. and Comp. Eng., University of Minnesota, Minneapolis, MN, USA; 2. Materials Technology Division, Heraeus Inc., Chandler, AZ, USA*

CQ-07. Activation volumes in superparamagnetic Fe films determined using Brillouin Light Scattering. *R. Stamps*[1], A. Stollo[2], M. Tacchi[2], G. Carlotti[2,3], G. Gubbiotti[4], M. Fabrizioli[5] and J. Fujii[5] *1. Physics, University of Western Australia, Crawley, WA, Australia; 2. INFM, Dipartimento di Fisica, Universiti di Perugia, Perugia, Italy; 3. INFM-CNR, Research Center S3, Modena, Italy; 4. SOFT-INFM-CNR, Research Center, Modena, Italy; 5. INFM, TASC Laboratory, Trieste, Italy*

WEDNESDAY MORNING 8:00 **GRAND BALLROOM**

Session CR
MAGNETIC STRUCTURE, CHARACTERIZATION AND IMAGING (POSTER SESSION)

Jeff McCord, Chair
IFW Dresden

CR-01. Correlation of rf-response and domains in patterned ferromagnetic films. U. Queitsch[1], J. McCord[1], *R. Schaefer*[1], L. Schultz[1], K. Rott[2] and H. Brueckl[2] *1. Inst. f. Metallic Materials, IFW Dresden, Dresden, Germany; 2. Dept. of Physics, University of Bielefeld, Bielefeld, Germany*

CR-02. Structure and magnetism of *c*-plane-oriented $Mn_{50}(Te_{50-x}Sb_x)$ pseudo-single crystal films. *Y. Ashizawa*[1], S. Saito[1], M. Tsunoda[1] and M. Takahashi[2,1] *1. Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan*

CR-03. Coercive field of Fe_3BO_6. L. Tsymbal[1], *Y. Bazaliy*[2,1], L. Bezmaternykh[3], A. Slawska-Waniewska[4], N. Nedelko[4], S. Vasiliev[4] and P. Wigen[5] *1. O. Galkin Donetsk Physics & Technology Institute, NASU, Donetsk, Ukraine; 2. IBM Almaden Research Center, San Jose, CA, USA; 3. Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 4. Institute of Physics, PAN, Warsaw, Poland; 5. Department of Physics, Ohio State University, Columbus, OH, USA*

CR-04. The Effect of Cation Ion Ordering in In- Cr-Sulphur Spinel. *B. Son*[1], S. Kim[1], B. Lee[2] and C. Kim[1] *1. Physics, Kookmin University, Seoul, South Korea; 2. Physics, Hankuk University of Foreign Studies, Yongin, South Korea*

CR-05. Magnetic & Specific Heat Studies of RNi_4Ga (R = Sm, Gd & Tb). D.A. Joshi[1], *C.V. Tomy*[1], R. Nagarajan[2] and S.K. Malik[2] *1. Physics, IIT Bombay, Mumbai, Maharashtra, India; 2. DCMP & MS, TIFR, Mumbai, Maharastra, India*

CR-06. A multilayer magnetic force microscopy tip and comparison of its imaging performance with conventional tips. *G. Han*[2,1], Y. Wu[2] and Y. Zheng[1] *1. Data Storage Institute,, Singapore, Singapore; 2. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore*

CR-07. Effect of magnetic field on the magnetic domain structure of MnAs film on GaAs(001). *J. Kim*[1], h. Lee[1], Y. Lee[1], K. Ryu[2], S. Shin[2] and H. Akinaga[3] *1. q-Psi and Dept. of Physics, Hanyang University, Seoul, South Korea; 2. CNSM and Dept. of Physics, KAIST, Daejeon, South Korea; 3. Nanotechnology Research Institute, AIST, Tsukuba, Japan*

CR-08. Observation of Magnetization Transition of a Co-CoO Obliquely Evaporated Magnetic Recording Tape. *W. Xia*[1], K. Tohara[2], Y. Murakami[1], D. Shindo[1], T. Ito[3], Y. Iwasaki[3] and J. Tachibana[3] *1. IMRAM, Tohoku University, Sendai, Japan; 2. Toshiba Corporation, Tokyo, Japan; 3. Sony Corporation, Tagajo-Shi, Japan*

CR-09. Direct Imaging of Two Dimensional Magnetic Patterns With Sub-Micron Resolution Using Thin Garnet Films With Giant Magneto-Optical Effect. *I. Nistor*[1], C. Holthaus[1], C. Krafft[3] and I.D. Mayergoyz[1,2] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. UMIACS, University of Maryland, College Park, MD, USA; 3. Laboratory for Physical Sciences, College Park, MD, USA*

CR-10. A transmission electron energy loss spectrometry study for the source of an anomalous positive exchange bias in a $Ni_{80}Fe_{20}/Ni_xFe_{1-x}O$ thin-film bilayer. *H. Ouyang*[1], K. Lin[1], C. Liu[1], Y. Tzeng[1], Z. Guo[1] and J. van Lierop[2] *1. Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

CR-11. Initial Layer Model for dM/dH Anomaly at 0-field of In-Plane Magnetization in Perpendicular Recording Media. *M. Igarashi*[1], I. Takekuma[2], H. Nemoto[2], Y. Hirayama[2] and Y. Hosoe[2] *1. Hitachi, Ltd., Kokubunji, Tokyo, Japan; 2. Hitachi, Ltd., Odawara, Kanagawa, Japan*

CR-12. Determination of Layer Specific Magnetization and Anisotropy Fields in Multilayer Garnet Films from FMR and VSM Measurements. I. Nistor[1], *C. Holthaus*[1], C. Krafft[3] and I.D. Mayergoyz[1,2] *1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. UMIACS, University of Maryland, College Park, MD, USA; 3. Laboratory for Physical Sciences, College Park, MD, USA*

CR-13. The magnetic field distribution and measuring system of permanent magnets with various shapes. *X. Wang*[1], X. Huang[1], T. Lei[1], Y. Wang[1] and Y. Zou[1] *1. Electrical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China*

CR-14. Evaluation of deformation behaviours of HSLA-100 steel using magnetic measurement techniques. A.K. Panda[1], S.K. Das[1], A. Mitra[1], D.C. Jiles[2] and *C. Lo*[3] *1. National Metallurgical Laboratory, Jamshedpur, India; 2. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom; 3. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA*

CR-15. Spin-Stand Based Measurement of 1-D Head Response Function. *P McAvoy*[1], I. Mayergoyz[1], C. Tse[1], C. Krafft[2] and C. Tseng[1] *1. University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Sciences, College Park, MD, USA*

WEDNESDAY MORNING 8:00 **GRAND BALLROOM**

Session CS
MOTORS AND ACTUATORS I (POSTER SESSION)

Amr Adly, Chair
Cairo University

CS-01. Eddy Current Loss in the Frame of a Flux-Switching Permanent Magnet Motor. Y. Pang[1], *Z. Zhu*[1], D. Howe[1], S. Iwasaki[2], R. Deodhar[2] and A. Pride[2] *1. University of Sheffield, Sheffield, United Kingdom; 2. IMRA Europe S.A.S., U.K. Research Centre, Brighton, United Kingdom*

CS-02. Starting Torque of Single-Phase Flux-Switching Permanent Magnet Motors. Y. Chen[1], Z. Zhu[1], *D. Howe*[1] and Y. Ye[2] *1. University of Sheffield, Sheffield, United Kingdom; 2. Zhejiang University, Hangzhou, China*

CS-03. A Study of the Miniaturization of a PM type Stepping Motor with Claw-poles. *S. Rhyu*[1,2], B. Kwon[2] and J. Hur[1] *1. Intelligent Mechatronics Research Center, Korea Electronics Technology Institute, BuChon, South Korea; 2. Hanyang Univ., An-san, South Korea*

CS-04. Design and Experimental Validation of Performance for a Maglev Moving-Magnet-Type Synchronous PM Planar Motor. *J. Choi*[1], J. Park[2] and Y. Baek[1] *1. Mechanical Engineering, Yonsei University, Seoul, South Korea; 2. Automation Technology Institute, Yonsei University, Seoul, South Korea*

CS-05. Sensorless Vector Control Parameters Estimation of Synchronous Reluctance Motor Using a Coupled FEM & Preisach Model. *H. Kim*[1], J. Park[1], M. Lee[1], J. Lee[1] and J. Chun[2] *1. Hanbat National University, Daejeon, South Korea; 2. TSA Co., Ltd., Bucheon, South Korea*

CS-06. Novel Rotor Shape of Switched Reluctance Motor for Windage Loss Reduction. *S. Won*[1], J. Ahn[1], K. Kim[1], S. Lim[1] and J. Lee[1] *1. Electrical Eng., Hanyang University, Seoul, South Korea*

CS-07. Comparison of Doubly Salient Permanent Magnet Motor Performance for Parallel Sided and Tapered Rotor Poles. *N.K. Sheth*[1,2] and R. K. R.[1] *1. Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi-110016, Delhi, India; 2. Electrical Engineering Department, Institute of Technology, Nirma University of Science and Technology, Ahmedabad-382481, Gujarat, India*

CS-08. Optimization of Stator Design in a Consequent-Pole Type Bearingless Motor Considering Magnetic Suspension Characteristics. *M. Nakagawa*[1], Y. Asano[1], A. Mizuguchi[1], A. Chiba[1], K. Sya[1], M. Ooshima[2], M. Takemoto[3], T. Fukao[3], O. Ichikawa[4] and D.G. Dorrell[5] *1. Tokyo University of Science, Chiba, Japan; 2. Tokyo University of Science, Suwa, Nagano, Japan; 3. Musashi Institute of Technology, Tokyo, Japan; 4. Polytechnic University, Kanagawa, Japan; 5. The University of Glasgow, Glasgow, United Kingdom*

CS-09. Assessment of Losses in a Brushless Doubly-Fed Reluctance Machine. I. Scian[1], *D.G. Dorrell*[1] and P. Holik[1] *1. Dept of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom*

CS-10. Investigation of End-Effect in Brushless Machines Having Magnets in The Stator with Doubly Salient Structure. *W. Hua*[1], M. Cheng[1], X. Zhu[1] and J. Zhang[1] *1. Department of Electrical Engineering, Southeast University, Nanjing 210096, China*

CS-11. Study of a Hybrid Excitation Synchronous Generator Using Three-Dimensional Magnetic Field Finite Element Analysis. *Y. Dou*[1,2], Y. Guo[2] and J. Zhu[2] *1. Faculty of Electric Engineering and Automation, Nanjing Normal University, Nanjing, Jiangsu, China; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia*

CS-12. Analytical Prediction and Measurements for Inductance Profile of Linear Switched Reluctance Motor. S. Jang[1], *J. Park*[1], J. Choi[1] and H. Cho[1] *1. electrical engineering, chungnam national university, daejeon, South Korea*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session CT
MEMS, POWER AND CONTROL MAGNETICS (POSTER SESSION)

Kazushi Ishiyama, Chair
Tohoku University

CT-01. Flow rate of micropump with spiral-type magnetic micromachine. *K. Ishiyama*[1], S. Hisatomi[1], S. Agatsuma[1], A. Yamazaki[1], M. Sendoh[2] and K. Arai[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan; 2. Miyagi Organization For Industry Promotion, Sendai, Miyagi, Japan*

CT-02. A micro-machined LC-resonator for high-frequency magnetic sensor applications. *H. Lee*[1], L. Anh-Tuan[2], K. Yong-Seok[3] and L. Jeong-Bong[4] *1. Department of Physics Education, Kongju National University, Kongju 314-701, South Korea; 2. Department of Materials Engineering, Chungnam National University, Taejon 305-764, South Korea; 3. Department of Physics, Chungbuk National University, Cheongju 361-763, South Korea; 4. Department of Electrical Engineering, University of Texas at Dallas, Richardson, TX 75083-0688, TX, USA*

CT-03. A novel hybrid excitation sequence for a sensorless motor. *S. Wang*[1], S. Lin[2], J. Ju[1] and D. Huang[1] *1. Opto-Mechanics Technology, Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Taiwan, Chutung, Hsinchu, Taiwan; 2. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan*

CT-04. Minimizing the Influence of Cogging Torque on Vibration in PM Brushless Machines by Direct Torque Control. *Z. Zhu*[1], Y. Liu[1] and D. Howe[1] *1. University of Sheffield, Sheffield, United Kingdom*

CT-05. A Novel S-Pickup for High Power Inductive Power Transfer Systems. *D. Kacprzak*[1] *1. Electrical and Computer Engineering, The University of Auckland, Auckland, New Zealand*

CT-06. Accurate Low Speed and Torque Control for Induction Motor with Secondary Current Feedback Using MI Sensor Installed in Shaft Hole. T. Ito[1], Y. Nakamura[2], *K. Mohri*[3] and T. Uchiyama[2] *1. DENSO, Kariya, Aichi, Japan; 2. Electrical Engineering and Computer Science, Nagoya University, Nagoya, Aichi, Japan; 3. Japan Science and Technology Agency, Chiyoda-ku, Tokyo, Japan*

CT-07. Dynamic Performance of Tubular Linear Actuator with Halbach Array and Mechanical Spring Driven by PWM Inverter. S. Jang[1], *J. Choi*[1] and D. You[1] *1. Chungnam National University, Dae-jeon, South Korea*

CT-08. Practical Dynamic Modeling of Brushless DC Motor Using the Analytical Back EMF Prediction. S. Jang[1], *K. Ko*[1], H. Cho[1] and J. Choi[1] *1. Dept. of Electrical Engineering, Chungnam National University, Daejeon, South Korea*

CT-09. Thrust Estimation according to Turn-on Position of LSRM, Considering Inductance Profile. S. Jang[1], *J. Park*[1], D. You[1] and Y. Park[2] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea; 2. Division of Electromagnetic Metrology, KRISS(Korea Research Institute of Standards and Science), Daejeon, South Korea*

CT-10. A Design Approach to Reduce Rotor Losses in High-Speed Permanent Magnet Machine for Turbo-Compressor. *H. Cho*[1] and S. Jang[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session CU
TRANSFORMERS, INDUCTORS, ELECTROMAGNETIC COMPATIBILITY II (POSTER SESSION)

Nobuhiro Matsushita, Chair
Tokyo Institute of Technoloy

CU-01. Fabrication of a Insulating Type Transmission-Line Transformer for High Frequency Inverter for Discharge Lamp. T. Miyazaki[1], A. Kikuchi[1], *T. Sato*[1], K. Yamasawa[1] and Y. Miura[1] *1. Electrical and Electronic Engineering, Faculty of Engineering, Shinshu Univ., Nagano, Japan*

CU-02. Material Loss (Magnetic, Dielectric) and Its Influence on Noise Absorption of Iron Particles-Rubber Composites Attached on Microstrip Line. S. Kim[1], J. Jeong[1] and *S. Kim*[1] *1. Department of Materials Engineering, Chungbuk National University, Cheongju, South Korea*

CU-03. Fitting Functions for Low Frequency Transformer Admittance Curves. *E. Shehu*[1], A. Konrad[1] and L. Marti[2] *1. Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada; 2. Hydro One Networks, Inc., Toronto, ON, Canada*

CU-04. Design Criteria of Transformer for LCD Backlight Inverter. *Y. Kim*[1], Y. Son[2] and J. Lee[3] *1. Electrical Engineering, Hanbat Univ., Daejeon, South Korea; 2. Component Division, LG Innotek, Gwangju, South Korea; 3. Electrical Engineering, Hanyang Univ., Seoul, South Korea*

CU-05. Comparative Study of Transformer Type Superconducting Fault Current Limiters Considering Magnetic Saturation of Iron Core. *T. Kataoka*[1] and H. Yamaguchi[2] *1. Electrical Engineering, Tokyo Denki University, Tokyo, Japan; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

CU-06. A New Concept of Assymetrical Pickups for Monorail Inductively Coupled Power Transfer Systems. *D. Kacprzak*[1] *1. Electrical and Computer Engineering, The University of Auckland, Auckland, New Zealand*

WEDNESDAY MORNING 8:00

GRAND BALLROOM

Session CV
PERMANENT MAGNETS - STRUCTURE AND PROPERTIES I (POSTER SESSION)

Satoshi Hirosawa, Chair
R&D Division, Neomax Co. LTD.

CV-01. Visible photonic switch based on tunable 2D ferromagnetic photonic crystal. *C. Ko*[1], K. Lee[1] and S. Chi [1]*1. Electrical Engineering, Yuan Ze University, Chungli, Taiwan*

CV-02. High Coercivity of Co-ferrite films prepared by sol-gel method. Y. OKAZAKI[1], *H. Ohashi*[1], Y. Ohya[1], S. Yanase[1] and S. Hashi[1]*1. Engineering, Gifu University, Gifu, Japan*

CV-03. Effect of Annealing Temperature on Corrosion Resistance of Rapidly Solidified Nd-Fe-B Powders and Their Bonded Magnets. *D. Lee*[1], W. Pan[2], W. Li[2] and S. Zhou[3]*1. Magnetics Lab, University of Dayton, Dayton, OH, USA; 2. Central Iron & Steel Research Institute, Beijing, China; 3. Advanced Technology & Materials Co,Ltd, Beijing, China*

CV-04. Magnetic properties of B-rich nanocomposite REy(TM)90-y-xMxB10 (RE=Nd+Pr, TM=Fe, Fe+Co, M=Nb, Ta, y=8,10, x=0-4) alloys. I. Betancourt[1], *H.A. Davies*[2] and I. Ahmad[2]*1. Materials Research Institute, UNAM, Mexico, DF, Mexico; 2. Engineering Materials, University orf Sheffield, Sheffield, United Kingdom*

CV-05. TMA study on coercivity origin in mechanically alloyed Co-Zr alloy. *I. Jeong*[1] and H. Kwon[1]*1. School of Materials Science & Engineering, Pukyong National University, Busan, South Korea*

CV-06. New NdFeB-based bulk "exchange spring"-type permanent magnets. Experimental and micromagnetic FORC analysis. *H. Chiriac*[1], N. Lupu[1], L. Stoleriu[2], P. Postolache[2] and A. Stancu[2]*1. National Institute of Research and Development for Technical Physics, Iasi, Romania; 2. Faculty of Physics, Alexandru Ioan Cuza University, Iasi, Romania*

CV-07. Interaction Domains as Cooperative Phenomena in SmCo 2:17 Magnets. *K. Mueller*[1], O. Gutfleisch[1], K. Khlopkov[1], R. Schaefer[1] and L. Schultz[1]*1. Institute for Metallic Materials, IFW Dresden, Dresden, Germany*

CV-08. Magnetic and microstructural properties of thick sputtered NdFeB films. *A. Walther*[1], K. Khlopkov[2], F. May[1], N. Dempsey[1] and O. Gutfleisch[2] *1. Lab. Louis Neel, CNRS, Grenoble, France; 2. Institut fur Metallische Werkstoffe, IFW, Dresden, Germany*

CV-09. A novel micro magnetic bearing motor design. *C. Wang*[1], S. Wang[2] and Y. Yao[3] *1. Materials Science and Engineering, NCTU, Hsinchu, Taiwan; 2. Opto-Electronics and Systems Laboratories, ITRI, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan*

CV-10. Development of New Magnetic Planetary Gears for Transmission Systems. *C. Huang*[1], M. Tsai[1] and B. Lin[2] *1. Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan; 2. Automation Engineering, National Formosa University, Yunlin, Taiwan*

CV-11. Design and Implementation of a Novel Triangular Planar Maglev System. *Y. Lai*[1], Y. Lee[1] and J. Yen[1] *1. National Taiwan University, Taipei, Taiwan*

WEDNESDAY MORNING 8:00 **GRAND BALLROOM**

Session CW
PERMANENT MAGNETS - STRUCTURE AND PROPERTIES II (POSTER SESSION)

Sam Liu, Chair
University of Dayton Magnetics Lab

CW-01. Spark plasma sintering Fe3B/(Pr,Tb)2Fe14B bulk nanocomposite permannet magnets. *M. Yue*[1], P. Niu[1] and J. Zhang[1] *1. Beijing University of Technology, Beijing, China*

CW-02. Dependence of the Mean Grain Size and Coercivity of Sintered Nd-Fe-B Magnets on the Initial Powder Particle Size. *K. Uestuener*[1], M. Katter[1] and W. Rodewald[1] *1. DM-E-WB, VACUUMSCHMELZE, Hanau, Germany*

CW-03. Magnetic properties and microstructure of FePt on island-like Ge3Pt2 underlayer. *J. Tsai*[1], C. Hsu[1], C. Hsu[2], S. Chen[2] and Y. Chen[3] *1. Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Department of Materials Science and Engineering, Natioanl Feng Chia University, Taichung, Taiwan; 3. Department of Physics, Natioanl Cheng Kung University, Tainan, Taiwan*

CW-04. Measurement of Nucleation Temperature in Saturable Multi-domain Grains in Dy-free Nd2Fe14B Based Sintered Magnets. *K. Kobayashi*[1], T. Kohno[1], K. Itoh[1], K. Hayakawa[1] and M. Sagawa[2] *1. Materials and Life Science, Shizuoka Institute of Science and Technology, Fukuroi, Japan; 2. Intermetallics Co.,Ltd, Kyoto, Japan*

CW-05. Generation of Uniform Fields above 1 Tesla with Multilayer Magnets. *M.G. Abele*[1] *1. Radiology, New York University, New York, NY, USA*

CW-06. Relation Between High Field Magnetization and Microstructure in Bulk SmCo2.5Cu2.5. *R. Groessinge*[1], P. Kerschl[2], A. Handstein[2], K. Khlopkov[2], O. Gutfleisch[2], K. Mueller[2] and L. Schultz[2] *1. Inst. f. Solid State Phys., Techn. Univ. Wien, Vienna, Austria; 2. Leibniz Institute for Solid State and Materials Research, IFW Dresden, Dresden, Germany*

CW-07. Magnetic Microstructure of $L1_0$ $(Fe_{0.55}Pt_{0.45})_{78}Zr_{2-4}B_{18-20}$ Nanocrystalline Alloys Observed by Electron Holography. *W. Xia*[1], D. Shindo[1] and A. Makino[2] *1. IMRAM, Tohoku University, Sendai, Japan; 2. IMR, Tohoku University, Sendai, Japan*

CW-08. Structural and Magnetic properties of $Gd_3(Fe_{1-x}Al_x)_{27.5}Ti_{1.5}$ (x = 0.1- 0.4). *R. N/A*[2], S. Venkatesh[1], G. Markandeyulu[1] and K. Prasad Rao[2] *1. Physics, Indian Institute of Technology, CHENNAI, India; 2. Metallurgical and Materials Engineering, Indian Institute of Technology Madras, CHENNAI, India*

CW-09. Structural and magnetic properties of $Sm_3(Fe_{1-x}Co_x)_{27.7}Ti_{1.3}$. *M. Gjoka*[1], C. Sarafidis[2], O. Kalogirou[2] and D. Niarchos[1] *1. Laboratory of Magnetism and superconductivity, Institute of Materials Science, NCSR "Demokritos", Athens, Greece; 2. Dept. of Department of Physics, Aristotle University of Thessaloniki, Thesaloniki, Greece*

CW-10. Magnetic properties of melted carbides with ThMn12 structure. S. Liu[1], J. Han[1], H. Du[1], C. Wang[1] and *Y. Yang*[1] *1. Physics, Peking University, Beijing, China*

CW-11. Effects of the disproportionation stage of the HDDR process on magnetic properties and microstructure of $Pr_{13}Fe_{80}B_7$ alloys. *J. Han*[1], S. Liu[1], C. Wang[1], H. Du[1], H. Chen[1] and Y. Yang[1] *1. School of Physics, Peking University, Beijing, China*

CW-12. The (Zr0.67Sm0.33)(CoCuFe)3 phase in Sm(CoFeCuZr)z magnets. *F.P. Missell*[1,4], M.F. de Campos[1], S.A. Romero[2], R.K. Murakami[1,2], A.C. Neiva[3] and H.R. Rechenberg[2] *1. DIMCI/DIMAT, INMETRO - Instituto Nacional de Metrologia, Normalizacao e Qualidade Industrial, Duque de Caxias, RJ, Brazil; 2. Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo, SP, Brazil; 3. Engenharia Quimica - Escola Politecanica, Universidade de Sao Paulo, Sao Paulo, SP, Brazil; 4. Centro de Ciencias Exatas e Tecnologia, Universidade de Caxias do Sul, Caxias do Sul, RS, Brazil*

WEDNESDAY MORNING 8:00 GRAND BALLROOM

Session CX
MAGNETOOPTIC AND OTHER MATERIALS (POSTER SESSION)

Beth Stadler, Chair
Univ. Minnesota

CX-01. Analysis of Opal Template for Three Dimentional Magnetophotonic Crystals. *R. Fujikawa*[1], A. Baryshev[1], A. Khanikaev[1], H. Uchida[1], P. Lim[2] and M. Inoue[1,2] *1. Toyohashi University of Technology, Toyohashi, Japan; 2. Crest Japan Science and Tech. Corporation, Saitama, Japan*

CX-02. Magneto-Optical Properties of ZnMnTe Films Grown on Sapphire Substrates. *M. Imamura*[1] and A. Okada[2] *1. Electrical Engng., Fukuoka Inst. of Tech., Fukuoka, Japan; 2. Mitsubishi Electric Corp., Amagasaki, Japan*

CX-03. Preparation and Fundamental Properties of Magneto-Optic Analog Spatial Light Modulator with One Dimensional MagnetoPhotonic Crystals. *H. TAKAGI*[1], K. Takahashi[2], A. Tsuzuki[2], P. Lim[3], H. Uchida[2] and M. Inoue[2,3] *1. Toyota National College of Technology, Toyota, Japan; 2. Toyohashi University of Technology, Toyohashi, Japan; 3. JST-CREST, Kawaguchi, Japan*

CX-04. Perpendicular Co-Zn-Gd Magnetic Film Electrodeposited by Molten Chlorozincate Electrolyte. *M. Shu*[1,2], T. Wu[1,2] and C. Yang[1,3] *1. Graduate School of Engineering Science and Technology (Doctoral Program), National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan; 2. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan; 3. Department of Environmental Resources Management, Overseas Chinese Institute of Technology, Taichung, Taiwan*

CX-05. Co-Pt-W-P Multilayers By Electrodeposition. *W.B. Ng*[1], H. Okita[1], T. Ishida[1] and K. Okada[1] *1. Singapore Research Laboratory, Sony Electronics Singapore Private Limited, Singapore, Singapore*

CX-06. Studies of Electron Spin Resonance (ESR) in $TbMnO_3$ multiferroic compound. J.S. Duque[1], *P.G. Pagliuso*[1], C. Rettori[1], N.O. Moreno[2], R.R. Urbano[3] and T. Kimura[3] *1. DEQ, IFGW - Unicamp, Campinas, Sao Paulo, Brazil; 2. Universidade Federal de Sergipe, Sao Cristovao, Sergipe, Brazil; 3. Los Alamos National Laboratory, Los Alamos, NM, USA*

CX-07. The Magnetorheological Fluid Damper Dynamic Model. *G.M. VECA*[1] and C. Cataldi[1] *1. Electrical Engineering Dept, University of Rome La Sapienza, Roma, Italy*

WEDNESDAY AFTERNOON 2:00 **TOWN AND COUNTRY**

Session DA
SYMPOSIUM ON MAGNETIC BIOSENSORS AND MICROSYSTEMS

Shan Wang, Chair
Stanford

2:00 **DA-01. Arranging Matter by Magnetic Nanoparticle Assembly.** ***(Invited)*** *B.B. Yellen*[1], D.S. Halverson[2] and G. Friedman[2] *1. Mechanical Engineering and Materials Science, Duke University, Durham, NC, USA; 2. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA*

2:30 **DA-02. Microfabricated Passive Magnetic Bead Separators.** ***(Invited)*** *M.F. Hansen*[1], T. Lund-Olesen[1], K. Smistrup[1] and H. Bruus[1] *1. MIC - Department of Micro and Nanotechnology, Technical University of Denmark, Kongens Lyngby, Denmark*

3:00 **DA-03. Novel Magnetic Materials for Diagnostic and Separation Applications.** ***(Invited)*** *G. Lee*[1] *1. Chemical Engineering, Purdue University, West Lafayette, IN, USA*

3:30 **DA-04. Scalable Magnetoresistive Biochips For Biomolecular recognition. *(Invited)*** F. Cardoso[1,2], H. Ferreira[1,2], *P. Freitas*[1,2], J. Conde[1,2], V. Chu[1], J. Germano[3,5], L. Sousa[3,5], M. Piedade[3,5], V. Martins[4], L. Fonseca[4] and J. Cabral[4] *1. INESC MN, LISBON, Portugal; 2. Physics, Inst Sup. Tecnico, LISBON, Portugal; 3. INESC ID, Lisbon, Portugal; 4. Biochemestry and Chemical Engineering, Inst. Sup. Tecnico, Lisbon, Portugal; 5. Computer and Electrical Engineering, Inst. Sup. Tecnico, Lisbon, Portugal*

4:00 **DA-05. Cell Manipulation and Sub-Cellular Force Measurements Using Magnetic Nanowires. *(Invited)*** *D. Reich*[1] *1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA*

WEDNESDAY **SAN DIEGO**
AFTERNOON
2:00

Session DB
PERPENDICULAR MEDIA II - NOVEL STRUCTURES

Gerardo Bertero, Chair
Komag

2:00 **DB-01. Recent Experimental Advances in Exchange Coupled Composite Media.** *W. Shen*[1] and J. Wang[1] *1. MINT, Dept. of Elect. and Comp. Eng., University of Minnesota, Minneapolis, MN, USA*

2:15 **DB-02. Simulations of recording in composite media.** *S. Greaves*[1] and H. Muraoka[1] *1. RIEC, Tohoku University, Sendai, Japan*

2:30 **DB-03. New concept of material design for CoPtCr-SiO_2 based ECC media – Application of hcp disordered Co-Ir alloy with negative K_u^{grain} to the soft-mag part –.** *S. Saito*[1], A. Hashimoto[1], N. Itagaki[1] and M. Takahashi[2] *1. Electronic Engineering, Tohoku University, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

2:45 **DB-04. Atomistic Models of Interfacial Effects in Exchange-Coupled Composite Media.** F. Garcia Sanchez[1], *O. Chubykalo-Fesenko*[1], O.N. Mryasov[2] and R.W. Chantrell[3] *1. ICMM,CSIC, Madrid, Spain; 2. Seagate Research, Pittsburgh, PA, USA; 3. University of York, York, United Kingdom*

3:00 **DB-05. Interfacilly Disordered FePt hard/soft Stacked Structures.** *Y.K. Takahashi*[1], K. Hono[1], S. Okamoto[2] and O. Kitakami[2] *1. NIMS, Tsukuba, Japan; 2. IMRAM, Tohoku Univ., Sendai, Japan*

3:15 **DB-06. CGC Perpendicular Recording Media with Optimum Exchange Coupling.** *Y. Sonobe*[1], K. Tham[1], L. Wu[1], T. Umezawa[1], C. Takasu[1], J.H. Dumaya[1], T. Onoue[1], P. Leo[1] and M. Liau[1] *1. PMR PJ, HOYA Magnetics Singapore (HOMS), Singapore, Singapore*

3:30 **DB-07. Perpendicular Magnetic Recording Meida (FePt-Fe3Pt)/Mgo with Tilted Easy Axis.** *Y. Hnin*[1], T. Suzuki[2] and A. Singh[3] *1. Toyota Technological Institute, Nagoya, Japan; 2. Toyota Technological Institute, Nagoya, Japan; 3. Toyota Technological Institute, Nagoya, Japan*

3:45 **DB-08. Lateral Exchange Spring Media.** *D. Suess*[1], K. Porath[1], T. Schrefl[2], F. Dorfbauer[1], M. Kirschner[1] and J. Fidler[1] *1. Vienna University of Technology, Vienna, Austria; 2. University of Sheffield, Sheffield, United Kingdom*

4:00 **DB-09. Micromagnetics of Percolated Perpendicular Media for 1 Tbits/in^2 and beyond.** *Y. Tang*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

4:15 **DB-10. Domain Wall Assisted Magnetic Recording.** *A. Dobin*[1] and H.J. Richter[1] *1. Seagate Technology LLC, Fremont, CA, USA*

4:30 **DB-11. Study on Magnetization Reversal of Perpendicular Recording Media by In-Field MFM Observation.** *w. Pei*[1], T. Washiya[1], H. Saito[1] and S. Ishio[1] *1. Venture Business Lab, Akita University, Tegata gakuen machi 1-1, Akita, 010-8502, Japan*

WEDNESDAY AFTERNOON 2:00 **GOLDEN WEST**

Session DC
SPIN TRANSFER: DYNAMICS

Stephane Mangin, Chair
University of Nancy

2:00 **DC-01. Narrow spectral lines in spin-transfer oscillators based on spin-valve nanopillars.** *Q. Mistral*[1], J. Kim[1], T. Devolder[1], P. Crozat[1], C. Chappert[1], J. Katine[2], M. Carey[2] and K. Ito[3] *1. Institut d'Electronique Fondamentale, CNRS/Univ. Paris Sud, Orsay Cedex, France; 2. Hitachi Global Storage Technologies, San Jose, CA, USA; 3. Hitachi Cambridge Laboratory, Cambridge, United Kingdom*

2:15 DC-02. Mutual Phase-Locking of Two Spin Torque Nano-Oscillators. V. Tyberkevych[1] and *A.N. Slavin*[1] *1. Department of Physics, Oakland University, Rochester, MI, USA*

2:30 DC-03. Synchronization of spin-transfer oscillators driven by stimulated microwave currents. *J. Grollier*[1], O. Boulle[1], V. Cros[1] and A. Fert[1] *1. UMR CNRS-Thales, Palaiseau, France*

2:45 DC-04. Area-Dependence of High Frequency Spin-Transfer Resonance in GMR Contacts up to 300 nm Diameter. *F. Mancoff*[1], N. Rizzo[1], B. Engel[1] and S. Tehrani[1] *1. Technology Solutions Organization, Freescale Semiconductor Inc., Chandler, AZ, USA*

3:00 DC-05. Size dependance effects in sub-ns magnetization switching using spin-transfer torque. T. Devolder[1], K. Ito[3], J.A. Katine[2], P. Crozat[1], M.J. Carey[2] and *C. Chappert*[1] *1. Institut d'Electronique Fondamentale, Orsay, France; 2. Hitachi GST, San Jose, CA, USA; 3. Hitachi Cambridge Laboratory, Hitachi Europe, Ltd., Cavendish Laboratory, Cambridge, United Kingdom*

3:15 DC-06. Current-induced magnetization switching with applying magnetic field to hard axis in MgO-based magnetic tunnel junctions. *T. Inokuchi*[1,3], H. Sugiyama[1,3], Y. Saito[1,3] and K. Inomata[2,3] *1. Advanced LSI Technology Laboratory, Corporate R & D Center, Toshiba Corporation, 1, Komukai-Toshiba-cho, Saiwai-ku, Kawasaki, Japan; 2. Department of Material Science, Graduate School of Engineering, Tohoku University, Sendai 980-8579, Japan; 3. CREST-JST, Kawaguchi, Saitama 332-0012, Japan*

3:30 DC-07. Temperature Dependence of Spin Transfer Switching in the Nanosecond Regime. *D. Apalkov*[1], Z. Diao[1], S. Wang[1], A. Panchula[1], Y. Huai[1] and K. Kawabata[2] *1. Grandis, Inc., Milpitas, CA, USA; 2. Renesas Technologies Corp., Itami-shi, Japan*

3:45 DC-08. Magnetization Switching of Co Nano Magnets by Current Pulses. *Y. Jo*[1], S. Park[1], M. Jung[1], N. Yen[2] and K. Shin[2] *1. Quantum Material Research Team, Korea Basic Science Institute, Daejeon, South Korea; 2. Nano Devices Research Team, Korea Institute of Science and Technology, Seoul, South Korea*

4:00 DC-09. Pulse-induced magnetization switching in (Ga, Mn)As Hall bar. *S. Park*[1], Y. Jo[1], M. Jung[1], N. Anh[2], K. Shin[2], J. Eom[3] and S. Chun[3] *1. Quantum Material Research Team, Korea Basic Science Institute, Daejeon, South Korea; 2. Nano Devices Research Team, Korea Institute of Science and Technology, Seoul, South Korea; 3. Department of Physics, Sejong University, Seoul, South Korea*

4:15 **DC-10. Critical Parameters and Temperature Dependence for Current-induced Wall Motion.** W. Buehrer[1], *U. Ruediger*[1], M. Klaeui[1], M. Laufenberg[1], P. Melchy[1], P. Jubert[2], R. Allenspach[2], C. Vaz[3], G. Faini[4] and L. Vila[4] *1. Physics Department, University Konstanz, Konstanz, Germany; 2. Zurich Research Laboratory, IBM Research, Rueschlikon, Switzerland; 3. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 4. LPN, CNRS, Marcoussis, France*

4:30 **DC-11. Current induced domain motion in synthetic spin valves.** Z. Lu[1,2], Y. Zhou[1], Y. Du[1], D. Wilton[1], R. Moate[1] and *G. Pan*[1] *1. Faculty of Technology, University of Plymouth, Plymouth, United Kingdom; 2. National Physical Laboratory, Teddington, Middlesex, United Kingdom*

4:45 **DC-12. Spin Transfer Stimulated Microwave Emission in MgO Magnetic Tunnel Junctions.** *A.V. Nazarov*[1], H.M. Olson[1,2], Z. Gao[1], H. Cho[1], S. Stokes[1] and B.B. Pant[1] *1. Seagate Technology, Bloomington, MN, USA; 2. Physics, Colorado State University, Fort Collins, CO, USA*

WEDNESDAY AFTERNOON 2:00 **CALIFORNIA**

Session DD
MAGNETORESISTIVE HEADS I

Jeff Childress, Chair
HGST

2:00 **DD-01. Nano Processing Strategies for MR Sensor Read Width and Stripe Height formation.** ***(Invited)*** *M. Cyrille*[1], F. Dill[1], J. Li[1], R. Fontana[1], M. Pinarbasi[2], A. Baer[2], J. Katine[1], A. Driskill-Smith[2], W. Jayasekara[2], M. Ho[2], C. Tsang[1] and K. Mackay[1] *1. San Jose Research Center, HITACHI GST, San Jose, CA, USA; 2. H/M, HITACHI GST, San Jose, CA, USA*

2:30 **DD-02. Thermal Transient Response of Electrical Self-Heating in Current-in-Plane Magnetoresistive Heads.** *K.B. Klaassen*[1] *1. Recording Physics, Hitachi Research, San Jose, CA, USA*

2:45 **DD-03. Experimental Measurements of Spin Torque Driven Spin Wavesw in Tunneling MR Heads.** *J. Zhu*[1] and Y. Zhou[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

3:00 DD-04. Fabrication and Recording Study of All-Metal Dual-Spin-Valve CPP Read Heads. *J.R. Childress*[1], M.J. Carey[1], M.C. Cyrille[1], K. Carey[1], N. Smith[1], J.A. Katine[1], T.D. Boone[1], A.G. Driskill-Smith[1], S. Maat[1], K. Mackay[1] and C. Tsang[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

3:15 DD-05. Reader Instability Induced by Permanent Magnets Domain Switch. *L. Gan*[1], L. Wang[1], S. Stokes[1] and B. Pant[1] *1. Seagate Technology, Bloomington, MN, USA*

3:30 DD-06. Characteristics of Electrostatic Discharge Induced Damage on Magnetic Tunnel Junctions. *F. Liu*[1], C.H. Chang[1] and B.B. Pant[1] *1. Recording Head Organization, Seagate Technology, Bloomington, MN, USA*

3:45 DD-07. Spin-Torque Noise in CPP-GMR Heads with Current Screen Layer. *H. Katada*[1], K. Nakamoto[1], H. Hoshiya[1], K. Hoshino[1] and N. Yoshida[1] *1. Central Research Laboratory, Hitachi, Ltd., Odawara-shi, Kanagawa-ken, Japan*

4:00 DD-08. Ultra-Low Resistance-Area-Product in CoFeB/MgO/CoFeB Magnetic Tunnel Junctions. *Y. Nagamine*[1], H. Maehara[1], K. Tsunekawa[1], D.D. Djayaprawira[1], N. Watanabe[1], S. Yuasa[2,3] and K. Ando[2] *1. Canon ANELVA Corp., Fuchu, Tokyo, Japan; 2. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 3. PRESTO, Japan Science and Technology Agency (JST), Kawaguchi, Saitama, Japan*

4:15 DD-09. CPP-GMR with Current Screen Layer Using Various CoFe Compositions. *K. Hoshino*[1] and H. Hoshiya[1] *1. Hitachi, Ltd., Central Research Laboratory, Odawara-shi, Japan*

4:30 DD-10. A Co-SiO_2 granular material as a new current confining layer for current-perpendicular-to-plane spin valves. *K. Nagasaka*[1], A. Jogo[1], T. Ibusuki[1], Y. Seyama[1], Y. Shimizu[1], T. Uzumaki[1] and A. Tanaka[1] *1. Advanced Magnetic Recording Lab., Fujitsu Laboratories Ltd., Atsugi, Kanagawa, Japan*

4:45 DD-11. Effects of an Fe Oxide δ-Layer on the Properties of Spin Valves. J. In[1], *Y. Han*[1], J. Shim[1], S. Kim[1] and J. Hong[1] *1. Materials Science and Engineering, Yonsei University, Seoul, South Korea*

WEDNESDAY AFTERNOON 2:00

ROYAL PALM 1/2

Session DE
NANOWIRES AND NANOPARTICLES

George Hadjipanayis, Chair
University of Delaware

2:00 **DE-01.** **Ferromagnetism in nanotubes controlled by electron/hole doping.** ***(Invited)*** *L. Krusin-Elbaum*[1] *1. Physical Sciences, IBM T. J. Watson Research Center, Yorktown Heights, NY, USA*

2:30 **DE-02.** **Magnetization process of Ni membranes with controlled highly ordered nanohole arrays.** *D. Navas*[1], M. Hernandez-Velez[2], A. Asenjo[1], M. Jaafar[1] and M. Vazquez[1] *1. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 2. Departamento de Fisica Aplicada, Universidad Autonoma de Madrid, Madrid, Spain*

2:45 **DE-03.** **Formation of the multilayered Co/Pd nanowire array by atomic image projection electron beam lithography (AIPEL) and the magnetic anisotropy.** *T. Lee*[1], J. Wi[2], D. Hong[3], K. Shin[3] and K. Kim[1,2] *1. Nano Systems Institute - National Core Research Center, Seoul National University, Seoul, South Korea; 2. School of Materials Science and Engineering, Seoul National University, Seoul, South Korea; 3. Future Technology Research Division, Korea Instite of Science and Technology, Seoul, South Korea*

3:00 **DE-04.** **Dynamic study of domain wall in a patterned permalloy submicron wires.** D. Chen[1], *Y. Yao*[2,1], Y. Yu[2], S. Lee[2] and Y. Liou[2] *1. Department of Material Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan*

3:15 **DE-05.** **Synthesis and magnetic properties of phase controlled Co single-crystalline nanowires.** *J. zhang*[1], T. Shen[1] and G. Li[2] *1. School of Computing, Science & Engineering, Institute for Materials Research, Salford, Manchester, United Kingdom; 2. Institute of Solid State Physics, Hefei, Anhui, China*

3:30 **DE-06.** **Magnetostatic interactions and coercivities of ferromagnetic soft nanowire arrays studied by FORC diagrams.** *F. Beron*[1], L. Clime[1], M. Ciureanu[1], D. Menard[1], R.W. Cochrane[2] and A. Yelon[1] *1. Engineering Physics Department, Ecole Polytechnique de Montreal, Montreal, QC, Canada; 2. Physics Department, Universite de Montreal, Montreal, QC, Canada*

3:45 **DE-07. Remanent magnetization states of soft magnetic nanowires.** N.A. Usov[1,2], *A. Zhukov*[1] and J. Gonzalez[1] *1. Universidad del Pais Vasco, San Sebastian, Spain; 2. Troitsk Institute for Innovation and Fusion Research, Troitsk, Moscow region, Russian Federation*

4:00 **DE-08. Co-Deposition of FePt and FePt/Ag Nanoparticles on Silicon Dioxide.** *L. Castaldi*[1], K. Giannakopoulos[1], A. Travlos[1], D. Niarchos[1], S. Boukari[2] and E. Beaurepaire[2] *1. Institute of Materials Science, NCSR, Demokritos, Athens, Greece; 2. IPCMS, CNRS-ULP, Strasbourg, France*

4:15 **DE-09. Enhanced long-range magnetic ordering of nanoparticle assembly on single-crystal insulating layers with normal metal capping.** W. Lin[1,2], P. Huang[1], K. Song[2] and *M. Lin*[1,2] *1. Department of Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan*

WEDNESDAY AFTERNOON 2:00 **ROYAL PALM 3/4**

Session DF
RECORDING SYSTEMS I: CODING, DETECTION AND EQUALIZATION

Yoshihiro Okamoto, Chair
Ehime University

2:00 **DF-01. Design Parameter Optimization for Perpendicular Magnetic Recording Systems.** P. Chaichanavong[2], H. Bertram[1] and *P.H. Siegel*[1] *1. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA, USA; 2. Marvell Semiconductor, Inc., Sunnyvale, CA, USA*

2:30 **DF-02. Performance and Maximum-Likelihood Bounds for Reed-Solomon Codes on Partial-Response Channels.** R.M. Todd[1] and *J.R. Cruz*[1] *1. Electrical and Computer Engineering, University of Oklahoma, Norman, OK, USA*

2:45 **DF-03. Concatenating a Structured LDPC Code and An RLL Code to Preserve Soft-Decoding, Structure, and Burst Correction.** *Y. Han*[1] and W.E. Ryan[1] *1. Electrical and Computer Engineering, University of Arizona, Tucson, AZ, USA*

3:00 **DF-04. Structured LDPC Codes with Reversed MTR/ECC for Magnetic Recording Channels.** *T. Kanaoka*[1] and T. Morita[1] *1. FUJITSU LABORATORIES, Atsugi, kanagawa, Japan*

3:15 **DF-05. Pattern Dependent Noise Predictive Belief Propagation.** *M.N. Kaynak*[1], T.M. Duman[2] and E.M. Kurtas[3] *1. STMicroelectronics, San Diego, CA, USA; 2. Arizona State University, Tempe, AZ, USA; 3. Seagate Technology, Pittsburgh, PA, USA*

3:30 **DF-06. A robust detector based on combination of PR1 and EEPR4 for perpendicular magnetic recording.** *S. Mita*[1] *1. Toyota Technological Institute, Nagoya, Japan*

3:45 **DF-07. Look-Ahead Maximum-Likelihood Data Detector For Optical Disk Drives.** *G. Sonu*[1], Y. Kim[2] and J. Lee[2] *1. SoC, Samsung Electronics Corp., San Jose, CA, USA; 2. Optical Storage, Samsung Electronics Corp., Kiheung, South Korea*

4:00 **DF-08. CRC Codes Based on a Non-Primitive Generator Polynomial: A New Error Control Scheme Targeting a Prescribed Set of Error Patterns.** *J. Park*[1] and J. Moon[1] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

4:15 **DF-09. Joint Timing Recovery and Data Detection for High Density Perpendicular Recording.** *J. Moon*[1] and J. Lee[1] *1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA*

4:30 **DF-10. Turbo Equalization as a Postprocessor for Partial-Response Channels.** *B.M. Kurkoski*[1] and K. Yamaguchi[1] *1. Dept. of Information and Communications Engineering, University of Electro-Communications, Chofu, Tokyo, Japan*

4:45 **DF-11. Cyclic Equalization and Channel Identification for Magnetic Tape Recording Systems Using the Data Set Separator (DSS).** *S. OELCER*[1], E. ELEFTHERIOU[1] and R.A. HUTCHINS[2] *1. IBM Research, Rueschlikon, Switzerland; 2. IBM Tucson, Tucson, AZ, USA*

WEDNESDAY AFTERNOON 1:00

GRAND BALLROOM

Session DP
PERMANENT MAGNET MOTORS I (POSTER SESSION)

Akimitzu Morisako, Chair
Shinshu University

DP-01. Development of 2phase/4phase flat-type vibtration motor. *S. Won*[1] and J. Lee[1] *1. Electrical Eng., Hanyang University, Seoul, South Korea*

DP-02. A New Design Approach Of An Ultra High-Speed Permanent Magnet Synchronous Motor (PMSM) System. L. Zhao[1], *H. Chan*[2] and T. Wu[2] *1. Siemens, columbia, SC, USA; 2. Univeristy of Central Florida, Orlando, FL, USA*

DP-03. Comparison of various magnetic circuits of integrated microspeakers and dynamic receiver used for mobile phones. *S. Hwang*[1], J. Kwon[1] and G. Hwang[2] *1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea; 2. Information and Communication Engineering, Youngsan University, Yangsan, Kyongnam, South Korea*

DP-04. Analysis of a Disc-type Permanent Linear Motor for Beam Pumping Unit. *Q. Lu*[1], C. Fan[1], Y. Ye[1] and Z. Zhu[2] *1. College of Electrical Engineering, Zhejiang university, P.R.China, Hangzhou, China; 2. Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom*

DP-05. The Design of Permanent Magnet Synchronous Motor Considering Partial Demagnetization on the Permanent Magnet. *K. Kim*[1], S. Lim[1] and J. Lee[1] *1. Dept. of electrical engineering, hanyang university, seoul, South Korea*

DP-06. Design of a Miniature Axial Flux Spindle Motor with Rhomboidal PCB Winding. *L. Hsu*[1], M. Tsai[2], C. Wu[2] and M. Tsai[1] *1. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan; 2. Metal Industries Research & Development Centre, Kaohsiung, Taiwan*

DP-07. The Shape Optimization of Permanent Magnet to Improve Control Ability in Moving Magnet Type PMLSM. *L. Dong Yeup*[1], K. Gyu Hong [2] and K. Gyu Tak[1] *1. Electrical Engineering, changwon national university, changwon, Gyeongnam, South Korea; 2. Motor-Net International CO., Puchon, South Korea*

DP-08. Design optimization for torque maximization of BLAC motor using response surface methodology. *S. Hwang*[1], H. Lee[1] and G. Hwang[2] *1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea; 2. Information and Communication Engineering, Youngsan University, Yangsan, Kyongnam, South Korea*

DP-09. Compact Low Power-Consuming Actuator for Camera Image Stabilizer. *C. Ke*[1] and Y. Huang[1] *1. Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan*

DP-10. Analysis of Static Characteristics in a Slotless Type Permanent Magnet Machines Based on the Concept of Transfer Relations. *H. Cho*[1], J. Choi[1] and S. Jang[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

DP-11. Influence of magnetic force upon noise of IPM motor used in compressor. *S. Hwang*[1], H. Lee[1] and Y. Jeung[1] *1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea*

WEDNESDAY AFTERNOON 1:00 — GRAND BALLROOM

Session DQ
PERMANENT MAGNET MOTORS II (POSTER SESSION)

Saibal Roy, Chair
Tyndall National Institute

DQ-01. Design and Analysis of New Doubly Salient Permanent Magnet Motors with Minimum Torque Ripples. *Y. Fan*[1] and c. KT[1] *1. The University of Hong Kong, Hong Kong, China*

DQ-02. Electromagnetic micro power generator on Silicon for wireless sensor nodes. S. Kulkarni[1], *S. Roy*[1], T. O'Donnell[1], S. Beeby[2] and J. Tudor[2] *1. Energy Processing for ICT, Tyndall National Institute, Cork, Ireland; 2. School of Electronics and Computer Science, University of Southampton, Southampton, Southampton, United Kingdom*

DQ-03. Design and Control of a PM Brushless Hybrid Generator for Wind Power Application. K. Chau[1], Y. Li[2], J. Jiang[3] and *S. Niu*[1] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. School of Electrical Engineering, Shandong University, Shandong, China; 3. Department of Automation, Shanghai University, Shanghai, China*

DQ-04. Modeling of Ironless Permanent Magnet Planar Motor Structures. *J. de Boeij*[1], E. Lomonova[1] and A.J. Vandenput[1] *1. Electrical Engineering, Eindhoven University of Technology, Eindhoven, Noord-Brabant, Netherlands*

DQ-05. Analytical Force Calculations and Scaling Effects for Cylindrical and Cuboidal Micro-Magnets. *J. Agashe*[1] and D. Arnold[1] *1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA*

DQ-06. Development of a multi magnetic property member for permanent magnet motor. M. Mita[1] and *M. Masuzawa*[1] *1. HMRL, Hitachi Metals, Ltd., Kumagaya, Saitama, Japan*

DQ-07. Application of Polar Anisotropic Sintered NdFeB Ring-type Permanent Magnet to Brushless DC Motor. *H. Kim*[1], C. Koh[2], D. Kim[1] and G. Kang[3] *1. R&D center, Jahwa Electronics Co. Ltd., Cheongju, Chungbuk, South Korea; 2. School of ECE, Chungbuk National University, Cheongju, Chungbuk, South Korea; 3. R&D center, Motor-Net International Co. Ltd., Puchon, Kyunggi, South Korea*

DQ-08. Performance Prediction of Multi-Phase Doubly Salient Permanent Magnet Motor having Non-Uniform Air-gap. *R. Angara*[1] and K. Rajagopal[2] *1. R&D Compessor, LG Electronics India Pvt Ltd, Greater Noida, Uttar Pradesh, India; 2. Electrical Engineering Dept, Indian Institute of Technology, New Delhi, Delhi, India*

WEDNESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DR
MICROMAGNETIC MODELING II (POSTER SESSION)

Werner Scholz, Chair
Seagate

DR-01. Micromagnetic simulation of magnetic switching process driven by current and magnetic field. *J. Zhao*[1], S. Zhao[1], X. Han[1], D. WATANABE[2], Y. ANDO[2] and T. MIYAZAKI[2] *1. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Science, Beijing, China; 2. Department of Applied Physics, Graduate School of Engineering, Tohoku University, sendai, Japan*

DR-02. Effect of angle-dependent Gilbert damping due to spin pumping on the magnetization dynamics induced by spin current. *W. Kim*[1], K. Lee[2] and T. Lee[1] *1. Dept. of Mater. Sci. & Eng., Korea Adv. Inst. of Sci. and Technol., Daejon, South Korea; 2. Dept. of Mater. Sci. & Eng., Korea University, Seoul, South Korea*

DR-03. Contribution of non-uniform magnetic states on Gilbert-damping in perpendicular media. *J. Lee*[1,2], D. Suess[2], T. Schrefl[3], K. Oh[1] and J. Fidler[2] *1. Materials Science and Engineering, Seoul National University, Seoul, South Korea; 2. Institute of Applied and Technical Physics, Vienna University of Technology, Vienna, Austria; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

DR-04. Perpendicular magnetic recording process simulation using finite element micromagnetic. *C.K. Lim*[1], E.S. Kim[1], Y.S. Kim[1] and H.S. Oh[1] *1. Nano Device Lab, Samsung Advanced Institute of Technology, Suwon, Kyonggi-Do, South Korea*

DR-05. Lateral Size Dependence of Pac-man shaped $Ni_{80}Fe_{20}$ Element on Magnetization Reversal. *J. Jabal*[1], Y. Hong[1], B. Choi[2], H. Han[1], S. Gee[1], G. Abo[3], J. Hass[3] and G. Donohoe[3] *1. Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 2. Physics and Astronomy, University of Victoria, Vancouver, BC, Canada; 3. Electrical and Computer Engineering, University of Idaho, Moscow, ID, USA*

DR-06. Numerical Simulation Study of Magnetization Precession Dynamics in Submicron Elliptical $Ni_{80}Fe_{20}$ Thin Film Elements. *B. Choi*[1], Q. Xiao[1], Y. Hong[2], S. Gee[2], J. Jabal[2], H. Han[2], K. Hass[3] and G. Donohoe[3] *1. Dept. of Physics & Astronomy, University of Victoria, Victoria, BC, Canada; 2. Dept. of Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 3. Dept. of Electrical and Computer Engineering, University of Idaho, Moscow, ID, USA*

DR-07. Micromagnetic Simulations on the Dependence of Gilbert Damping on Domain Wall Velocities in Magnetic Nanowires. *A. Kunz*[1] and B. Kastor[1] *1. Physics, Marquette University, Milwaukee, WI, USA*

DR-08. A Methodology for Finite-Element Modeling of Magnetic Inductive Devices with In-Plane Multidomain Pattern. *J.C. Jury*[1,2] and S.X. Wang[1,3] *1. Electrical Engineering, Stanford University, Stanford, CA, USA; 2. Seagate Technology, Shakopee, MN, USA; 3. Materials Science, Stanford University, Stanford, CA, USA*

DR-09. Wave Propagation in Magnetic Substrates with Non-uniform Internal Field Distribution. *A.V. Farahani*[1] and A. Konrad[1] *1. Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada*

DR-10. Dynamics of the Nucleus of Magnetization Reversal in a Ferro- and Antiferromagnet. M. Shamsutdinov[1], *V. Nazarov*[2] and I. Lomakina[1] *1. Bashkir State University, Ufa, Russian Federation; 2. Institute of Molecular and Crystall Physics of Russian Academy of Sciences, Ufa, Russian Federation*

DR-11. Interaction effects analysis of dense nanowire systems FMR spectrum. *I. Dumitru*[1], L. Spinu[2], F. Li[3], J.B. Wiley[3], D. Cimpoesu[2] and A. Stancu[1] *1. Department of Solid State and Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Iasi, Romania; 2. AMRI and Department of Physics, University of New Orleans, New Orleans, LA, USA; 3. Department of Chemistry, University of New Orleans, New Orleans, LA, USA*

DR-12. Modelling of the self- demagnetization factor of bonded magnets. *L.T. Tu*[1,3], N. Vuong[3], C. Kim[1,2] and C. Kim[1,2] *1. Materials Science and Engineering, Chungnam National University, Daejeon, South Korea; 2. Research Center for Advanced Magnetic Materials, Chungnam National Univeristy, Daejeon, South Korea; 3. Institute of Materials Science, VAST,18 Hoang Quoc Viet, Cau Giay,, Ha noi, Viet Nam*

WEDNESDAY AFTERNOON 1:00

GRAND BALLROOM

Session DS
COMPUTATIONAL MAGNETISM II (POSTER SESSION)

Dieter Suess, Chair
Vienna University of Technology

DS-01. Using The Particle Swarm Evolutionary Approach in Shape Optimization and Field Analysis of Devices Involving Non-linear Magnetic Media. *A.A. Adly*[1] and S.K. Abd-El-Hafiz[2] *1. Elect. Power & Machines Dept., Cairo University, Giza, Egypt; 2. Engineering Mathematics Dept., Cairo University, Giza, Egypt*

DS-02. A Subregion Expansion Method for Computational Electromagnetics. D. Chen[1], K. Shao[1], X. Hu[1], Y. Guo[2] and *J. Lavers*[3] *1. College of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, Hubei Province, China; 2. Faculty of Engineering, University of Technology, Sydney, NSW, Australia; 3. Department of Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada*

DS-03. Influence of array on the transmittance of 1-D magnetic photonic crystals. *M. Huang*[1], Y. Lu[1], P. Kim[1], S. Park[1], Y. Lee[1], K. Kim[2] and J. Rhee[3] *1. Physics, Hanyang University, Seoul, South Korea; 2. Physics, Sunmoon University, Asan, Choongnam, South Korea; 3. Physics, Sungkyunkwan University, Suwon, Kyungki-Do, South Korea*

DS-04. Fuzzy Modeling of the Earth's Magnetic Field. *N.K. Verma*[1] and M. Hanmandlu[1] *1. Electrical Engineering, IIT Delhi, New Delhi, Delhi, India*

DS-05. Analysis of Complex Transverse Susceptibility Method for Determination of Volume and Anisotropy Field Distributions in Recording Media. D. Cimpoesu[1,2], A. Stancu[2] and *L. Spinu*[3,4] *1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Faculty of Physics, Al I. Cuza University, Iasi, Romania; 3. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 4. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, USA*

DS-06. FORC Analysis of Size Effects in Ising-Type Models of Disordered Magnets. *C. Enachescu*[1] and A. Stancu[1] *1. Department of Solid State and Theoretical Physics, Alexandru Ioan Cuza University, Iasi, Romania*

DS-07. Using experimental FORC distribution as input for a Preisach-type model. *L. Stoleriu*[1] and A. Stancu[1] *1. Faculty of Physics, Alexandru Ioan Cuza University, Iasi, Romania*

DS-08. Interaction Field Distribution in Longitudinal and Perpendicular Structured Particulate Media. *A. Stancu*[1] and E. Macsim[1] *1. Department of Solid State and Theoretical Physics, Faculty of Physics, Alexandru Ioan Cuza University, Iasi, Romania*

DS-09. Temperature dependence of interaction field distribution in nanostructured materials. *D. Cimpoesu*[1,2], L. Spinu[3,4] and A. Stancu[1] *1. Department of Solid State and Theoretical Physics, Al. I. Cuza University, Faculty of Physics, Iasi, Romania; 2. Advanced Materials Research Institute (AMRI), University of New Orleans, New Orleans, LA, USA; 3. AMRI and Department of Physics, University of New Orleans, New Orleans, LA, USA; 4. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, USA*

WEDNESDAY AFTERNOON 1:00

GRAND BALLROOM

Session DT
RECORDING PHYSICS - MOSTLY EXPERIMENTAL (POSTER SESSION)

Tom Arnoldussen, Chair
Komag

DT-01. An Experimental Study of the Effect of Frequency and Write Current Overshoot on Overwrite in Perpendicular Recording. *W. Zhu*[1], P. Lu[1], S. Li[1], Z. Jin[1] and D. Palmer[1] *1. Seagate, Bloomington, MN, USA*

DT-02. Nonlinearities and Proper Pre-compensation in Perpendicular Magnetic Recording. K. Seki[1], *K. Miura*[1], M. Hashimoto[1], H. Muraoka[1], H. Aoi[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan*

DT-03. Transition curvature analysis for high TPI applications. *X. Che*[1] and N. Kim[1] *1. Samsung Information Systems America, San Jose, CA, USA*

DT-04. Side-shielded TGMR reader with track width reduction scheme. *Y. Zheng*[1], G. Han[1], K. Li[1], Z. Guo[1], J. Qiu[1], S. Tan[1], Z. Liu[1], B. Liu[1] and Y. Wu[2] *1. Spintronics, Media and Interface Division, Data Storage Institute, Singapore, Singapore; 2.) Department of Electrical and computer Engineering, National University of Singapore, Singapore, Singapore*

DT-05. Reader Saturation Effects in Transition Parameter Measurements. *C. Fu*[1] and H.N. Bertram[2] *1. Seagate Technology, Bloomington, MN, USA; 2. Center for Magnetic Recording Research, Univeristy of California, San Diego, La Jolla, CA, USA*

DT-06. Analysis of Magnetization Patterns in Perpendicular Recording Using Absolute Best Basis Wavelet Representation. *V.B. Sapozhnikov*[1], V. Nandakumar[1], A. van der Schans[1] and N. Tabat[1] *1. Seagate Technology, Minneapolis, MN, USA*

DT-07. Areal Density Estimates at Increased Flying Height for Perpendicular Recording on Removable Media. *W.D. Huber*[2,1] *1. Work completed while formerly with, StorCard Incorporated, San Jose, CA, USA; 2. Presently with, Western Digital Corporation, San Jose, CA, USA*

DT-08. A Study of Thermal Decay Waveform Model in Perpendicular Recording System. *Y. Nishida*[1] and I. Tagawa[1] *1. Central Research Laboratory, Hitachi, Ltd., Odawara, Kanagawa, Japan*

WEDNESDAY AFTERNOON 1:00 GRAND BALLROOM

Session DU
SOFT MAGNETIC MATERIALS AND APPLICATIONS II (POSTER SESSION)

Rudolph Schäfer, Chair
IFW Dresden

DU-01. An Integrated LTCC Inductor Embedding NiZn Ferrite. *H. Kim*[1], Y. Kim[1] and J. Kim[2] *1. Electrical and Computer Eng., Hanyang University, Ansan, Kyunggi-do, South Korea; 2. Metallurgical and Materials Eng., Hanyang University, Ansan, Kyunggi-do, South Korea*

DU-02. $BaCo_{2-x}Zn_xFe_{24}O_{41}$ ($0 \le x \le 2$) ferrites processed by mechanical alloying for LTCC Processing. *S. Gee*[1], Y. Hong[1], J. Sur[2] and C. Weatherspoon[1] *1. Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 2. Physics, Wonkwang University, Iksan, South Korea*

DU-03. Development of Measuring Equipment of DC-Biased Magnetic Properties Using of Open Type Single Sheet Tester. T. Yoshida[1], M. Nakano[1], *D. Miyagi*[1], K. Fujiwara[1] and N. Takahashi[1] *1. Okayama University, Okayama, Japan*

DU-04. A three phase core-type transformer iron core model with included magnetic cross saturation. *M. Dolinar*[1], D. Dolinar[2], G. Stumberger[2], B. Polajzer[2] and J. Ritonja[2] *1. Faculty of Electrical Engineering, University of Ljubljana, Ljubljana, Slovenia; 2. Faculty of Electrical Engineering and Computer Science, University of Maribor, Maribor, Slovenia*

DU-05. Application of a Method Utilizing an Electromagnet to the Measurement of the Magnetic Properties of Non-Oriented Electrical Steel Sheets. *K. Fujiwara*[1] and M. Nakano[1] *1. Department of Electrical and Electronic Engineering, Okayama University, Okayama, Japan*

DU-06. Effects of Non-Uniform Air-gap on the Performance of Multi-Phase Doubly Salient Permanent Magnet Motors. *R. Angara*[1] and K. Rajagopal[2] *1. R&D Compessor, LG Electronics India Pvt Ltd, Greater Noida, Uttar Pradesh, India; 2. Electrical Engineering Department, Indian Institute of Technology, New Delhi, Delhi, India*

DU-07. Rotational Loss Characterization using Finite Element Analysis. *A.T. Wilder*[1] and S. Stanton[2] *1. Center for Electromechanics, The University of Texas at Austin, Austin, TX, USA; 2. Ansoft Corporation, Pittsburgh, PA, USA*

DU-08. Cobalt Effects on the Structure, Electrical and Magnetic Properties of $La_{0.7}Ca_{0.3}Mn_{1-x}Co_xO_3$(x=0~0.05) Manganite Oxide. *G. Chon*[1], H. Lim[1], B. Koo[1], C. Lee[1] and M. Jung[2] *1. School of Nano & Advanced Meterials Engineering, Changwon University, Changwon, South Korea; 2. Quantum Material Research Team, Korea Basic Science Institute, Daejeon, South Korea*

DU-09. Role of ferrites in negative index metamaterials. *Y. He*[1], P. He[1], N. Sun[1], V. Harris[1] and C. Vittoria[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA*

DU-10. A rational method based on spherical harmonic expansion to size an efficient magnetically shielded room. *l. schmerber*[1], L. Rouve[1], A. Foggia[1] and J. Bongiraud[1] *1. LMN-ENSIEG, GRENOBLE, France*

DU-11. Computer Simulation of Characteristics of 0.15 cm^3 Magneto-dielectric Single Meander Inverted F Antenna. S. Bae[1], Y. Hong[2] and *S. Gee*[2] *1. Samsung Electro-Mechanics Co., Ltd., Suwon, South Korea; 2. Materials Science and Engineering, University of Idaho, Moscow, ID, USA*

DU-12. Small DVB-H antennas using ferrites substrate. *I. Kim*[1], S. Bae[1], J. Lee[1], J. Kim[2] and Y. Hong[3] *1. Central R&D Institute, Samsung Electro-Mechanics, Suwon, Kyunggi-do, South Korea; 2. Department of Metallurgy and Materials Engineering, Hanyang University, Ansan, Kyunggi-do, South Korea; 3. Department of Materials Science and Engineering, University of Idaho, Moscow, ID, USA*

DU-13. Analysis of Minor Hysteresis Loops in Cold Rolled Low Carbon Steel. *S. Takahashi*[1], S. Kobayashi[1], Y. Kamada[1] and H. Kikuchi[1] *1. NDE&Science Research Center, Iwate University, Morioka, Japan*

WEDNESDAY AFTERNOON 1:00

GRAND BALLROOM

Session DV
MAGNETIC SEMICONDUCTORS II (POSTER SESSION)

Hoa Hong Nguyen, Chair
University F. Rabelais

DV-01. Enhancement of Ferromagnetism in Laser-deposited (Zn,Mn)O Thin Films Codoped by Mg and P with p-type Conductivity. H. Kim[1], *H. Kim*[2], D. Kim[2], Y. Ihm[2] and W. Choo[1] *1. Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Materials Science and Engineering, Chungnam National University, Daejeon, South Korea*

DV-02. Structural, Optical and Magnetic Characterization of Monodisperse Transition Metal-Doped ZnO Nanocrystals for Potential Spintronics Applications. O. Perales-Perez[1], M.S. Tomar[2], *A. Parra*[2], A. Ruiz-Mendoza[3], C. Rinaldi[3], W. Yia[2] and P. Voyles[4] *1. General Engineering-Materials Science and Engineering, University of Puerto Rico, Mayaguez, Puerto Rico; 2. Physics Department, University of Puerto Rico, Mayaguez, Puerto Rico; 3. Chemical Engineering, University of Puerto Rico, Mayaguez, Puerto Rico; 4. Materials Science and Engineering, University of Wisconsin, Madison, WI, USA*

DV-03. Effects of Oxygen Compensation in Fe-Doped TiO_2. *H. Lee*[1], S. Kim[1], I. Shim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul 136-702, South Korea*

DV-04. Magnetic Properties and Electronic Structure of Cr Diffused SiC(100). *Y. Kim*[1] and Y. Chung[1] *1. Ceramic Engineering, Hanyang University, Seoul, South Korea*

DV-05. Magnetotransport in ferromagnetic pn-diode of (Ga,Mn)As and (Ga,Mn)N. *H. Holmberg*[1], N. Lebedeva[1], S. Novikov[1], P. Kuivalainen[1], M. Malfait[2] and V.V. Moshchalkov[2] *1. Electron Physics Laboratory, Helsinki University of Technology, Espoo, Finland; 2. Laboratorium voor Vaste-Stoffysica en Magnetisme, Katholieke Universiteit Leuven, Leuven, Belgium*

DV-06. Observation of disorder induced crossover in the underlying mechanism for the anomalous Hall Effect and intrinsic spin currents in $Ga_{1-x}Mn_xAs$. S.H. Chun[1], Y.S. Kim[2], H.K. Choi[2], I.T. Jeong[2], W.O. Lee[2], K.S. Suh[2], Y.S. Oh[2], K.H. Kim[2], Z.G. Khim[2], J.C. Woo[2] and *Y.D. Park[2] 1. Dept. of Physics and Institute of Fundamental Physics, Sejong University, Seoul, South Korea; 2. School of Physics, Seoul National University, Seoul, South Korea*

WEDNESDAY AFTERNOON 1:00 **GRAND BALLROOM**

Session DW
MAGNETORESISTIVE OXIDES AND HALF-METALLIC MATERIALS (POSTER SESSION)

Marco Liberati, Chair
LBNL
Sebastiaan van Dijken, Chair
Trinity College Dublin

DW-01. Mechanism of the Tensile-Strain Effect in La0.67Ca0.33MnO3 and La0.8Ba0.2MnO3 Thin Films. *F. Yuan*[1], S. Hsu[1], C. Wu[1], C. Lin[1], H. Chou[1] and C. Lin[2] *1. Physics and Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University, Kaohsiung, Taiwan; 2. Physics, National Chiao Tung University, Hsinchu, Taiwan*

DW-02. Increase of the Dielectric Constant near a Magnetic Transition in La0.5Ca0.5MnO3. P. Botta[1], J. Mira[1], A. Fondado[1] and *J. Rivas[1] 1. Fisica Aplicada, Universidad de Santiago de Compostela, Santiago de Compostela, La Coruna, Spain*

DW-03. Magnetite films grown directly on organic semiconductor layers. *V. Dediu*[1], E. Arisi[1], I. Bergenti[1], A. Riminucci[1], M. Murgia[1] and G. Ruani[1] *1. ISMN-CNR, Bologna, BO, Italy*

DW-04. Magnetization reversal in half metallic Fe_3O_4 based pseudo spin valve nanomagnet arrays. *D. Tripathy*[1], A.O. Adeyeye[1] and N. Singh[2,1] *1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore*

DW-05. Magnetic Moment of Ultrathin Epitaxial Fe_3O_4 Films on GaAs(100). Y. Zhai[1,2], Y. Lu[1], C. Ni[2], G. Li[1], D. Niu[1], P. Wong[1], *Y. Xu*[1] and H. Zhai[3] *1. Spintronics Laboratory, Department of Electronics, University of York, York, Yorkshire, United Kingdom; 2. Department of Physics, Southeast University, Nanjing, Jiangsu, China; 3. National Laboratory of Solid Microstructures, Center for Materials Analysis, Nanjing University, Nanjing, Jiangsu, China*

DW-06. Epitaxial growth of full-Heusler alloy Co_2MnSi thin films on MgO-buffered MgO substrates. *H. Kijima*[1], T. Ishikawa[1], T. Marukame[1], H. Koyama[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Hokkaido University, Sapporo, Japan*

DW-07. Microstructure, Magnetic Properties, and Spin Polarization of Quaternary Heusler Alloys. *S.V. Karthik*[1,2], A. Rajanikanth[1,2], Y. Takahashi[2] and K. Hono[2,1] *1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan; 2. Metallic Nanostructures Group, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

DW-08. Magnetoresistive devices based on epitaxial NiMnSb layers with built-in anisotropy. J. Lui[1], P. Bach[1], E. Girgis[1], C. Ruester[1], *C. Gould*[1], G. Schmidt[1] and L. Molenkamp[1] *1. EP3, University of Wuerzburg, Wuerzburg, Germany*

DW-09. Spin polarization of Co_2MnGe and Co_2MnSi thin films with A2 and $L2_1$ structures. *A. Rajanikanth*[1,2], Y. Takahashi[2] and K. Hono[2,1] *1. Graduate school of Pure and Applied Sciences, University of Tsukuba, Japan, Tsukuba, Ibaraki, Japan; 2. Metallic Nano structures group, National Institute for Materials Science, Tsukuba, Ibaraki, Japan*

DW-10. Zinc-Blende Structure of CrTe Epilayers Grown on GaAs. *M. Sreenivasan*[1,3], K. Teo[1], A. Du[2], M. Jalil[1] and T. Liew[3] *1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Science Park II, Singapore, Singapore; 3. Data Storage Institute, 5 Engineering Drive 1, Singapore, Singapore*

DW-11. New materials for spintronics: $CuCr_2Se_4$. *M. Liberati*[1,2], J. Neulinger[3], R. Chopdekar[4,5], E. Arenholz[2], Y. Suzuki[4], A. Stacy[3] and Y. Idzerda[1] *1. Department of Physics, Montana State University, Bozeman, MT, USA; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Department of Chemistry, UC Berkeley, Berkeley, CA, USA; 4. Department of Materials Science and Engineering, UC Berkeley, Berkeley, CA, USA; 5. Department of Applied Physics, Cornell University, Ithaca, NY, USA*

DW-12. Transport Properties of Half-metal-Polymer Composite. *S.R. Mishra*[1], J. Losby[1] and K. Ghosh[2] *1. Physics, The University of Memphis, Memphis, TN, USA; 2. Physics, Astronomy and Materials Science, Missouri State University, Springfield, MO, USA*

DW-13. Spin transport in Sb thin films. *S. Kim*[1,2], J. Eom[1,2], J. Chang[1] and S. Han[1] *1. Nano Device Research Center, Korea Institute of Science & Technology, Seoul, South Korea; 2. Department of Physics, Sejong University, Seoul, South Korea*

DW-14. Graphene Based Spin Valve Devices. *E. Hill*[1], A.K. Geim[2], K.S. Novoselov[2], P. Blake[1] and F. Schedin[1] *1. School of Computer Science, University of Manchester, Manchester, United Kingdom; 2. School of Physics and Astronomy, University of Manchester, Manchester, Lancs, United Kingdom*

THURSDAY MORNING 9:00 — TOWN AND COUNTRY

Session EA
SYMPOSIUM ON ADVANCES IN MAGNETIC CHARACTERIZATION AND IMAGING

John Chapman, Chair
Glasgow

9:00 EA-01. Chip Scale Atomic Magnetometers. ***(Invited)*** *P. Schwindt*[1], B.J. Lindseth[1,3], S. Knappe[1], V. Shah[1,3], L. Liew[2], J. Moreland[2], L. Hollberg[2] and J. Kitching[1] *1. Time and Frequency Division, NIST, Boulder, CO, USA; 2. Electromagnetics Division, NIST, Boulder, CO, USA; 3. University of Colorado, Boulder, CO, USA*

9:30 EA-02. Ultra-sensitive atomic magnetometers and their applications. ***(Invited)*** *M. Romalis*[1] *1. Physics Department, Princeton University, Princeton, NJ, USA*

10:00 EA-03. LTS SQUID – Microscopy: A Leap in sensitivity?. ***(Invited)*** *F. Baudenbacher*[1,2], L.E. Fong[2], J.R. Holzer[1], E.A. Lima[1] and K. McBride[2] *1. BioMedical Engineering, Vanderbilt University, Nashville, TN, USA; 2. Physics and Astronomy, Vanderbilt University, Nashville, TN, USA*

10:30 EA-04. Ferromagnet-coated carbon nanotube tips for high-resolution magnetic force microscopy. ***(Invited)*** *K.A. Moler*[1] *1. Applied Physics, Stanford University, Stanford, CA, USA*

11:00 **EA-05. A View on Fast Magnetization Dynamics: Studies by XPEEM.** ***(Invited)*** *C.M. Schneider*[1], I. Krug[1], F. Hillebrecht[1], M. Bolte[2], A. Krasyuk[3], A. Oelsner[3], S.A. Nepijko[3], H. Elmers[3] and G. Schoenhense[3] *1. IFF, Research Center Juelich, Juelich, Germany; 2. Inst. f. Angewandte Physik u. Zentrum f. Mikrostrukturforschung, Universitaet Hamburg, Hamburg, Germany; 3. Inst. f. Physik, Universitaet Mainz, Mainz, Germany*

11:30 **EA-06. Imaging Magnetic Nanostructures by Resonant X-Ray Holography.** ***(Invited)*** *S. Eisebitt*[1], J. Luning[2], O. Hellwig[3], W.F. Schlotter[2], C. Gunther[1], F. Radu[1], J. Stohr[2] and W. Eberhardt[1] *1. BESSY, Berlin, Germany; 2. SSRL, SLAC, Menlo Park, CA, USA; 3. HGST, San Jose, CA, USA*

THURSDAY **SAN DIEGO**
MORNING
9:00

Session EB
MRAM

Jonathan Sun, Chair
IBM

9:00 **EB-01. Thermally Assisted Writing of Cells with IrMn Pinning Using 27 Nanosecond Pulses .** *A.V. Pohm*[1,2], J.M. Daughton[3] and J.G. Deak[3] *1. A. V. Pohm Consulting Inc., Ames., IA, USA; 2. Iowa State University, Ames, IA, USA; 3. Advanced Technology, NVE Corporation, Eden Prairie, MN, USA*

9:15 **EB-02. A Heat Interaction Investigation in Thermally Assisted MRAM.** *Z. Liu*[1], G. Han[1] and Y. Zheng[1] *1. Data Storage Institute, Singapore, Singapore*

9:30 **EB-03. Dynamic thermo-magnetic writing in tunnel junction cells incorporating two GeSbTe thermal barriers.** *R. Ferreira*[1,2], S. Cardoso[1,2] and P.P. Freitas[1,2] *1. INESC-MN, Lisbon, Portugal; 2. Physics, Instituto Superior Tecnico, Lisbon, Portugal*

9:45 **EB-04. Effect of Memory Element Resistance-Area-Product and Thermal Environment on Writing of Magneto-Thermal MRAM.** *J.G. Deak*[1], A.V. Pohm[1] and J.M. Daughton[1] *1. Advanced Technology, NVE Corporation, Eden Prairie, MN, USA*

10:00 **EB-05. 1.8V POWER SUPPY 16MBIT-MRAM WITH 40% ARRAY EFFICIENCY.** *H. Yoda*[1,2], T. Kai[1], Y. Iwata[2], S. Ikegawa[1], K. Tsuchida[1,2], Y. Asao[1,2] and T. Kishi[1] *1. Corporate R & D center, Toshiba, Kawasaki, Japan; 2. SOC R&D center, Ohfuna, Japan*

10:30 EB-06. Switching margin comparison of Stoner-Wohlfarth MRAM and biased zero total anisotropy toggle mode MRAM. *S. Wang*[1] and H. Fujiwara[1] *1. MINT, Dept. of Physics & Astronomy, University of Alabama, Tuscaloosa, AL, USA*

10:45 EB-07. Toggle MRAM with CoFeB-Based Synthetic Antiferromagnet Free Layers. *R.W. Dave*[1], J. Slaughter[1], S. Pietambaram[1], G. Steiner[1], N. Rizzo[1], J. Sun[1], K. Smith[1], M. DeHerrera[1] and S. Tehrani[1] *1. Technology Solutions Organization, Freescale Semiconductor, Inc., Chandler, AZ, USA*

11:00 EB-08. Multi-bit Cells Design for Toggle MRAM Applications. *K. Ju*[1] and O.C. Allegranza[1] *1. MagLabs Inc., Monte Sereno, CA, USA*

11:15 EB-09. Disturb robust switching astroid curve of C-shaped cell with weakly coupled synthetic antiferromagnetic layer. *M. Nakayama*[1], T. Kai[1], S. Ikegawa[1], H. Yoda[1], T. Kishi[1], E. Kitagawa[1], T. Nagase[1], M. Yoshikawa[1], Y. Asao[1] and K. Tsuchida[1] *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan*

11:30 EB-10. Switching Energy Barrier Study of Toggle MRAM Using a Novel Pulse Technique. *J. Janesky*[1], N.D. Rizzo[1], M. DeHerrera[1] and B.N. Engel[1] *1. Technology Solutions Organization, Freescale Semiconductor, Chandler, AZ, USA*

11:45 EB-11. Spin Transfer Switching in sub-100nm Magnetic Tunnel Junctions. *S. Assefa*[1], J.Z. Sun[1], N. Ruiz[1], D.C. Worledge[1], W.J. Gallagher[1], Y. Nagamine[2], D.D. Djayaprawira[2] and N. Watanabe[2] *1. IBM Watson Research Center, Yorktown Heights, NY, USA; 2. Electron Device Equipment Division, Canon ANELVA Corporation, 5-8-1, Yotsuya, Fuchu-shi, Tokyo 183-8508, Japan*

THURSDAY MORNING 9:00 **GOLDEN WEST**

Session EC
EXCHANGE BIAS AND ANISOTROPY

Axel Hoffmann, Chair
Argonne National Lab

9:00 EC-01. Finite size effects on the exchange bias properties of ferromagnetic/antiferromagnetic bilayers. ***(Invited)*** *V. Baltz*[1], J. Sort[2], A. Bollero[1], S. Landis[3], B. Rodmacq[1] and B. Dieny[1] *1. SPINTEC (CEA/CNRS), Grenoble, France; 2. ICREA, Barcelona, Spain; 3. CEA/LETI, Grenoble, France*

9:30 EC-02. Effect of Anisotropy and Exchange Bias on Reversal of Sub-100 nm Magnetic Dots. *I.V. Roshchin*[1], C. Li[1], Z. Li[1], J. Mejia-Lopez[2], D. Altbir[3], A.H. Romero[4], R.K. Dumas[5], K. Liu[5], X. Batlle[6] and I.K. Schuller[1] *1. Physics Department, University of California - San Diego, La Jolla, CA, USA; 2. Facultad de Fisica, Pontificia Universidad Catolica de Chile, Santiago, Chile; 3. Departamento de Fisica, Universidad de Santiago de Chile, Santiago, Chile; 4. Cinvestav, Unidad Queretaro, Queretaro, Qro, Mexico; 5. Physics Department, University of California - Davis, Davis, CA, USA; 6. Departamento de Fisica Fonamental, Universitat Barcelona, Barcelona, Catalonia, Spain*

9:45 EC-03. Observation of the coupling of ferromagnetic spins by antiferromagnetic spins with a spatial resolution of single grains. *H.J. Hug*[1,2], I. Schmid[2], P. Kappenberger[1], R. Sara[1], M. Parlinska[1], O. Hellwig[3] and E.E. Fullerton[3] *1. Nanoscale Materials Science, Empa, Duebendorf, Switzerland; 2. NCCR Nanoscale Science, University of Basel, Basel, Switzerland; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

10:00 EC-04. Investigation of Exchange Bias in Bilayer Systems with FORC Diagrams. *B. Negulescu*[1,2], R. Tanasa[2] and A. Stancu[2] *1. INESC-MN, Lisbon, Portugal; 2. Physics Faculty, Al. I. Cuza. University, Iasi, Romania*

10:15 EC-05. Relation between Microwave Complex Permeability and Ferromagnetic Fe-Si Layer Thickness in Mn-Ir/Fe-Si Exchange-Coupled Film. *M. Sonehara*[1], T. Sugiyama[1], T. Ishikawa[1], K. Inagaki[1], S. Ikeda[1], T. Sato[1], K. Yamasawa[1] and Y. Miura[1] *1. Department of Electrical and Electronic Engineering, Faculty of Engineering, Shinshu University, Nagano, Nagano, Japan*

10:30 EC-06. Magnetization reversal in the ferromagnetic layer, the antiferromagnetic layer and near the interface of exchange biased FeF_2 and MnF_2 systems. *E. Arenholz*[1], K. Liu[2], Z. Li[3] and I.K. Schuller[3] *1. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 2. University of California, Davis, CA, USA; 3. University of California - San Diego, La Jolla, CA, USA*

10:45 EC-07. Magnetic Structure in Exchange-coupled Antiferromagnet-Ferromagnet Thin Films. *R. Morales*[1,2], Z. Li[1], O. Petracic[1,3], X. Batlle[4], J. Alameda[2] and I. Schuller[1] *1. Physics Deparment, University of California San Diego, La Jolla, CA, USA; 2. Departamento de Fisica, Universidad de Oviedo, Oviedo, Asturias, Spain; 3. Department of Physics (EXSS), Imperial College London, London, SW72AZ, United Kingdom; 4. Departament de Fisica Fonamental, Universitat de Barcelona, Barcelona, Catalonia, Spain*

11:00 **EC-08. XMCD study of Mn-Ir/Co-Fe bilayers with giant exchange anisotropy.** *M. Tsunoda*[1], T. Nakamura[2], M. Naka[1], S. Yoshitaki[1], C. Mitsumata[3] and M. Takahashi[4,1] *1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. JASRI/SPring-8, Sayou-cho, Hyougo, Japan; 3. Advanced Electronics Research Laboratory, Hitachi Metals, Kumagaya, Saitama, Japan; 4. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan*

11:15 **EC-09. Large scale micromagnetic simulation for the exchange interaction between a polycrystalline antiferromagnet and a ferromagnet.** *J. Saha*[1] and R.H. Victora[2] *1. Department of Physics, University of Minnesota, Minneapolis, MN, USA; 2. Electrical Engineering and Computer Science, University of Minnesota, Minneapolis, MN, USA*

11:30 **EC-10. Positive exchange bias in Fe on antiferromagnetic semiconductor EuTe.** *W.A. Macedo*[1], W. Nunes[2], M.D. Martins[1], P.H. Rapll[3], R.B. Oliveira Jr.[1], P. Motisuke[3] and M. Knobel[2] *1. Laboratorio de Fisica Aplicada, Centro de Desenvolvimento da Tecnologia Nuclear, Belo Horizonte, MG, Brazil; 2. Instituto de Fisica Gleb Wataghin, UNICAMP, Campinas, SP, Brazil; 3. Laboratorio Associado de Sensores e Materiais, INPE, Sao Jose dos Campos, SP, Brazil*

THURSDAY MORNING 9:00 **CALIFORNIA**

Session ED
HEAD-DISK INTERFACE & TRIBOLOGY II

Vedantham Raman, Chair
Hitachi GST

9:00 **ED-01. Visualization of Dewetting of Molecularly Thin Lubricant on Magnetic Disks by Ellipsometric Microscopy.** *K. Fukuzawa*[1,2], T. Shimuta[1], T. Yoshida[1], H. Zhang[1] and Y. Mitsuya[1] *1. Department of Micro/Nano Systems Engineering, Nagoya University, Nagoya, Aichi, Japan; 2. PRESTO, JST, Kawaguchi, Saitama, Japan*

9:15 **ED-02. Enhanced Reliability of Hard Disk Drive by Vapor Corrosion Inhibitor.** *R. Wang*[1], R. Wendt[1], C. Brown[1], S. Lum[2], S. McCoy[2] and T. Karis[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA*

9:30 ED-03. Effect of molecular structure of PFPE lubricant on interaction at HDI in near contact operation. *Y. Sakane*[1], A. Wakabayashi[1], P.H. Kasai[1] and L. Li[2] *1. R&D, MORESCO, Kobe, Hyogo, Japan; 2. Center for Advanced Science and Technology, Ako-gun, Hyogo, Japan*

9:45 ED-04. Fomblin Multidentate Lubricants for Ultra-low Magnetic Spacing. B. Marchon[1], *X. Guo*[1], H. Deng[2], J. Burns[2] and T. Karis[1] *1. San Jose Research Center, Hitachi GST, San Jose, CA, USA; 2. Hitachi GST, San Jose, CA, USA*

10:00 ED-05. Reexamining Esca-thickness Metrology for Molecularly Thin Lubricant Films. *C. Pang*[1,2] and M. Bai[1] *1. State Key Laboratory of Solid Lubrication,Lanzhou Institute of Chemical Physics,CAS, Lanzhou, China; 2. Graduate School of the Chinese Academy of Sciences, Beijing, China*

10:15 ED-06. Cobalt Oxalate Formation on Thin Film Magnetic Recording Media. *T. Karis*[1], X. Guo[1], B. Marchon[1], V. Raman[2] and Y. Hsiao[3] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. San Jose Advanced Mechanical Integration, Hitachi Global Storage Technologies, San Jose, CA, USA; 3. San Jose Disk Development, Hitachi Global Storage Technologies, San Jose, CA, USA*

10:30 ED-07. Raman Spectroscopy and Nano Hardness Investigation of Carbon Overcoats Used in Hard Disks and Sliders. *R. Brunner*[1], A. Khurshudov[2], G.W. Tyndall[2] and F.E. Talke[1] *1. CMRR, La Jolla, CA, USA; 2. Samsung Information Systems America, San Jose, CA, USA*

10:45 ED-08. Friction and Heat at the Head Disk Interface caused by Thermal Protrusion Touchdown. *B. Knigge*[1], T. Suthar[2] and P.M. Baumgart[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Hitachi GST, San Jose, CA, USA*

11:00 ED-09. Drive integration of Active Flying-height Control Slider with Micro Thermal Actuator. *T. Shiramatsu*[1], M. KURITA[1], K. MIYAKE[1], M. SUK[1], S. OHKI[1], H. TANAKA[1] and S. SAEGUSA[2] *1. Advanced Technology, Hitachi Global Storage Technologies Japan,Ltd., Odawara, Kanagawa-ken, Japan; 2. Hiroshima University, Higashihiroshima, Hiroshima-ken, Japan*

11:15 ED-10. Two-Dimensional Flying-Height Modulation Mapping At Hdd Drive Level. *Y. Shimizu*[1] and J. Xu[1] *1. Hitachi. Co. Ltd., Odawara-shi, Kanagawa-ken, Japan*

11:30 **ED-11. Effect of Disk Waviness on Slider Dynamics.** *J. Xu*[1], J.D. Kiely[2], Y. Hsia[2] and F.E. Talke[1] *1. Center for Magnetic Recording Research, University of California, San Diego, La Jolla, CA, USA; 2. Seagate Technology, Pittsburgh, PA, USA*

11:45 **ED-12. Effects of Track-Seeking Motion on the Flying Attitudes of Ultralow Flying Sliders.** *J. Juang*[1], H. Kubotera[2] and D.B. Bogy[1] *1. Mechanical Engineering, University of California, Berkeley, Berkeley, CA, USA; 2. Magnetic Disk Drive Laboratory, Fujitsu Laboratories Ltd., Atsugi, Japan*

THURSDAY MORNING 9:00

ROYAL PALM 1/2

Session EE
HIGH FREQUENCY PROPERTIES AND DEVICES

Andrej Slavin, Chair
Oakland University

9:00 **EE-01. Periodic Table of Impurity Damping in Doped Permalloy Thin Films.** J.O. Rantschler[1,2], D. Pulugurtha[3,1], A.J. Shapiro[1], L.M. Connors[4,1], A.P. Chen[1,3], A. Castillo[1], B.B. Maranville[1], *R.D. McMichael*[1] and W.F. Egelhoff, Jr.[1] *1. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 3. Department of Electrical and Computer Engineering, George Washington University, Washington, DC, USA; 4. Physics and Astronomy Department, Rice University, Houston, TX, USA*

9:15 **EE-02. High power spin-transfer induced magnetization precession in synthetic antiferromagnetic layers pinned by exchange bias.** *A.M. Deac*[1,3], U. Ebels[1], Y. Liu[2], O. Redon[3,1], S. Petit[1], M. Li[2], P. Wang[2] and B. Dieny[3] *1. Spintec, CEA/CNRS, Grenoble, France; 2. Headway Technologies, Milpitas, CA, USA; 3. Leti, CEA, Grenoble, France*

9:30 **EE-03. Focusing of spin waves in YIG thin films.** *V. Venugopal*[1] and R.E. Camley[1] *1. Center for Magnetism and Magnetic Nanostructures, Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA*

9:45 EE-04. Wave Front Reversal of Magnetostatic Waves with Non-Reciprocal Dispersion. *V. Tyberkevych*[1], A.N. Slavin[1], G.A. Melkov[2], V.I. Vasyuchka[2] and V.V. Lazovskiy[2] *1. Department of Physics, Oakland University, Rochester, MI, USA; 2. Radiophysical Faculty, Kiev National Taras Shevchenko University, Kiev, Ukraine*

10:00 EE-05. Longitudinal and lateral finite size effects in NA-FMR measurements. G. Counil[1], J. Kim[1], T. Devolder[1], P. Crozat[1], *C. Chappert*[1], S. Zoll[2] and R. Fournel[2] *1. Institut d'Electronique Fondamentale, Orsay, France; 2. STMicroelectronics, Crolles 2 Alliance, Grenoble, France*

10:15 EE-06. Temperature dependence of the high frequency response of Permalloy thin films. G. Counil[1], P. Crozat[1], J. Kim[1], T. Devolder[1], *C. Chappert*[1], S. Zoll[2] and R. Fournel[2] *1. Institut d'Electronique Fondamentale, Orsay, France; 2. ST Microelectronics, Crolles 2 Alliance, Crolles, France*

10:30 EE-07. Correlations between dynamic and transport properties in a single spin valve sensor. . *N. BIZIERE*[1] and C. Fermon[1] *1. Service de Physique de l'Etat Condense/DRECAM, CEA Saclay, Gif sur Yvette, France*

10:45 EE-08. A Broadband Microwave Material Characterization Technique Using Grounded Coplanar Waveguide Configuration. *A. Sligar*[1] and R.K. Settaluri[1] *1. Oregon State University, Corvallis, OR, USA*

11:00 EE-09. Fabrication and Evaluation of the Directional Coupler Using CoFeB Metallic Magnetic Film/Polyimide Dielectric Film Hybrid Transmission Line. *K. Takizawa*[1], S. Mizuta[1], M. Nakazawa[1], T. Sato[1], K. Yamasawa[1], Y. Miura[1], Y. Miyake[2], M. Akie[2], Y. Uehara[2], M. Munakata[3] and M. Yagi[3] *1. Electrical and Electronic Engineering, Faculty of Engineering, Shinshu Univ., Nagano, Japan; 2. Fujitsu Limited, Nagano, Japan; 3. Energy Electronics Laboratory, Sojo Univ., Kumamoto, Japan*

11:15 EE-10. Magnetic Multilayer Films for Microwave Filter Application. *B.K. Kuanr*[1,2], A.V. Kuanr[3], R.E. Camley[1] and Z. Celinski[1] *1. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Zakir Husain College, Delhi University, Delhi, India; 3. Shaheed Rajguru College of Applied Science for Women, Delhi University, Delhi, India*

11:30 EE-11. Improvement of the Electromagnetic Properties in Composites with Flake-like Co_2Z Powders by Molten-salt Synthesis. *G. Lin*[1], Y. Wu[1] and Z. Li[1] *1. Temasek Laboratories, National University of Singapore, Singapore, Singapore*

11:45 **EE-12. Detection of High Frequency Magnetic Fields by a GMI Probe.** *K. Tan*[1], T. Komakine[1], K. Yamakawa[1], Y. Kayano[2], H. Inoue[2] and M. Yamaguchi[3] *1. Akita Research Institute of Advanced Technology, Akita, Japan; 2. Department of Electrical and Electronic Engineering, Akita University, Akita, Japan; 3. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan*

THURSDAY MORNING 9:00 — ROYAL PALM 3/4

Session EF
RECORDING PHYSICS
Hans Richter, Chair
Seagate

9:00 **EF-01. Measurement of Down-track Correlation for Perpendicular Magnetic Media with Various Exchange Coupling.** *K. Miura*[1], D. Sudo[1], M. Hashimoto[1], H. Muraoka[1], H. Aoi[1] and Y. Nakamura[1] *1. RIEC, Tohoku University, Sendai, Miyagi, Japan*

9:15 **EF-02. Adjacent Track Interference in Perpendicular Recording.** *A. Moser*[1], B.A. Wilson[1] and B. Lengsfield[1] *1. K75/C1, San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

9:30 **EF-03. Effect of write current waveform on magnetization and head field dynamics of perpendicular recording heads.** *W. Scholz*[1] and S. Batra[1] *1. Research, Seagate, Pittsburgh, PA, USA*

9:45 **EF-04. Observation of Recording Pole Instability in Perpendicular Recording.** *A. Taratorin*[1] and K.B. Klaassen[1] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

10:00 **EF-05. Return Field Induced Partial Erasure in Trailing Edge Shielded Perpendicular Writers.** *D.Z. Bai*[1], P. Luo[1], A. Torabi[1], D. Terrill[1], J. Wang[1], K. Stoev[1] and F. Liu[1] *1. Western Digital Corporation, Fremont, CA, USA*

10:15 **EF-06. Micromagnetic calculation of erasure fields in perpendicular recording.** *O.G. Heinonen*[1] *1. Seagate Technology, Bloomington, MN, USA*

10:30 **EF-07. Side-Track Erasure Processes in Perpendicular Recording .** *S. Li*[1], H. Zhang[1], P. Lu[1], W. Zhu[1], D. Brown[1] and D. Palmer[1] *1. Seagate Technology, Bloomington, MN, USA*

10:45 **EF-08. The Effects of Write Pole Dimensions and Soft Underlayer Thickness on Perpendicular Magnetic Recording Performance.** *D. Karns*[1] and T. Clinton[1] *1. Seagate Technologies, Pittsburgh, PA, USA; 2. Seagate Technology, Pittsburgh, PA, USA*

11:00 **EF-09. Localized Microwave Field Generation for Perpendicular Recording at Deep Subcoercivity.** *X. Zhu*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon Univ., Pittsburgh, PA, USA*

11:15 **EF-10. Spinstand Measurement of Head Keeper Spacing in Perpendicular Recording.** *Z. Jin*[1], C. Fu[1], Y. Zhou[1] and J. Fernandez-de-Castro[1] *1. Seagate Technology, Bloomington, MN, USA*

11:30 **EF-11. Magnetic Spacing Sensitivity of Perpendicular Recording.** *S. Gebredingle*[1], S. Gider[1] and R. Wood[1] *1. Hitachi GST, San Jose, CA, USA*

11:45 **EF-12. Analysis of written transition curvature in perpendicular magnetic recording for spin-stand testing.** *M. Hashimoto*[1], M. Salo[2], Y. Ikeda[3], A. Moser[3], R. Wood[2] and H. Muraoka[1] *1. Reserch Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Advanced Technology, Hitachi Global Storage Technologies, San Jose, CA, USA; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

THURSDAY MORNING 9:00 **ROYAL PALM 5/6**

Session EG
MAGNETOELASTIC AND OPTICAL MATERIALS

John Snyder, Chair
Iowa State University

9:00 **EG-01. Magnetoelastic Performance of <110> Aligned Polycrystalline $Tb_{0.3}Dy_{0.7}Fe_2$ in an Actuator.** L. Weng[1], B.W. Wang[1], Y. Sun[1], S.Y. Cao[1], W.M. Huang[1] and *S. Busbridge*[2] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin 300130, China; 2. School of Engineering, University of Brighton, Brighton, East Sussex, United Kingdom*

9:15 EG-02. Induced Tetragonal Magnetic Anisotropy in Stress Annealed Galfenol Alloys. J.B. Restorff[1], M. Wun-Fogle[1], *A.E. Clark*[2] and K.B. Hathaway[3] *1. Naval Surface Warfare Center, Carderock Division, West Bethesda, MD, USA; 2. Clark Associates, Adelphi, MD, USA; 3. University of Maryland, College Park, MD, USA*

9:30 EG-03. Structural and magnetic properties of $Tb_{0.27}Dy_{0.73}Fe_{2-x}Nb_x$ (x = 0, 0.05, 0.1 and 0.2). V. Hari Babu[1], *G. Markandeyulu*[1], A. Subrahmanyam[1], M. Palit[2] and S. Pandian[2] *1. Physics, Indian Institute of Technology, CHENNAI, India; 2. Magnetic Materials Group, Defence Metallurgical Research Labaratory, Hyderabad, India*

9:45 EG-04. Inhomogeneous Spin Reorientation Transition (SRT) in Giant Magnetostrictive TbCo2/FeCo Multilayers. A. Klimov[1], *N. Tiercelin*[2], V. Preobrazhensky[2] and P. Pernod[2] *1. LEMAC - MIREA, Moscow, Russian Federation; 2. LEMAC - IEMN, Villeneuve d'Ascq, France*

10:00 EG-05. Magnetism and Faraday Rotation in Ce-Substituted Orthoferrite. *M. Bolduc*[1], A. Rajamani[1], G.F. Dionne[1] and C.A. Ross[1] *1. Massachusetts Institute of Technology, Cambridge, MA, USA*

10:15 EG-06. New 3-D Shaped Fe-(Ga, Al) Magnetostrictive Alloys. *N. Lupu*[1] and H. Chiriac[1] *1. Magnetic Materials and Devices, National Institute of R&D for Technical Physics, Iasi, Romania*

10:30 EG-07. Magnetostatic Wave Propagation in Yttrium-Iron-Garnet with Microfabricated Surfaces. *A. Maeda*[1] and M. Susaki[1] *1. Osaka Prefectural College of Technology, Osaka, Japan*

10:45 EG-08. Magneto-optic based fiber switch for optical communications. *R. Bahuguna*[1], M. Mina[1] and R.J. Weber[1] *1. Electrical and Computer Engineering, Iowa State University, Ames, IA, USA*

11:00 EG-09. Influence of Processing on Crystallographic and Magnetic Structure of Fe-Ga . *S.P. Farrell*[1] and R.A. Dunlap[2,3] *1. Emerging Materials Section, Defence R&D Canada - Atlantic, Halifax, NS, Canada; 2. Physics and Atmospheric Science, Dalhousie University, Halifax, NS, Canada; 3. Institute for Research in Materials, Dalhousie University, Halifax, NS, Canada*

11:15 **EG-10. Magnetic and Magnetoelastic Properties of Chromium Substituted Cobalt Ferrite.** C. Lo[1], P. Matlage[2], Y. Melikhov[1], *J. Snyder*[2], S. Song[2,3] and D. Jiles[4] *1. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA; 2. Materials Science and Engineering, Iowa State University, Ames, IA, USA; 3. Materials and Engineering Physics Program, Ames Laboratory, Iowa State University, Ames, IA, USA; 4. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

11:30 **EG-11. Integration of Thin-Film Galfenol with MEMS Cantilevers for Magnetic Actuation.** *R.R. Basantkumar*[1], B.J. Stadler[1], W.P. Robbins[1] and E. Summers[2] *1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA; 2. Etrema Products, Inc, Ames, IA, USA*

11:45 **EG-12. Nanometer scale correlation of magnetic and structural features in Ni_2MnGa .** *C.P. Sasso*[1], M. Pasquale[1], F. Celegato[1], E. Olivetti[1] and V.A. Chernenko[2] *1. Materials, IEN Galileo Ferraris, Torino, Italy; 2. Institute of Magnetism, Kiev, Ukraine*

THURSDAY MORNING 8:00 **GRAND BALLROOM**

Session EP
MAGNETIC NANOPARTICLES AND NANOCOMPOSITES (POSTER SESSION)

Shishou Kang, Chair
Univ. of Alabama

EP-01. Self-assembled magnetic nanowire arrays. J. Lagdani[1], H. Imrane[1], C. Pettiford[1], J. Lou[1], S.D. Yoon[1], F. Lee[1], V. Harris[1], C. Vittoria[1] and *N.X. Sun*[1] *1. Northeastern University, Boston, MA, USA*

EP-02. Fabrication and manipulation of magnetic nanowires. *F. van Belle*[1], W. Lew[1] and J. Bland[1] *1. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom*

EP-03. Increasing stochastic resonance effect in single-domain particles by applying permanent magnetic field transverse to easy axes. *A. Isavnin*[1] *1. The Kama State Polytechnical Institute, Naberezhnye Chelny, Russian Federation*

EP-04. Investigation of Negative Remanence in Cobalt Nanoparticles Fabricated by Laser Irradiation. *J. Yang*[1], J. Kim[1], K. Yoon[1], Y. Do[1], C. Kim[1] and J. Hong[1] *1. Physics, Hanyang university, Seoul, Seoul, South Korea*

EP-05. Temperature distribution effects on the magnetization switching in FePt single domain particles. *K. Tang*[1], H. Zhang[1], X. Tang[1], Q. Wen[1] and Z. Zhong[1] *1. School of Microelectronics and Solid-state Electronics, University of Electronic Science and Technology of China, Chengdu, China*

EP-06. Effect of High Pressure Hydrogen on Crystal Structural Transformation of FePt Nanoparticles at Low Temperature. *M. Nakaya*[1], M. Kanehara[1], M. Yamauchi[2], H. Kitagawa[2] and T. Teranishi[1] *1. University of Tsukuba, Tsukuba, Ibaraki, Japan; 2. Kyushu University, Hakozaki, Fukuoka, Japan*

EP-07. Magnetic properties of FePt nanoparticles annealed with NaCl. B.A. Jones[1], *K. O'Grady*[1], B.J. Hickey[2], D. Li[3], N. Poudyal[3] and J. Liu[3] *1. Physics Department, University of York, York, YO10 5DD, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, LS2 9JT, United Kingdom; 3. Department of Physics, University of Texas at Arlington, Arlington, TX 76019, TX, USA*

EP-08. Size-dependent Magnetic Properties of PtMn Nanoparticles. *C. Ho*[1] and C. Lai[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

EP-09. Nano-sized effect on the magnetic properties of Ag. *Y. Jo*[1], S. Park[1], S. Lee[1], M. Jung[1], M. Kyum[2], K. Park[3] and Y. Kim[3] *1. Quantum Material Research Team, Korea Basic Science Institute, Daejeon, South Korea; 2. Control Development Team, Korea Basic Science Institute, Daejeon, South Korea; 3. Mechanical Engineering Department, Korea Maritime University, Pusan, South Korea*

EP-10. Coexistence of Diamagnetism and Spin Polarization in Ag Nanoparticles. *S. Wu*[1] and W. Li[2] *1. Department of Physics, National Dong Hwa Univeristy, Hualien, 974, Taiwan; 2. Department of Physics, National Central University, Chung-Li, 32054, Taiwan*

EP-11. Giant Ferro-magnetization of nano-sized CuNi clusters. *Y. Jo*[1], S. Park[1], S. Lee[1], M. Jung[1], M. Kyum[2], K. Park[3] and Y. Kim[3] *1. Quantum Material Research Team, Korea Basic Science Institute, Daejeon, South Korea; 2. Control Development Team, Korea Basic Science Institute, Daejeon, South Korea; 3. Mechanical Engineering Department, Korea Maritime University, Pusan, South Korea*

EP-12. First-Principles Calculation of atomic-sized Ni nanocontacts. T. Takahashi[1], *T. Komine*[1], R. Sugita[1] and Y. Hasegawa[2] *1. Department of Media and Telecommunications Engineering, Ibaraki University, Hitachi, Ibaraki, Japan; 2. Graduate School of Science and Engineering, Saitama University, Sakura-ku, Saitama, Japan*

THURSDAY MORNING 8:00 GRAND BALLROOM

Session EQ
PERPENDICULAR MEDIA III - MOSTLY HIGH KU MATERIALS (POSTER SESSION)

Sudhir Malhotra, Chair
Komag

EQ-01. Preparation of $L1_0$ FePt Thin Films with Perpendicular Anisotropy under Low Ordering Temperature. *A. Sun*[1,3], J. Hsu[1,3], P. Kuo[2,3], H. Huang[1,3] and J. Sun[4,5] *1. Department of physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 3. Center for Nanostorage, National Taiwan University, Taipei, Taiwan; 4. Dept. of Neurological Surgery, Tri-Service General Hospital, Taipei, Taiwan; 5. Dept. of Surgery, Songshan Armed Forces Hospital, Taipei, Taiwan*

EQ-02. Direct observation of substrate temperature dependent domain evolution pattern in FePt alloy thin films. R. Viswan[1], *H.S. Ko*[1], A. Perumal[1] and S.C. Shin[1] *1. Physics, KAIST, Daejeon, South Korea*

EQ-03. Nanogranular $L1_0$ FePt:C Composite films for perpendicular recording. *J. Chen*[1,2], Y. Ding[1] and B. Lim[1] *1. SMI Division, Data Storage Institute, Singapore, Singapore; 2. Materials Science and Engineering, Nantional University of Singapore, Singapore, Singapore*

EQ-04. Effect of hydrogen to attain (001) oriented FePt ordered alloy films from Pt/Fe bilayers. T. Kitagawa[1], J. Ikemoto[1], T. Kamiki[1] and *S. Nakagawa*[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan*

EQ-05. Lattice expansion by oxygen addition to control crystallographic orientations in chemically ordered $L1_0$ FePt films. *H. Lee*[1] and J. Kim[2] *1. Carnegie Mellon University, Pittsburgh, PA, USA; 2. Komag, San Jose, CA, USA*

EQ-06. The effects of underlayers for $SmCo_5$ thin films with perpendicular magnetic anisotropy. I. Kato[1], S. Takei[1], *X. Liu*[1] and A. Morisako[1] *1. Department of Information Engineering, Shinshu University, Nagano, Naganoken, Japan*

EQ-07. Microstructure and Magnetic Properties of SmCo5 Film with Perpendicular Anisotropy. *Y.K. Takahashi*[1], T. Ohkubo[1] and K. Hono[1] *1. NIMS, Tsukuba, Japan*

EQ-08. Magnetization Reversal in CGC Perpendicular Recording Media. *K. Tham*[1], Y. Sonobe[1], T. Onoue[1], L. Wu[1], T. Umezawa[1], C. Takasu[1], J.H. Dumaya[1], P. Leo[1] and M. Liau[1] *1. PMR Project, HOYA MAGNETICS SINGAPORE PTE LTD, Singapore, Singapore*

THURSDAY MORNING 8:00 GRAND BALLROOM

Session ER
PATTERNED MEDIA (POSTER SESSION)

Jim Miles, Chair
University of Manchester

ER-01. Micromagnetic Modeling of Recording on Discrete Track Perpendicular Media. *L. Zhong*[1], Z. Jin[1], Y. Zhou[1] and J. Fernandez-de-Castro[1] *1. Seagate Technology, Bloomington, MN, USA*

ER-02. Trailing shield head recording in discrete track media. *S. Greaves*[1], H. Muraoka[1] and Y. Kanai[2] *1. RIEC, Tohoku University, Sendai, Japan; 2. Information and Electronics Engineering, Niigata Institute of Technology, Kashiwazaki, Japan*

ER-03. Micromagnetics of magnetization reversal in pattern magnetic recording medium. *C. E*[1], D. Smith[1], S. Khizroev[2], J.C. Wolfe[1], D. Weller[3] and D. Litvinov[1] *1. Electrical & Computer Engineering, University of Houston, Houston, TX, USA; 2. Electrical & Computer Engineering, Florida International University, Miami, FL, USA; 3. Seagate Technology, Fremont, CA, USA*

ER-04. Pt Content Dependence of Magnetic Properties of CoPt/Ru Patterned Films. *K. Mitsuzuka*[1], N. Kikuchi[2], T. Shimatsu[1], O. Kitakami[2], H. Muraoka[1], H. Aoi[1] and J.C. Lodder[3] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Institute of Multidisciplinary Research for Advanced Material, Tohoku University, Sendai, Japan; 3. SMI, MESA+, University of Twente, ENschede, Netherlands*

ER-05. Development of Patterned Media for Jitter Analysis. *B. Belle*[1], E.W. Hill[1], P.W. Nutter[1] and J.J. Miles[1] *1. The University of Manchester, Manchester, United Kingdom*

ER-06. Iterative Coding for Patterned Media Recording. J. Hu[1], *T.M. Duman*[1], E.M. Kurtas[2] and F. Erden[2] *1. Electrical Engineering, Arizona State University, Tempe, AZ, USA; 2. Seagate Technology, Pittsburgh, PA, USA*

ER-07. Remanent States And Magnetization Reversal For Nanopatterned Co Elements Using Lorentz Microscopy And Off-Axis Electron Holography. *N. Agarwal*[1], H. Wang[1], D.J. Smith[2] and M.R. McCartney[2] *1. Chemical and Materials Engineering, Arizona State University, Tempe, Tempe, AZ, USA; 2. Physics and Astronomy, Arizona State University, Tempe, AZ, USA*

ER-08. Magnetic recording on patterned media prepared by ion beam irradiation. *J. Lee*[1,2], D. Suess[2], T. Schrefl[3], K. Oh[1] and J. Fidler[2] *1. Materials Science and Engineering, Seoul National University, Seoul, South Korea; 2. Institute of Applied and Technical Physics, Vienna University of Technology, Vienna, Austria; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

THURSDAY MORNING 8:00 **GRAND BALLROOM**

Session ES
MAGNETORESISTIVE HEADS II (POSTER SESSION)

Richard Dee, Chair
Sun Microsystems

ES-01. Requirements for integration of a magnetic transistor into a read head. *J. Lille*[1], N. Smith[2] and B.A. Gurney[2] *1. Advanced Head Development and Nanostructures, Hitachi San Jose Research Center, San Jose, CA, USA; 2. Hitachi San Jose Research Center, San Jose, CA, USA*

ES-02. Comparision of giant magneto-resistance behavior with conductance change based on the bulk-scattering in pseudo spin-valve. *C. Nam*[1], Y. Jang[1], K. Lee[1], J. Shim[1] and B. Cho[1] *1. MSE, GwangJu Institute of Science & engineering (GIST), Gwang-Ju, South Korea*

ES-03. Effect of Electrostatic Discharge on Tunneling Magnetoresistive Recording Head. *W. Lai*[1], C. Leung[1], P. Wong[1] and T. Shimizu[1] *1. SAE Magnetics (HK) Ltd, Hong Kong, Hong Kong*

ES-04. MR enchancement in CPP spin valve by insertion of a ferromagnetic layer within the spacer layer. *S. Kumar*[1,2], S. Tan[1], M. Jalil[2] and K. Teo[2] *1. SMI, DSI, Singapore, Singapore; 2. ISML, NUS/ECE, Singapore, Singapore*

ES-05. The effect of spreading resistance on the magnetoresistance of current-perpendicular-to-plane spin valves with patterned spacer layers. *S. Kumar*[1,2], M. Jalil[1], T. S G[2] and N. Rachel[1] *1. National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore*

ES-06. Current induced magnetization switching in permanent magnet biased CPP-GMR elements. *M. Takashita*[1], M. Takagishi[1] and H. Iwasaki[1] *1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Kanagawa, Japan*

THURSDAY MORNING 8:00

GRAND BALLROOM

Session ET
MOTOR MODELING AND DESIGN (POSTER SESSION)

Olle Heinonen, Chair
Seagate

ET-01. A Finite Element - Analytical Method for Electromagnetic Field Analysis of Electric Machines with Free Rotation. Y. Zhang[2], *K. Chau*[1], J. Jiang[2] and D. Zhang[2] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Department of Automation, Shanghai University, Shanghai, China*

ET-02. Vibration of Permanent Magnet Brushless Machines Having a Fractional Number of Slots per Pole. Y. Chen[1], *Z. Zhu*[2] and D. Howe[2] *1. Zhejiang University, Hangzhou, China; 2. University of Sheffield, Sheffield, United Kingdom*

ET-03. Study of Retaining Sleeve and Conductive Shield and Their Influence on Rotor Loss in High-Speed PM BLDC Motors. *F. Zhou*[1], J. Shen[1], W. Fei[1] and R. Lin[1] *1. College of Electrical Engineering, Zhejiang University, Hangzhou, Zhejiang, China*

ET-04. Magnetic Modeling of Synchronous Motors with Surface-Mounted Magnets. *C. Hwang*[1], S. Cheng[1] and M. Wu[1] *1. Electrical Engineering, Feng Chia University, Taichung, Taiwan*

ET-05. FE Analysis and CAD of Sandwiched Axial-Flux Permanent Magnet Brushless dc Motor. *P.R. Upadhyay*[1,2] and K.R. Rajagopal[1] *1. Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi, Delhi, India; 2. Electrical Engineering Department, Institute of Technology, Nirma University of Science and Technology, Ahmedabad, Gujarat, India*

ET-06. Skin Effect Factor Along the Rotor Bar Extension of Squirrel Cage Induction Motors. *C. del Perugia*[1], R.D. Findlay[1] and N. Stranges[2] *1. Electrical Engineering Department, McMaster University, Hamilton, ON, Canada; 2. GE Consumer & Industrial, Large Motors & Generators, Peterborough, ON, Canada*

ET-07. Cogging Torque Calculation with Field Smoothing. *S. Won*[1] and J. Lee[1] *1. Electrical Eng., Hanyang University, Seoul, South Korea*

ET-08. Modeling the 3D Rotational and Translational Motion of Magnets over a Conducting Guideway using a Combined Field and Lumped-Parameter Model. *J. Bird*[1] and T.A. Lipo[1] *1. Electrical and Computer Engineering, University of Wisconsin-Madison, Madison, WI, USA*

ET-09. A Novel Equivalent Circuit model of Linear Induction Motor Based on Finite Element Analysis and Its Coupling with External Circuits. *D. Kim*[1,2] and B. Kwon[2] *1. Korea Electronics Technology Institute, Gwang-ju, South Korea; 2. Hanyang University, Ansan, South Korea*

ET-10. A Numerical Approach for Accurate Prediction of Magnetic Field in Permanent Magnet Motors. *Z. Liu*[1], J. Li[2], Q. Jiang[1] and C. Bi[1] *1. Data Storage Institute, Singapore, Singapore; 2. ECE, National University of Singapore, Singapore, Singapore*

ET-11. A Three Dimensional Analytical Study of the Excitation Field in a Permanent Magnet Synchronous Motor. *A. YOUMSSI[1] 1. University Institute of Technologies, The University of Ngaoundere, Ngaoundere, Cameroon*

THURSDAY MORNING 8:00 GRAND BALLROOM

Session EU
MICROWAVE MATERIALS AND DEVICES (POSTER SESSION)

John Xiao, Chair
University of Delaware

EU-01. On The Left-Handed Ferrite Waveguide. *M. Tsutsumi[1]* and K. Okubo[2] *1. Fukui University of Technology, Fukui-shi, Fukui, Japan; 2. Okayama Prefectural University, Soja-shi, Okayama, Japan*

EU-02. Barium Ferrite Thin Films with Negative Nucleation Field for Self-biased Circulator Applications. *C. Juan[1]*, Y. Hong[1], S. Gee[1] and J. Jalli[1] *1. Materials Science and Engineering, University of Idaho, Moscow, ID, USA*

EU-03. High Frequency Properties of Thick Ferrite Particulate Films Composed of Ultra Fine Particles. *S. Hashi[1]*, A. Maeda[1], N. Takada[1], S. Yanase[1] and Y. Okazaki[1] *1. Department of Materials Science and Technology, Gifu University, Gifu, Gifu, Japan*

EU-04. Investigation of exchange-Coupled CoFe with NiMn, IrMn and NiO multilayers for microwaves application. *Y. Lamy[1]* and B. VIALA[1] *1. 1. CEA-DRT-LETI, Grenoble, France., GRENOBLE, France*

EU-05. Enhanced Initial Permeability of Composite Assembly of Ferromagnetic Particles. *Y. Shimada[1]*, M. Yamaguchi[1], S. Okamoto[2], O. Kitakami[2], G.W. Qin[3] and K. Oikawa[3] *1. Dept. of Electrical and Communication Engineering, Tohoku University, Sendai, Miyagi-ken, Japan; 2. IMRAM, Tohoku University, Sendai, Miyagi-ken, Japan; 3. Dept. of Material Science, Tohoku University, Sendai, Miyagi-ken, Japan*

EU-06. Microwave electromagnetic response of granular two-phase nanocomposites. *C. Brosseau[2,1]* and p. talbot[2] *1. Physics, Universite de Bretagne Occidentale, Brest Cedex3, France; 2. LEST, Universite de Bretagne Occidentale, Brest Cedex 3, France*

EU-07. Permeability Measurements of Amorphous Coatings Prepared with Fine Magnetic Particles. *D. Lee*[1], S.X. Wang[1], Y. Tang[2], J. Hong[2] and A. Berkowitz[2] *1. Materials Science and Engineering, Stanford University, Stanford, CA, USA; 2. CMRR, University of California, San Diego, La Jolla, CA, USA*

EU-08. Pulsed Laser Deposited Barium Ferrite Films with Low Ferromagnetic Resonance Linewidths - Plume Position as a Global Property Control Parameter. *J. Das*[1], B. Griffin[1] and C.E. Patton[1] *1. Physics, Colorado State University, Fort Collins, CO, USA*

EU-09. Barium Ferrite Thick Films Made by Modified Liquid Phase Epitaxy Method. *A. Abuzir*[1] *1. Physics, University of Idaho, Moscow, ID, USA*

EU-10. Microwave electromagnetic properties of FeNi alloy particles composites doping with FeCuNbSiB nanocrystalline microwires. *M. Han*[1], D. Liang[1], B. Yan[1], J. Xie[1], L. Chen[1] and L. Deng[1] *1. School of Microelectronics and Solid State Electronics, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

EU-11. Quasi-nonlinear dynamic range of the nonlinear spin wave interferometer. *A.B. Ustinov*[1] and B.A. Kalinikos[1] *1. Department of Physical Electronics and Technology, St.Petersburg Electrotechnical University "LETI", Saint Petersburg, Russian Federation*

THURSDAY MORNING 8:00 **GRAND BALLROOM**

Session EV
MAGNETIC SENSORS (NON RECORDING) I (POSTER SESSION)

Jim Deak, Co-Chair
NVE
Pete Eames, Co-Chair
NVE

EV-01. A Novel Frequency Modulation Based System Using Bi-Layer Thin Film Displacement Sensors. *G.S. Katranas*[1], T. Meydan[1], S. Zurek[1], T.A. Ovari[1] and F. Borza[1] *1. Wolfson Centre for Magnetics, School of Engineering, Cardiff University, Cardiff, South Glamorgan, United Kingdom*

EV-02. Magnetic and Thermal Properties of MoN Underlayer for Spin Valves Depending on Nitrogen Concentration. *J. Kim*[1], Y. Choi[1], S. Jo[1], S. Kim[2] and C. Lee[2] *1. School of Electronic Engineering, Soongsil University, Seoul, South Korea; 2. Dept. of Nano & Electronic Physics, Kookmin University, Seoul, South Korea*

EV-03. Finite element modeling of the bit-resolution of EMR sensors with I+ / V+ / I- / V- lead geometry. *S. Maat*[1], A. Chattopadhyay[1], T.D. Boone[1], L. Folks[1], E. Marinero[1], J.A. Katine[1], S. Nicoletti[1] and B.A. Gurney[1] *1. Hitachi Global Storage Technologies, San Jose, CA, USA*

EV-04. Temperature Dependence of Magnetotransport in EMR Devices. *T.D. Boone*[1], L. Folks[1], J. Katine[1], E. Marinero[1], S. Nicoletti[1], B.A. Gurney[1], M. Field[2], G.J. Sullivan[2], A. Ikhlassi[2] and B. Brar[2] *1. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Rockwell Scientific Company, Thousand Oaks, CA, USA*

EV-05. Analysis of a Remote Magneto-Optic Linear Displacement Sensor Using Jones Matrix Approach. *S. Lee*[1], Y. Melikhov[1], C. Park[2], H. Hauser[3] and D.C. Jiles[4] *1. Center for Nondestructive Evaluation, Ames, IA, USA; 2. Dept. of Physics, Seonam University, Namwon, South Korea; 3. Institute for Industrial Electronics and Materials Science, Vienna University of Technology, Vienna, Austria; 4. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

EV-06. High sensitive orthogonal fluxgate magnetometer using Metglas ribbon. *K.P. Goleman*[1] and I. Sasada[1] *1. Kyushu University, Fukuoka, Japan*

EV-07. High-Density PCB Inspection and System with Multi SV-GMR Sensor Eddy-Current Testing Probe. *K. Chomsuwan*[1,2], R. Koggalage[1], S. Yamada[1], M. Iwahara[1], H. Wakiwaka[3] and S. Shoji[4] *1. Institute of Nature and Environmental Technology, Kanazawa University, Ishikawa, Japan; 2. Department of Electrical Technology Education, King Mongkut's University of Technology Thonburi, Bangkok, Thailand; 3. Department of Electrical Engineering, Shinshu University, Nagano, Japan; 4. TDK Corporation, Nagano, Japan*

EV-08. Development of Wireless Magnetic Motion Capture System for Multi-Marker Detection. *S. Hashi*[1], M. Toyoda[1], S. Yabukami[2], K. Ishiyama[2], Y. Okazaki[1] and K. Arai[2] *1. Department of Materials Science and Technology, Gifu University, Gifu, Gifu, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan*

EV-09. Low-noise, second-harmonic magnetoresistive imaging using SAL-biased AMR sensors in a bridge configuration. *S.T. Halloran*[1,2], R.R. Owings[1], F.C. DaSilva[3,1], E.W. Hill[4] and D.P. Pappas[1] *1. Magnetic Sensors, NIST Boulder, Boulder, CO, USA; 2. Electrical Engineering, University of Colorado, Denver, CO, USA; 3. Physics, University of Colorado, Denver, CO, USA; 4. Center for Mesoscience and Nanotechnology, University of Manchester, Manchester, Manchester, United Kingdom*

EV-10. Effect of Annealing on Extraordinary Hall Effects in Sputtered Granular Cu80Co20 Thin Films. N.H. Kim[1] and *J.Q. Wang*[1] *1. Physics Department, Binghamton University, Binghamton, NY, USA*

EV-11. Highly Accurate Position Sensing System for a slim LC Resonated Marker Using Phase information. *S. Yabukami*[1], T. Kato[1], S. Hashi[2], K. Ishiyama[1], K. Arai[1] and Y. Okazaki[2] *1. RIEC, Tohoku Univ., Sendai, Japan; 2. Department of Materials Science and Technology, Gifu Univ., Gifu, Japan*

EV-12. Magnetic sensor based on side-polished fiber Bragg grating coated with iron film. *C. Tien*[1], C. Hung[1], H. Chen[1], W. Liu[1] and S. Lin[1] *1. Electrical Engineering, Feng Chia University, Taichung, Taiwan*

EV-13. A Hybrid Magnetic Sensor System for the Measurement of Dynamic Forces. *P.A. Bartlett*[1], G.S. Katranas[1] and T. Meydan[1] *1. Wolfson Centre for Magnetics, School of Engineering, Cardiff University, Cardiff, South Glamorgan, United Kingdom*

EV-14. Measurement and Visualization of 2-D Magnetic Field Using the Laminated Magnetic Ct Probe without Any of Physical Scanning. *M. Iwahara*[1], T. Nishimura[1], Y. Yano[2] and S. Yamada[1] *1. Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa, Japan; 2. Japan Advanced Institute of Science and Technology, Hakusan, Japan*

EV-15. A Sensor Measuring a Gradient Tensor of the Magnetic Field for Localization of a Magnetic Dipole. *T. Nara*[1], S. Suzuki[1] and S. Ando[1] *1. MEIP, the faculty of Engineering, The University of Tokyo, Tokyo, Japan*

EV-16. A Novel Planar Electromagnetic type Bio-sensor for noncontact and noninvasive estimation of fat content in pork meat. S.C. Mukhopadhyay[1], C.P. Gooneratne[2] and *S. Yamada*[3] *1. Institute of Information Sciences and Technology, Massey University, Palmesrton North, Manawatu, New Zealand; 2. I.I.S.T., Massey University, Palmerston North, New Zealand; 3. Faculty of Engineering, Kanazawa University, Kanazawa, Japan*

THURSDAY MORNING 8:00

GRAND BALLROOM

Session EW
MAGNETIC FLUIDS AND HYPERTHERMIA (POSTER SESSION)

Paulo Morais, Chair
U.Brasilia

EW-01. Temperature Rise of Resonant Circuits for Hyperthermia Excited by Weak RF Magnetic field. *J. Kunisaki*[1], T. Saito[1], M. Morita[1], T. Yamada[1] and Y. Takemura[1] *1. Yokohama National University, Yokohama, Japan*

EW-02. Heat Element of Magnetic Hyperthermia in Mouse Melanoma Model. *T. Maruyama*[1], Y. Sawaya[1], H. Sato[1], H. Matsuki[1], S. Aiba[2], Y. Ito[2] and T. Sato[3] *1. Electrical and Communication Engineering, Tohoku university, Sendai, Japan; 2. Medical Sciences, Tohoku university, Sendai, Japan; 3. NEC TOKIN Corporation, Sendai, Japan*

EW-03. Thermotherapy with Metallic Stent Excited by The Magnetic Field. *J. Oya*[1], H. Shoji[1], F. Sato[1], H. Matsuki[1], S. Satomi[2], Y. Nihei[2], Y. Kurokawa[2] and T. Sato[3] *1. Electric and Communication Engineering, Graduate School of Engineering, Tohoku.University, Sendai, Japan; 2. Graduate School of Medicine, Tohoku Univ., Sendai, Japan; 3. NECTOKIN Corp., Sendai, Japan*

EW-04. Synthesis and Characterization of a Magnetic Nanoemulsion as a Promissing Candidate for Cancer Treatment. P.P. Macaroff[1], F.L. Primo[1], R.B. Azevedo[2], E.C. D. Lima[3], P.C. Morais[4] and *A.C. Tedesco*[1] *1. Chemistry, FFCLRP-USP, Ribeirao Preto, SP, Brazil; 2. Instituto de Ciencias Biologicas, Universidade de Brasilia, Brasilia, DF, Brazil; 3. Instituto de Quimica, Universidade Federal de Goias, Goiania, GO, Brazil; 4. Instituto de Fisica, Nucleo de Fisica Aplicada, Universidade de Brasilia, Brasilia, DF, Brazil*

EW-05. AC Magnetic Field Effects on Mice Treated with Cobalt-Ferrite-Based Magnetoliposome: Citotoxicity and Genotoxicity Tests. *L.S. Barbosa*[1], N. Sadeghiani[1], A.C. Tedesco[2,4], R.B. Azevedo[1,4], P.C. Morais[3,4] and Z.G. Lacava[1,4] *1. Instituto de Ciencias Biologicas, Universidade de Brasilia, Brasilia, DF, Brazil; 2. Faculdade de Filosofia, Ciencias e Letras, Universidade de Sao Paulo, Ribeirao Preto, SP, Brazil; 3. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil; 4. Nanoscience and Nanobiotechnology Center, Universidade de Brasilia, Brasilia, DF, Brazil*

EW-06. Analysis of the NMR Relaxation Enhancement by Core/shell Fe/iron Oxide Nanoparticles. O. Bomati-Miguel[1], Y. Gossuin[2], *M. Morales*[1], P. Gillis[2], R.N. Muller[3] and S. Veintemillas-Verdaguer[1] *1. Materiales particulados, Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain; 2. Biological Physics Department, University of Mons-Hainaut, Mons, Belgium; 3. Department of General, Organic and Biomedical Chemistry, University of Mons-Hainaut, Mons, Belgium*

EW-07. Magnetic Resonance and Light Microscopy Investigation of Raw Cells Treated with Dextran-Based Magnetic Fluid. *Z.G. Lacava*[1,4], L.M. Lacava[1], M.J. Fonseca[1], T.M. Souza[1], L.O. Pereira[1], O. Silva[2], F. Pelegrini[2,4], D. Sabolovic[3], C. Sestier[6], R.B. Azevedo[1,4] and P.C. Morais[5,4] *1. Instituto de Ciencias Biologicas, Universidade de Brasilia, Brasilia, DF, Brazil; 2. Instituto de Fisica, Universidade Federal de Goias, Goiania, GO, Brazil; 3. School of Medicine, University Hospital JJ Strossmayer, Osijek, Croatia; 4. Nanoscience and Nanobiotechnology Center, Universidade de Brasilia, Brasilia, DF, Brazil; 5. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil; 6. CNRS UMR 5594, Centre National de la Recherche Scientifique, Dijon, France*

EW-08. Magnetic induced optical transmittance study of monodisperse nano-size FePt ferrofluid. *K. Wu*[1], Y. Yao[2], C. Lee[3], P. Wei[3], K. Huang[2] and C. Chang[1] *1. Department of Physics, Fu Jen University, Hsinchuang, Taipei Hsien, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Center of Apply Science Research, Academia Sinica, Taipei, Taiwan*

EW-09. In-vitro Heating With Polyethylene Glycol Coated Fe Nanoparticles. *M.J. Bonder*[1], S. Balakrishnan[1], G. Poirier[1], K.L. Kiick[2] and G.C. Hadjipanayis[1] *1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Material Science and Engineering, University of Delaware, Newark, DE, USA*

EW-10. Size-controlled Iron Nanoparticles with Lecithin for Biomedical Applications. *S. Park*[1], N. Ha[2], J. Kim[2] and C. Kim[1,2] *1. Materials Science and Engineering, Chungnam National University, Daejeon, Yousung-gu, South Korea; 2. Research Center for Advanced Magnetic Materials, Daejeon, South Korea*

THURSDAY MORNING 8:00

GRAND BALLROOM

Session EX
BIOSENSORS AND OTHER BIOLOGICAL APPLICATIONS (POSTER SESSION)

You Qiang, Chair
U.Idaho

EX-01. Conductive Microbead Array Detection Based on Eddy-Current Testing Using SV-GMR Sensor and Helmholtz Coil Exciter. *T. Somsak*[1], K. Chomsuwan[1,2], S. Yamada[1] and I. Massayoshi[1] *1. Institute of Nature and Environmental Technology, Faculty of Engineering, Kanazawa University, Kanazawa, Ishikawa, Japan; 2. King Mongkut` University of Technology Thonburi, Bangkok, Thailand*

EX-02. Magnetic Avalanche Digital Detector for Biosensor Applications. *T.J. Hayward*[1], J. Llandro[1], Z. Jiang[1], F. Van Belle[1], T. Mitrelias[1], J. Bland[1], F.J. Castano[2] and C.A. Ross[2] *1. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

EX-03. Development of Transcutaneous Temperature Control System for Implantable Devices. *Y. Kakubari*[1], F. Sato[1], H. Matsuki[1], T. Sato[2], M. Higa[3], Y. Luo[3] and T. Yambe[4] *1. Dept. of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Research and Development Unit, NEC Tokin Corporation, Sendai, Miyagi, Japan; 3. Biomedical Engineering Research Organization, Tohoku University, Sendai, Miyagi, Japan; 4. Institute of Development, Aging and Cancer, Tohoku University, Sendai, Miyagi, Japan*

EX-04. Intensity and localization of eddy currents in transcranial magnetic stimulation to the cerebellum. *M. Sekino*[1], M. Hirata[2,3], K. Sakihara[3], S. Yorifuji[3] and S. Ueno[1] *1. Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Tokyo, Tokyo, Japan; 2. Department of Neurosurgery, Osaka University Medical School, Osaka, Osaka, Japan; 3. Division of Functional Diagnostic Science, Osaka University Medical School, Osaka, Osaka, Japan*

EX-05. Improvement of the transcutaneous energy transmissoin system utilizing ferrite cored coils for artificial hearts. *H. Miura*[1], S. Arai[1], Y. Kakubari[1], F. Sato[1], H. Matsuki[1] and T. Sato[2] *1. Gradate school of engineering, Tohoku university, Senda, Miyagi, Japan; 2. NEC Tokin corpration, Sendai, Japan*

EX-06. Contactless Power-Signal Transmission Devices Implanted for Functional Electrical Stimulation (FES). *K. Sugano*[1], f. sato[2], h. matsuki[3], m. maedako[4], d. yoshizawa[5], t. sato[6] and y. handa[7] *1. tohoku University, sendai, Japan; 2. tohoku University, sendai, Japan; 3. tohoku University, sendai, Japan; 4. tohoku University, sendai, Japan; 5. tohoku University, sendai, Japan; 6. NECTOKIN, sendai, Japan; 7. tohoku University, sendai, Japan*

EX-07. Prototype of Full-duplex communication for Implantable Signal Transmission System Utilizing Noise reduction Effect of Magnetic eight-figure coil. *T. Somekawa*[1], T. Takura[1], F. Sato[1], H. Matsuki[1] and T. Sato[2] *1. Tohoku University, Sendai, Japan; 2. NEC Tokin Corp, Sendai, Japan*

EX-08. Combination effects of repetitive pulsed magnetic stimulation and tyrosine kinase inhibitor imatinib for chronic myeloid leukemia cell line TCC-S. *S. Yamaguchi*[1,2], M. Sekino[1], Y. Sato[2] and S. Ueno[1] *1. Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Tokyo, Japan; 2. Department of Pathology, Research Institute International Research Center of Japan, Tokyo, Japan*

EX-09. Effects of strong static magnetic fields on nerve excitation. *M. Sekino*[1], H. Tatsuoka[2], Y. Eguchi[1] and S. Ueno[1] *1. Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Tokyo, Tokyo, Japan; 2. Department of Medical System Engineering, Faculty of Engineering, Chiba University, Chiba, Chiba, Japan*

EX-10. A study on collagen orientation by permanent magnets. *D. Saito*[1], H. Takei[2], T. Shinohara[1], Y. Kuriyama[3], A. Nakahira[4], S. Ueno[5] and M. Kotani[2] *1. Tokyo Denki University, Inzai, Chiba, Japan; 2. Tokyo Denki University, Tokyo, Japan; 3. NEOMAX KIKO Co., Ltd., Tano, Gunma, Japan; 4. Osaka Prefecture University, Sakai, Osaka, Japan; 5. Tokyo University, Tokyo, Japan*

EX-11. Estimation of multiple sources using time-frequency analysis of 3-D SEF to finger stimulation. *B. Kim*[1], K. Kobayashi[2] and Y. Uchikawa[1] *1. Electronic and Computer Engineering, Tokyo Denki University, Saitama, Japan; 2. Faculty of Engineering, Iwate University, Morioka, Japan*

EX-12. Preparation and characterization of hollow hybrid magnetic microspheres. *C. Wang*[1], . Chen[1] and C. Lin[2] *1. Chemical and Material Engineering, Southern Taiwan University of Technology, tainan, Taiwan; 2. Mechanical Engineering, Southern-Taiwan University of Technology, tainan, Taiwan*

THURSDAY AFTERNOON 2:00 — TOWN AND COUNTRY

Session FA
SYMPOSIUM ON SYNTHESIS OF MAGNETIC NANOPARTICLES

Kevin O'Grady, Chair
York

2:00 FA-01. Synthesis of Monodispersed Magnetite Particles from Different Organometallic Precursors. ***(Invited)*** *M.P. Morales*[1], A.G. Roca[1] and C.J. Serna[1] *1. Materiales Particulados, Instituto de Ciencia de Materiales, CSIC, Madrid, Spain*

2:30 FA-02. Development of Composite Nanoparticles for Biomedical Applications. ***(Invited)*** *S. Majetich*[1] *1. Physics, Carnegie Mellon University, Pittsburgh, PA, USA*

3:00 FA-03. Shaken Not Stirred: Magnetic Viruses for Biomagnetic Sensing. ***(Invited)*** *A. Hoffmann*[1], S. Chung[1], K. Guslienko[1], S.D. Bader[1], C. Liu[2], Q. Jin[2], A. Sutton[2], F. Yan[2], B.K. Kay[2], L. Makowski[2] and L. Chen[2] *1. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Bioscience Division, Argonne National Laboratory, Argonne, IL, USA*

3:30 FA-04. Polyol Process for Fe-based Hard (FCT-FePt) and Soft (FeCo) Nanoparticles. ***(Invited)*** *B. Jeyadevan*[1], K. Shinoda[1], K. Sato[2], Y. Sato[1] and K. Tohji[1] *1. Tohoku University, Sendai, Japan; 2. Dowa Mining Company, Tokyo, Japan*

4:00 FA-05. Phase Transformation of FePt Nanoparticles. ***(Invited)*** *J. Liu*[1], K. Elkins[1], V. Li[1], N. Nandwana[1], Z. Poudyal[1] and Q. Jin [1] *1. Department of Physics, University of Texas at Arlington, Arlington, TX, USA*

4:30 FA-06. Direct Fabrication and Assembly of Highly Ordered L10 Phase FePt Nanoparticles . ***(Invited)***
J. Wang[1], J. Qiu[1], T.A. Taton[2] and B. Kim[2] *1. Electrical and Computer Engineering Dept and MINT Center, University of Minnesota, SE, Minneapolis, MN, USA; 2. Chemistry Department, University of Minnesota, SE, Minneapolis, MN, USA*

THURSDAY AFTERNOON 2:00 SAN DIEGO

Session FB
ADVANCED RECORDING TECHNOLOGIES

Terry McDaniel, Chair
Seagate

2:00 FB-01. An Analysis of One Particle Per Bit Perpendicular Recording. *B.K. Middleton*[1] *1. School of Computer Science, The University of Manchester, Manchester, United Kingdom*

2:15 FB-02. Design and Recording Simulation of 1 Tbit/in^2 Patterned Media. *N. Honda*[1] and K. Ouchi[1] *1. Akita Res. Inst. of Adv. Tech., Akita, Akita, Japan*

2:30 FB-03. Patterned Media Based on Soft/Hard, Composite Nanowire Array of Ni/CoPt. *A. Gapin*[1], X. Ye[1], J.F. Aubuchon[1], L. Chen[1] and S. Jin[1] *1. University of California San Diego, La Jolla, CA, USA*

2:45 FB-04. Magnetic recording properties onto nano-imprinted patterned media. *M. Asbahi*[1], J. Moritz[1], B. Dieny[1], J. Nozieres[1], R. van de Veerdonk[2], C. Gourgon[3] and C. Perret[3] *1. Spintec (URA 2512 CEA/CNRS), Grenoble, France; 2. Seagate Research, Pittsburgh, PA, USA; 3. LTM -CNRS, Grenoble, France*

3:00 FB-05. Numerical and Experimental Evaluation of Discrete Track Recording Technology. *J. Peng*[1], G. Wang[1], S. Thrivani[1], J. Chue[1], M. Nojaba[1] and P. Thayamballi[1] *1. Western Digital, San Jose, CA, USA*

3:15 FB-06. Performance of Discrete Track Perpendicular Media on Off-Track-Capability at Higher Track Density. *A. Kaizu*[1], Y. Soeno[1], M. Takai[1], K. Tagami[1] and I. Sato[1] *1. SQ Research Center, TDK Corporation, 462-1 Otai, Saku, Nagano, Japan*

3:30 **FB-07. Fabrication of a Micro Coil for Magneto-Optical Data Storage.** M.C. Wurz[1], C. Ruffert[1], *H.H. Gatzen*[1] and S. Knappmann[2] *1. Institute for Microtechnology, Hanover University, Garbsen, Germany; 2. Deutsche Thomson-Brandt GmbH, Villingen-Schwenningen, Germany*

3:45 **FB-08. Phase-change magnetic memory effect in cation-deficient iron sulfide $Fe_{1-x}S$.** *T. Takayama*[1,2] and H. Takagi[1,2] *1. Magnetic Materials Laboratory, RIKEN, Saitama, Japan; 2. CREST-JST, Kawaguchi, Saitama, Japan*

4:00 **FB-09. FDTD Readout Analysis of a Near-Field Patterned Media Magneto-Optical Recording System.** *M.M. Manfredonia*[1] and P.W. Nutter[1] *1. School of Computer Science, University of Manchester, Manchester, United Kingdom*

4:15 **FB-10. Thermal distribution along cross track direction in heat assisted magnetic recording.** *B. XU*[1], H. Yuan[1], X. Miao[1], J. Zhang[1], R. Ji[1] and T. Chong[1] *1. Data Storage Insititute, A-Star, Singapore, Singapore*

4:30 **FB-11. Transient Thermal Response of Hot-spots in a Multilayered Film using Lattice Boltzmann Method.** *S.S. Ghai*[1,2], W. Kim[1], C.H. Amon[2] and M.S. Jhon[1,2] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Institute for Complex Engineered Systems, Carnegie Mellon University, Pittsburgh, PA, USA*

4:45 **FB-12. Ridge Waveguide for Thermally Assisted Recording - Optimization, Scaling, and Wavelength Dependence.** *B.C. Stipe*[1], J. Thiele[1], C. Poon[1], T. Strand[1] and B. Terris[1] *1. Hitachi Global Storage Technologies, San Jose, CA, USA*

THURSDAY AFTERNOON 2:00 **GOLDEN WEST**

Session FC
EXCHANGE-BIASED MULTILAYERS I

Randall Victora, Chair
University of Minnesota

2:00 **FC-01. Perpendicular exchange bias and magnetic anisotropy in FePt/FeMn multilayers.** *N.N. Phuoc*[1] and T. Suzuki[1] *1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Aichi, Japan*

2:15 **FC-02. Field Dynamic Effects in Perpendicular Exchange-Biased [Pt/Co]/IrMn Multilayers.** *g. Malinowski*[1], S. van Dijken[1], J. Coey[1], M. Czapkiewicz[2] and T. Stobiecki[2] *1. Physics Departement, SFI Trinity Nanoscience Laboratory, Dublin, Dublin, Ireland; 2. Department of Electronic, AGH University of Science and Technology, Krakow, 30-059, Poland*

2:30 **FC-03. Exchange anisotropy of ferromagnetic/antiferromagnetic bilayers with $L1_2$-Mn_3(Ir, Ru, Rh).** *M. Tsunoda*[1], M. Naka[1], K. Imakita[1] and M. Takahashi[2,1] *1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan*

2:45 **FC-04. Applications of exchange-biased Co/Pt multilayers in spin valves with perpendicular magnetization.** *S. van Dijken*[1], M. Crofton[1] and J. Coey[1] *1. SFI Trinity Nanoscience Laboratory, Physics Department, Trinity College, Dublin, Ireland*

3:00 **FC-05. Exchange bias effect on full-Heusler alloy $Co_2Cr_{0.6}Fe_{0.4}Al$ epitaxial thin films.** *T. Ishikawa*[1], T. Marukame[1], H. Niwa[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Hokkaido University, Sapporo, Japan*

3:15 **FC-06. Exchange bias on rippled substrates – step induced uniaxial versus unidirectional anisotropy .** *M. Liedke*[1,2], S. Rossbach[1], S. Facsko[1], B. Hillebrands[2] and J. Fassbender[1] *1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Germany; 2. Fachbereich Physik, TU Kaiserslautern, Kaiserslautern, Germany*

3:30 **FC-07. Exchange anisotropy in epitaxial (001)$Co_{50}Fe_{50}$/IrMn system.** C. Yang[1] and *C. Lai*[1] *1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

3:45 **FC-08. Exploiting exchange bias length scales to fully tailor double-shifted hysteresis loops.** *J. Sort*[1], S. Bruck[2], V. Baltz[2], S. Surinach[2], J. Munoz[2], B. Dieny[3], M. Baro[2] and J. Nogues[1] *1. Physics, Institucio Catalana de Recerca i Estudis Avancats (ICREA) and UAB, Bellaterra, Spain; 2. Physics, Universitat Autonoma de Barcelona, Bellaterra, Spain; 3. SPINTEC, CEA, Grenoble, France*

4:00 **FC-09. The Role of Uncompensated Spins in Exchange Biasing.** H.J. Hug[1,2], *I. Schmid*[2], P. Kappenberger[1], O. Hellwig[3] and E.E. Fullerton[3] *1. Nanoscale Materials Science, Empa, Duebendorf, Switzerland; 2. NCCR Nanoscale Science, University of Basel, Basel, Switzerland; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

4:15 **FC-10. The Origin for Training Effects in Exchange Bias Systems: Frustration and Multiple Anisotropy Axes at the Interface.** *A. Hoffmann*[1] *1. Materials Science Department, Argonne National Laboratory, Argonne, IL, USA*

THURSDAY AFTERNOON 2:00

CALIFORNIA

Session FD
MAGNETIC CHARACTERIZATION AND INSTRUMENTATION

David Pappas, Chair
NIST Boulder

2:00 **FD-01. Microcantilever Torque Magnetometery Study of Patterned Magnetic Films.** *L. Yuan*[1], L. Gao[1], R. Sabirianov[1], S.H. Liou[1], M.D. Chabot[2], D.H. Min[2], J. Moreland[3] and B. Han[4] *1. Department of Physics and Astronomy and Center for Materials Research and Analysis, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Department of Physics, University of San Diego, San Diego, CA, USA; 3. National Institute of Standards and Technology, Boulder, CO, USA; 4. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China*

2:15 **FD-02. Variable Temperature Scanning Hall Probe Microscopy (SHPM) Using Quartz Crystal AFM Feedback.** *M. Dede*[1], K. Urkmen[1,2], A. Oral[1], I. Farrer[3] and D.A. Ritchie[3] *1. Physics, Bilkent University, Ankara, Turkey; 2. NanoMagnetics Instruments Ltd, Oxford, United Kingdom; 3. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom*

2:30 **FD-03. Ferromagnetic resonance by means of local near-field microwave microscopy.** D.I. Mircea[1,2] and *T.W. Clinton*[1] *1. Seagate Research, Seagate Technology, Pittsburgh, PA, USA; 2. Center for Superconductivity Research, University of Maryland, College Park, MD, USA*

2:45 **FD-04. A Novel Magnetic Micro Deflector of Electron Beam Control for Electron Beam Microcolumn Systems.** *R. Rong*[1], H. Kim[2], S. Park[2], N. Hwang[2], B. Kim[2] and C. Ahn[1] *1. Electrical Engineering, University of Cincinnati, Cincinnati, OH, USA; 2. CEBT Co. Ltd, Asan City, South Korea*

3:00 **FD-05. Numerical Analysis of Dahle-Porbe Response to a Hidden Point Flaw.** *H. Bayani*[1] and I. Sasada[1] *1. Applied Science for electronics and materials, kyushu university, fukuoka, fukuoka, Japan*

3:15 **FD-06. Calibration of Sensing Coils of a Three-dimensional Magnetic Property Tester.** *Y. Guo*[1], J. Zhu[1], Z. Lin[1] and J. Zhong[1] *1. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia*

3:30 **FD-07. Statistical characterisation of the FORC diagram.** *R. Tanasa*[1] and A. Stancu[1] *1. Department of Solid State & Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Romania*

3:45 **FD-08. Like-spin domains (LSDs) in spin-crossover solids ?.** *F. Varret*[1], K. Boukheddaden[1], C. Chong[1] and A. Goujon[2] *1. Laboratoire de Magnetisme et d'Optique, CNRS - Universite, Versailles, France; 2. LLB, CEA-Saclay, Gif sur Yvette, France*

4:00 **FD-09. Magnetostriction Observation with Synchrotron Radiation.** *E. Arakawa*[1], K. Mori[2] and N. Aizawa[1] *1. Physics Dept., Tokyo Gakugei University, Koganei, Tokyo, Japan; 2. Radiological Sciences, Ibaraki Prefectural University of Health Sciences, Ami Inashiki, Ibaraki, Japan*

4:15 **FD-10. Quadrupole Magnetic Field-Flow Fractionation for the Analysis of Magnetic Nanoparticles.** *F. Carpino*[1,2], M. Zborowski[2] and P. Williams[2] *1. Department of Chemistry, Cleveland State University, Cleveland, OH, USA; 2. Department of Biomedical Engineering, The Cleveland Clinic Foundation, Cleveland, OH, USA*

4:30 **FD-11. Determination of Hysteresis Loss by Drag Force Measurements with Cancelled Normal Field Components.** I.J. Garshelis[1,2], *S.P. Tollens*[2], L.P. Vandenbossche[3], L.R. Dupre[3] and R.J. Kari[2] *1. Magnova, Inc., Pittsfield, MA, USA; 2. MagCanica Inc., San Diego, CA, USA; 3. Dept. Electrical Energy, Systems and Automation, University of Ghent, Ghent, Belgium*

4:45 **FD-12. Precision and Accuracy Study on Measurement of Soft Magnetic Properties Using DC Hysteresigraphs.** *R.M. Strnat*[1], M.J. Hall[2] and M.S. Masteller[3] *1. KJS Associates Div. Magnetic Instrumentation, Inc., Indianapolis, IN, USA; 2. National Physical Laboratory, Teddington, United Kingdom; 3. Carpenter Technology Corp., Reading, PA, USA*

THURSDAY AFTERNOON 2:00 — ROYAL PALM 1/2

Session FE
MEMS AND MOTORS
Mark Allen, Chair
Georgia Tech

2:00 **FE-01. A Magnetically Excited And Sensed MEMS-Based Resonant Compass.** *S. Choi*[1], S. Kim[1], Y. Yoon[1] and M.G. Allen[1] *1. School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, USA*

2:15 **FE-02. Novel Micro Robots and Micro Motors using Lorentz Force Driven Linear Micro Actuators based on Polymer Magnets.** *M. Feldmann*[1] and S. Buettgenbach[1] *1. Institute for Microtechnology, Braunschweig, Germany*

2:30 **FE-03. Multiwatt Microscale Permanent-Magnet Generators Operating at High Temperatures.** *F. Herrault*[1], D.P. Arnold[1], I. Zana[1], P. Galle[1] and M.G. Allen[1] *1. Georgia Institute of Technology, ATLANTA, GA, USA*

2:45 **FE-04. Finite element modelling of a magnetostrictive coated cantilever system as a function of magnetic film thickness.** *J.S. Dean*[1] and M.R. GIBBS[1] *1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

3:00 **FE-05. Optimisation of electromagnetic vibrational energy harvesting device.** *C.R. Saha*[1], T. O'Donnell[1] and H. Loder[1] *1. Tyndall National Institute, Cork, Ireland*

3:15 **FE-06. Effect of Eccentricity on the Accuracy of Rotor Position Estimation Techniques in Switched Reluctance Motor Drives.** *J. Faiz*[1] and S. Pakdelian[1] *1. Electrical & Computer Engineering, University of Tehran, Tehran, Iran; 2. Electrical & Computer Engineering, University of Tehran, Tehran, Iran*

THURSDAY AFTERNOON 2:00

ROYAL PALM 3/4

Session FF
RECORDING SYSTEMS II: SERVO, DYNAMICS AND SYSTEMS

Raymond de Callafon, Chair
CMRR-UCSD

2:00 **FF-01. A processing perspective for areal density projections for tape storage, disk drive storage, and flash memory.** *R.E. Fontana*[1], T.R. Albrecht[1] and S.R. Hetzler[2] *1. San Jose Research Center, Hitachi GST, San Jose, CA, USA; 2. Almaden Rsearch Center, IBM Research Division, San Jose, CA, USA*

2:15 **FF-02. Quantizer Model and Performance Analysis for Hard Disk Drives.** C. Du[1], *G. Guo*[1] and J. Zhang[1] *1. Data Storage Institute, Singapore, Singapore*

2:30 **FF-03. Rapid Microtrack Modeling with Vibrations for Servo Perpendicular Recording in Hard Disk Drives.** *K. Tan*[1], W. Wong[1], W. Ye[1], X. Zou[1] and C. Du[1] *1. Data Storage Institute, A*Star, Singapore, Singapore*

2:45 **FF-04. Asynchronous Maximum Likelihood (ML) Detection Of Servo Repeatable Run Out (RRO) Data.** *P.M. Aziz*[1] and V. Annampedu[2] *1. Serdes Channel Architecture, Agere Systems, Irving, TX, USA; 2. Read Channel Architecture, Agere Systems, Allentown, PA, USA*

3:00 **FF-05. Drive Failure Rate Due to Encroachment during Seek: A Numerical Simulation.** *K. Zhang*[1] and R. Niedermeyer[1] *1. Maxtor Corporation, Milpitas, CA, USA*

3:15 **FF-06. Identification and Low-Order Control of Hard Disk Drives.** *M.R. Graham*[1] and R.A. de Callafon[1] *1. University of California San Diego, La Jolla, CA, USA*

3:30 **FF-07. The behavior of spiral flow structures along the trailing edges of E-block arms under increasing airflow velocities.** *T. Yip*[1], C. Tan[1] and Y. Kuan[1] *1. Mechatronics & Recording Channel, Data Storage Institute, Singapore, Singapore*

3:45 **FF-08. Decreasing Airflow Velocity in Hard Disk Drives with a Spoiler and Bypass.** *M. Ikegawa*[1], Y. Hirono[2], H. Mukai[1] and M. Kaiho[3] *1. Mechanical Engineering Research Laboratory, Hitachi, Ltd., Hitachinaka, Ibaraki, Japan; 2. Advanced HDD Technology Laboratory, Hitach Global Storage Technologies Japan, Ltd., Fujisawa, Kanagawa, Japan; 3. Strategy Center, Research & Development Group, Hitachi, Ltd., Chiyoda, Tokyo, Japan*

4:00 FF-09. Thousand-fold scale-up of the oil-air interface in fluid dynamic bearings of hard disk drives.
F. Hendriks[1] 1. Servo-mechanics, Hitachi GST San Jose Research Laboratory, San Jose, CA, USA

4:15 FF-10. Electromagnetic Modeling of a Disk Drive's Front-End Channel Path. *J.T. Contreras[1] 1. Recording Physics and Instrumentation, Hitachi San Jose Research Center, San Jose, CA, USA*

4:30 FF-11. Virtual Storage Image Implementation in a SAN System to Improve Storage Capacity, Fault Tolerance and Bandwidth. *Y. Deng[1]*, F. Wang[1], K. Zhou[2] and S. Wu[1] *1. Center for Grid Computing, Cambridge-Cranfield High Performance Computing Facilities, Cranfield University Campus, Bedfordshire MK430AL, United Kingdom; 2. Key Laboratory of Data Storage System, Ministry of Education, School of Computer, Huazhong University of Science and Technology, Wuhan 430074, China*

4:45 FF-12. Connecting Disk Arrays Directly to the Grid.
F.Z. Wang[1], S. Wu[1], Y. Deng[1], N. Helian[2], S. Thompson[3], I. Johnson[3], D. Milward[3], R. Maddock[3], Y. Guo[4], J. Bacon[5], J. Xiong[1] and N. Sun[1] *1. Centre for Grid Computing, Cambridge-Cranfield HPCF, Cranfield, United Kingdom; 2. London Metropolitan University, London, United Kingdom; 3. Xyratex, Havant, United Kingdom; 4. Imperial College, London, United Kingdom; 5. Cambridge University, Cambridge, United Kingdom*

THURSDAY AFTERNOON 2:00 — ROYAL PALM 5/6

Session FG
GMR, MAGNETIC CONTACTS, CONSTRICTIONS

Claude Chappert, Chair
Universite Paris-Sud

2:00 FG-01. Magnetoresistance and Current-driven Resistance Change Measurements in NiFe films with a Nanoconstriction. *Y. Ohsawa[1,2] 1. Corporate R&D center, Toshiba corp., Kawasaki, Japan; 2. RIEC, Tohoku University, Sendai, Japan*

2:15 FG-02. Giant Magnetoresistance and Quantum Transport in Nano-Contacting Wire. *K. Sekiguchi*[1], M. Shimizu[1] and H. Miyajima[1] *1. Physics, Keio University, Yokohama, Kanagawa, Japan*

2:30 FG-03. Simulation studies of domain wall width changes in various nanocontact shapes. Y. Kim[1], *S. Kim*[1], B. Chun[1] and D. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, South Korea*

2:45 FG-04. Characterization of Nano-Oxide Layer in Pseudo Spin Valve by Complex Impedance Spectroscopy . *W. Jian*[1], T. Peng[2], L. Hsieh[3], C. Lo[3,4], H. Huang[3] and Y. Yao[1,5] *1. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 3. Lab. for spintronics, Opto Electronics and Systems Laboratories,, Industrial Technology Research Institute, Hsinchu, Taiwan; 4. Nano Technology Research Center, Industrial Technology Research Institute, Hsinchu, Taiwan; 5. Institute of Physics, Academia Sinica, Taipei, Taiwan*

3:00 FG-05. Correlation of Giant Magnetoresistance with Infrared Magnetorefractive Spectra. *R.T. Mennicke*[1], J.D. Matthew[1] and S.M. Thompson[1] *1. Department of Physics, University of York, York, North Yorkshire, United Kingdom*

3:15 FG-06. Indirect Exchange Interaction between F and AF Layers. P.D. Kim[1], Y. Yoo[2], *S. Yu*[3], I.A. Turpanov[1], D.L. Khalyapin[1], D.A. Maruschenko[4], J. Yun[5] and J. Rhee[6] *1. Kirensky Institu te of Physics, Russian Academy of Sciences, Krasnoyarsky, Russian Federation; 2. Electronics and Telecommunications Research Institute, Daejeon, South Korea; 3. Department of Physics, Chungbuk National University, Cheongju, Chungbuk, South Korea; 4. Krasnoyarsk State University, Krasnoyarsk, Russian Federation; 5. Gloval Metal Technology Korea, Daejeon, South Korea; 6. Department of Physics, Sookmyung Woment's Univeristy, Seoul, South Korea*

3:30 FG-07. Magnetic Reversal Mechanisms in Spin Valves with Pico-Scale Antiferromagnetic Layers. *S. Moyerman*[1], J. Borchers[2], W. Gannett[1], M. Doucet[2,3], P. Sparks[1] and J.C. Eckert[1] *1. Physics, Harvey Mudd College, Claremont, CA, USA; 2. National Institute of Standards and Technology, Gaithersburg, MD, USA; 3. University of Maryland, College Park, MD, USA*

3:45 **FG-08. Experimental and simulation study of Cu-Al NOL for CCP-CPP-GMR spin-valve.** Y. Kim[1], *J. Soh*[1], S. Kim[2,3], K. Lee[2], Y. Chung[3], S. Kawasaki[4], K. Miyake[4], M. Doi[4] and M. Sahashi[4] *1. Department of Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Future Technology Research Division, Korea Institute of Science and Technology, Seoul, South Korea; 3. Ceramic Engineering, Hanyang University, Seoul, South Korea; 4. Engineering, Tohoku University, Sendai, Japan*

4:00 **FG-09. Spin dependent transport in CoFe/ITO Ohmic contact at room temperature.** *S. YuanQiang*[1], W. QiYe[1] and Z. HuaiWu[1] *1. School of Microelectronic and Solid-state Electronic, University of electronic science and technology of China, ChengDu, SiChuan, China*

THURSDAY AFTERNOON 1:00 — GRAND BALLROOM

Session FP
PERPENDICULAR MEDIA IV - MOSTLY SUL AND IL (POSTER SESSION)

S.N. (Prem) Piramanayagam, Chair
Data Storage Institute

FP-01. CoCrPt-SiO_2 Perpendicular Recording Media With A Crystalline Soft Underlayer. *J. Shi*[1], S. Piramanayagam[1], S. Chow[2], J. Zhao[1] and C. Mah[1] *1. Data Storage Institute, singapore, Singapore; 2. Institute of Material Research Engineering, Singapore, Singapore*

FP-02. Damping Constants of Ni-Fe, Ni-Co, and Fe-Co Alloy Thin Films. *N. Inaba*[1], H. Asanuma[1], S. Igarashi[1], S. Mori[1] and F. Kirino[2] *1. Department of Electrical Engineering, Yamagata University, Yonezawa, Yamagata, Japan; 2. National University of Fine Arts and Music, Taitou-ku, Tokyo, Japan*

FP-03. Patterned Soft Underlayers for Perpendicular Magnetic Recording. *Y. Hijazi*[1], N. Amos[1], A. Lavrenov[1], R. Chomko[1], D. Litvinov[2] and S. Khizroev[1] *1. Center for Nanoscale Magnetic Devices, Florida International University, Miami, FL, USA; 2. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA*

FP-04. Recording Performance of Perpendicular Recording Media Measured by Contact Type Cusp-Field Write Head. *T. KIYA*[1,2], H. YAMANE[1], K. YAMAKAWA[1], N. HONDA[1] and K. OUCHI[1,2] *1. Akita Research Institute of Advanced Technology, Akita, Japan; 2. Graduate School of Systems Science and Technology, Akita Prefectural University, Honjo, Japan*

FP-05. Thermal and Magnetic Field Effect of Soft Under Layer for Perpendicular Media. *S. Yoon*[1], H. Lee[1], S. Kong[1], H. Oh[1] and Y. Kim[1] *1. Nano Devices Lab., Samsung Advanced Institute of Technology, Youngin, Gyeonggi-Do, South Korea*

FP-06. Ru/NiFeX/Si seedlayer to attain finer grains in CoCrPt-SiO_2 perpendicular magnetic recording layer. *S. Kong*[1], H. Kim[1], H. Lee[1], H. Oh[1] and Y. Kim[1] *1. Nano Devices Laboratory, Samsung Institute of Technology, Yongin, Gyeonggi-do, South Korea*

FP-07. Electro-less CoFeNiB plating with circular anisotropy for the soft under-layer of perpendicular recording media. *M. Ito*[1], Y. Hamaguchi[1], T. Tsumori[1], Y. Takai [1] and K. Ohashi[1] *1. Magnetic Materials Research Center, Shin-Etsu Chemical Co., Ltd., Echizen-shi, Japan*

FP-08. Influence of Soft-Under-Layer in Perpendicular Media on Magnetic Contact Duplication Characteristics. A. Izumi[1], Y. Nagahama[1], *T. Komine*[1], R. Sugita[1], M. Nagao[2], M. Nishikawa[2] and T. Yasunaga[2] *1. Department of Media and Telecommunications Engineering, Ibaraki University, Hitachi, Ibaraki, Japan; 2. Recording Media Products Div., Fuji Photo Film Co., Ltd., Odawara, Kanagawa, Japan*

FP-09. Reduction of Ru Interlayer Thickness for CoCrPt-SiO2 Perpendicular Recording Media. *W. Shen*[1], A. Das[2], M. Racine[2], R. Cheng[2], J.H. Judy[1] and J. Wang[1] *1. Dept. of Elect. and Comp. Eng., University of Minnesota, Minneapolis, MN, USA; 2. Materials Technology Division, Heraeus Inc, Chandler, AZ, USA*

FP-10. Pole Erase and Neighbor-Track Erase Dependencies on PMR Head/Media. *S. Hong*[1] and H. Lee[1] *1. HDD R & D Center, Samsung Information Systems America, San Jose, CA, USA*

FP-11. A Novel Perpendicular Recording Medium with a Magnetic Intermediate Layer. *S. Piramanayagam*[1], J. Shi[1], C. Mah[1] and J. Zhang[1] *1. Data Storage Institute, Singapore, Singapore*

THURSDAY AFTERNOON 1:00 GRAND BALLROOM

Session FQ
PARTICULATE MEDIA AND TAPE SYSTEMS (POSTER SESSION)

Hwansoo Lee, Chair
Carnegie Mellon University

FQ-01. Co alloy-SiO_2 granular-type longitudinal media for sputtered tape applications. *H. Lee*[1], L. Wang[1], J.A. Bain[1], D.E. Laughlin[1], T. Sato[2] and H. Ono[2] *1. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Advanced Tape Storage Development, Sony Corporation, Tagajo-shi, Miyagi-ken, Japan*

FQ-02. Effect of Deposition Rate on Microstructure of CoCrPt-SiO_2 Granular Longitudinal Media for Tape Applications. *L. Wang*[1,3], H. Lee[2,3], Y. Qin[2,3], J.A. Bain[2,3] and D.E. Laughlin[1,3] *1. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Department of Electrical and Computer Engieering, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

FQ-03. CoPrCr-SiO_2 Longitudinal Media for the Next Generation Magnetic Tapes. *K. Shimizu*[1], S. Sato[1], H. Terashima[1], K. Motohashi[1] and S. Onodera[1] *1. SONY Corporation, Sendai Tehnology Center, Tagajo-shi, Miyagi, Japan*

FQ-04. Evolution with temperature of the magnetic anisotropy of Ba ferrite particles. *G. Bottoni*[1] *1. Dept. of Physics, University of Ferrara, Ferrara, Italy*

FQ-05. Recording density study of the advanced barium-ferrite particulate tape. *T. Nagata*[1], T. Harasawa[1], M. Oyanagi[1], N. Abe[1] and S. Saito[1] *1. Research and Development Laboratory, Recording Media Products Div.,, Fuji Photo Film Co., Ltd, Odawara, Kanagawa, Japan*

FQ-06. The feasibility of +15Gbits/inch^2 high-density recording with barium-ferrite particulate media and a GMR head. *A. Matsumoto*[1], Y. Endo[1] and H. Noguchi[1] *1. Fuji Photo Film Co., Ltd., Odawara, Kanagawa, Japan*

FQ-07. Demonstration of High Density Removable Disk System Using Barium Ferrite Particulate and CoPtCr-SiO_2 Thin Film Flexible Media. *R.M. Palmer*[1], M.D. Thornley[1], H. Noguchi[2] and K. Usuki[2] *1. Research and Developement Lab, Fujifilm Microdisks, Ogden, UT, USA; 2. Recording Media Products Div., Fuji Photo Film Co., Ltd., Odawara, Kanagawa, Japan*

FQ-08. Incoherent Reversal in Metal Particle Media. *S.J. Chadwick*[1] and K. O'Grady[1] *1. The Department of Physics, The University of York, York, North Yorkshire, United Kingdom*

FQ-09. Corrosion-Resistant GMR Head for Over-1TB Tape System. *M. Sekine*[1], T. Watanabe[1], Y. Tamakawa[2], t. Shibata[2] and Y. Soda[1] *1. Tape Media Div., RMDG, Atsugi Tec. No.2, Sony Corporation, Atsugi-shi, Kanagawa, Japan; 2. Micro Device & Storage Div., PDMG, Sendai Tec., Sony Corporation, tagajyou-shi, Miyagi, Japan*

FQ-10. Multi-Channel Write and GMR Heads for Over-1TB Tape System. *Y. Tamakawa*[1], T. Shibata[1], S. Terui[1], T. Watanabe[2] and Y. Soda[2] *1. Micro Device & Storage Div., PDMG, Sendai Tec., Sony Corporation, Tagajo-shi, Miyagi, Japan; 2. Tape Media Div., RMDG, Atsugi Tec. No2, Sony Corporation, Atsugi-shi, Kanagawa, Japan*

THURSDAY AFTERNOON 1:00 GRAND BALLROOM

Session FR
HEAD-DISK INTERFACE & TRIBOLOGY III (POSTER SESSION)

Andrei Khurshudov, Chair
Samsung

FR-01. Contact Hysterisis Behavior of Textured Pad Slider in Head-Disk-Interface. *H. Tani*[1], K. Goshi[2], K. Suzuki[3] and T. Hamaguchi[2] *1. Media Engineering, HitachiGST JAPAN, Odawara-shi, Kanagawa-ken, Japan; 2. Graduate School of Engineering, The University of Tokyo, Bunkyo-ku, Tokyo, Japan; 3. Department of Mechanical Systems Engineering, Kogakuin University, Hachioji-shi, Tokyo, Japan*

FR-02. Spreading Behavior of Lubricant Films. *Q. Guo*[1], L. Li[2], H. Chen[1], Y. Hsia[2] and M.S. Jhon[1] *1. Department of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Seagate Technology, Inc., Pittsburgh, PA, USA*

FR-03. Humidity Effects on the Relaxation of Perfluoropolyether Lubricant Films. *H. Chen*[1], Q. Guo[1], L. Li[2], Y. Hsia[2] and M.S. Jhon[1] *1. Department of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Mechanical Intergration and Tribology, Seagate Technology, Pittsburgh, PA, USA*

FR-04. Dynamic Take-Off Study Using An Optical Fly Height Tester. *D. Song*[1] and D.S. Schnur[1] *1. Seagate Technologies, Bloomington, MN, USA*

FR-05. On-spot (n,k) Compensation by CCD for Precision Optical Flying Height Measurement. *S. LEONG*[1], Z. YUAN[1], K. NG[1] and B. LIU[1] *1. Data Storage Institute, Singapore 117608, Singapore*

FR-06. Stability Model for Ultra-thin Lubricant Films with a Slider. *S. Izumisawa*[1] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

FR-07. Slider's Unstable High Flying Height after Loading and Subsequent Stabilization. *S. Zhang*[1] and b. strom[1] *1. Reliability, Samsung Information Storage America, san jose, CA, USA*

FR-08. Temperature Control Method of Hard Disk Drives With TuMR Head. *J. Lee*[1] and J. Yun[1] *1. Storage Systems Division, Samsung Electronics Co., LTD., Suwon-city, South Korea*

FR-09. Enabling Femto Slider Technology: Reducing the Pitch Static Attitude and Roll Static Attitude Variations in Head Gimbal Assemblies. *G.P. Singh*[1], T. Strand[1] and R. Payne[1] *1. San Jose Research Center, Hitachi, San Jose, CA, USA*

THURSDAY AFTERNOON 1:00

GRAND BALLROOM

Session FS
COMPUTATIONAL MAGNETISM III (POSTER SESSION)

Kaizhong Gao, Chair
Seagate

FS-01. Adaptive Wavelets for Characterizing Magnetic Flux Leakage Signals from Pipeline inspection. *A.V. Joshi*[1], L. Udpa[1], S. Udpa[1] and A. Tamburrino[2,1] *1. Electrical and Computer Engineering, Michigan State University, East Lansing, MI, USA; 2. University degli Studi di Cassino, Cassino, Italy*

FS-02. EMC Computer Modeling Techniques for CPU Heat Sink Simulation. J. Lu[1] and *F. Dawson*[2] *1. School of Engineering, Griffith University, Brisbane, QLD, Australia; 2. Department of Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada*

FS-03. Design and Modeling of Magnetostrictive Thin Film Actuator. *H. Chen*[1], q. Yang[1], s. liu[1], c. fan[1] and w. yan[1] *1. Hebei University of Technology, Tianjin, China*

FS-04. An Efficient Identification Algorithm of the Preisach Model from B-H curve using Optimization Algorithm. *C. Koh*[1], S. Hong[2] and P. Shin[3] *1. School of ECE, Chunguk National University, Cheongju, Chungbuk, South Korea; 2. School of EE, Hoseo University, Asan, Chungnam, South Korea; 3. Dept. of EEE, Hongik University, Chochiwon, Chungnam, South Korea*

FS-05. System Regularity in Parallel Ferroresonant Chaotic Circuit Derived from Chua Type Magnetization Model. Y. TANAKA[1], *H. ENDO*[2], S. HAYANO[1] and Y. SAITO[1] *1. Graduate School of Engineering,Hosei University, 3-7-2 Kajino, Koganei, Tokyo 184-8584, Japan; 2. Institute of Fluid Science, Tohoku University, 2-1-1 Katahira, Aoba, Sendai, Miyagi 980-8577, Japan*

FS-06. TRANSIENT PROCESSES INFLUENCE ON MAGNETOSTATIC WAVES SOLITON PROPAGATION IN FERRITE FILMS. *R. Marcelli*[3], S.A. Nikitov[2], Y.A. Filimonov[1] and A.A. Galishnikov[1] *1. Institute of Radioengeenering and Electronics RAS, Saratov Branch, Saratov, Russian Federation; 2. Institute of Radioengeenering and Electronics RAS, Moscow, Russian Federation; 3. CNR-IMM, Rome Section, Rome, Italy*

FS-07. First-Principles Study on Atomistic Behaviors and Magnetism of Physisorpted Co and Fe Atoms on MgO(001) Surface. *C. Kim*[1] and Y. Chung[1] *1. Department of Ceramic Engineering, Hanyang University, Seoul 133-791, South Korea*

THURSDAY AFTERNOON 1:00

GRAND BALLROOM

Session FT
COMPUTATIONAL MAGNETISM IV (POSTER SESSION)

Jason Jury, Chair
Seagate

FT-01. Neural-network-based model for dynamic hysteresis in the magnetostriction of electrical steel under sinusoidal magnetisation. *T. Hilgert*[1], L. Vandevelde[1] and J. Melkebeek[1] *1. Department of Electrical Energy, Systems and Automation, Ghent University, Gent, Oost-Vlaanderen, Belgium*

FT-02. Measurement and Modeling Study of B-H loops and Losses of High Silicon Non Oriented Steels. S. Zirka[1,2], Y. Moroz[1], P. Marketos[2], *A. Moses*[2] and D. Jiles[2] *1. Dnepropetrovsk National University, Dnepropetrovsk, Ukraine; 2. School of Engineering, Cardiff University, Cardiff, Wales, United Kingdom*

FT-03. Magnetic Non-Destructive Inspection of Retained Austenite in the Cast Iron. *N. Takahashi*[1], Y. Gotoh[2], N. Sasaguri[2] and K. Koga[2] *1. Electrical and Electronic Eng., Okayama University, Okayama, Japan; 2. Dept. Electrical and Elactronic Eng., Kurume National College of Technology, Kurume, Japan*

FT-04. Electromagnetic Properties Evaluation of High Chromium Ferritic Steel by Eddy-Current Method. *H. Tian*[1], T. Uchimoto[1] and T. Takagi[1] *1. Advanced Systems Evaluation Laboratory, Institute of Fluid Science, Sendai, Japan*

FT-05. Multiquadrics Collocation Method for Transient Eddy Current Problems. Y. Zhang[1], K. Shao[1], *Y. Guo*[2] and J. Lavers[3] *1. Dept. of Electrical Engineering, HUST, Wuhan, Hubei, China; 2. Faculty of Engineering, University of Technology, sedney, NSW, Australia; 3. Dept. of Electrical & Comouter Engineering, University of Toronto, Toronto, ON, Canada*

FT-06. Integration of magnetic devices used in power resonant converters. Y. Lu[1], *K.E. Cheng*[1], S. Ho[1] and J. Pan[1] *1. Electrical Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

FT-07. Analysis of Eddy Current Distribution in High Frequency Coaxial Transformer with Faraday Shield. J. Lu[1] and *F. Dawson* [2] *1. School of Engineering, Griffith University, Brisbane, QLD, Australia; 2. Department of Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada*

FT-08. Magnetic shielding of a cylindrical shield in nonlinear material with hysteresis. *P. Sergeant*[1], M. Zucca[2], L. Dupre[1] and P. Roccato[3] *1. Department of Electrical Energy, Systems and Automation, Ghent university, Gent, Belgium; 2. IEN Galileo Ferraris, Torino, Italy; 3. Politecnico di Torino, Torino, Italy*

FT-09. Numerical Model of an Induction Heater of Long Steel Bars Using Finite Element Method. *J.M. Correa*[2] and J.A. Tapia[1] *1. Electrical Engineering, Universidad de Concepcion, Concepcion, Chile; 2. Electrical Engineering, Universidad del Biobio, Concepcion, Chile*

FT-10. A Finite Element Method Approach to the Design Process of an Aluminium Reduction Cell. *D. Kacprzak*[1], M.J. Gustafsson[2] and M.P. Taylor[2] *1. Electrical and Computer Engineering, The University of Auckland, Auckland, New Zealand; 2. Light Metals Research Centre, The University of Auckland, Auckland, New Zealand*

THURSDAY AFTERNOON 1:00

GRAND BALLROOM

Session FU
MAGNETOELASTIC AND MAGNETOCALORIC MATERIALS (POSTER SESSION)

G. Markandeyulu, Chair
IIT Madras

FU-01. Binary Gdx(Gd5Si2Ge2)1-x (x=0.25, 0.33, 0.5, 0.67, 0.75) magnetic refrigerants for room-temperature applications. *M. Yue*[1], J. Zhang[1], H. Zeng[1] and H. Chen[1] *1. Beijing University of Technology, Beijing, China*

FU-02. Structure, Magnetic Properties and Magnetic Entropy Changes of Er2-xCexFe17 Compounds. *X. Zhong*[1], D. Zeng[1], Z. Liu[1], Y. Zhang[1] and X. Wei[1] *1. College of Mechanical Engineering, South China University of Technology, Guangzhou, China*

FU-03. A specific-heat study of the phase transition in $MnFeP_{0.45}As_{0.55}$ compound. *O. Tegus*[1,2], J. Klaasse[1], D. Thanh[1], W. Dagula[1,2], E. Bruck[1], K. Buschow[1] and F. de Boer[1] *1. Van der Waals-Zeeman Institute, University of Amsterdam, Amsterdam, Netherlands; 2. Key Lab of magnetic materials, Inner Mongolia Normal University, Hohhot, China*

FU-04. The overlap of first and second order phase transitions and related magnetic entropy changes in $Ni_{2+x}Mn_{1-x}Ga$ Heusler alloys. *M. Khan*[1], S. Stadler[1], J. Craig[1], J. Mitchell [1] and N. Ali[1] *1. Physics, Southern Illinois University, Carbondale, IL, USA*

FU-05. Large spontaneous shape memory and magnetic-field-induced strain in $Ni_{51}Mn_{25.5}Ga_{23.5}$ single crystals. Y. Cui[1,2], J. Chen[1] and *G. Wu*[1] *1. Department of Physics, Chongqing Normal University, Chongqing, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Science, Beijing, China*

FU-06. Temperature stability of magnetic-field-induced strain in NiMnGa intermartensitic phase. C. Kong[1], X. Yang[1] and *Y. Cui*[1] *1. Department of Physics, Chongqing Normal University, Chongqing, China*

FU-07. Large Magnetostriction in Epoxy-Bonded Terfenol-D Continuous-Fiber Composites with [112] Crystallographic Orientation. C. Lo[1], *S. Or*[1] and H. Chan[1] *1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong*

FU-08. Magnetic and Magnetostrictive Properties of TbxDy0.7–xPr0.3(Fe0.9B0.1)1.93 Compounds and Their Composites. J. Liu[1,2], S. Or[1], *C. Lo*[1], W. Ren[2] and Z. Zhang[2] *1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Institute of Metal Research and International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China*

FU-09. Effect of Mn on the magnetic and electrical properties of $Ho_{0.85}Tb_{0.15}Fe_2$. J. Arout Chelvane[1], *G. Markandeyulu*[1], N. Harish Kumar[1], R. Nirmala[2] and S. Malik[2] *1. Physics, Indian Institute of Technology, CHENNAI, India; 2. CMP & MS, Tata Institute of Fundamental Research, Mumbai, India*

FU-10. Study of a cantilevered actuator driven by magnetostriction in low magnetic field. *C. Yokota*[1], A. Yamazaki[1], M. Sendoh[2], S. Agatsuma[1], K. Ishiyama[1] and K. Arai[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Miyagi Organization For Industry Promotion, Sendai, Japan*

FU-11. Magnetomechanical Coupling in Stress Annealed Fe-Ga and Fe-Al Alloys. *M. Wun-Fogle*[1], J.B. Restorff[1] and A.E. Clark[2] *1. Naval Surface Warfare Center, Carderock Division, West Bethesda, MD, USA; 2. Clark Associates, Adelphi, MD, USA*

FU-12. Structure and Magnetoelasticity of $R(Zn_{1-x}Fe_x)$ (R=Tb, Dy) Polycrystalline Alloys. B.W. Wang[1], S.Y. Cao[1], W.M. Huang[1], L. Weng[1], Y. Sun[1] and *S. Busbridge*[2] *1. Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology, Tianjin 300130, China; 2. School of Engineering, University of Brighton, Brighton, East Sussex, United Kingdom*

THURSDAY AFTERNOON 1:00 GRAND BALLROOM

Session FV
HIGH-FREQUENCY MATERIALS, DEVICES AND MAGNETOIMPEDANCE (POSTER SESSION)

Raul Valenzuela, Chair
National University of Mexico

FV-01. Slit design consideration on the ferromagnetic RF integrated inductor. *K. Yamada*[1], K. Kim[1] and M. Yamaguchi[1] *1. Electrical and Communication Engineering, Tohoku university, Sendai, Japan*

FV-02. Random Spin Wave Envelope Solitons in Magnetic Thin Films. *M. Wu*[1], B.A. Kalinikos[1,2], P. Krivosik[1,3] and C.E. Patton[1] *1. Department of Physics, Colorado State University, Fort Collins, CO, USA; 2. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation; 3. Slovak University of Technology, Bratislava, Slovakia*

FV-03. Two-dimensional microwave nonlinear spin-wave pulses in in-plane confided magnetic films. *M. Kostylev*[1,3], A.A. Serga[2] and B. Hillebrands[2] *1. School of Physics, University of Western Australia, Perth, WA, Australia; 2. Fachbereich Physik, Technische Universitaet Kaiserslautern, Kaiserslautern, Germany; 3. EIVT Department, St.Petersburg Electrotechnical University, St.Petersburg, Russian Federation*

FV-04. Phase Velocity in Resonant Structures. J.R. Baker-Jarvis[1], M.D. Janezic[1], D. Love[1], C.L. Holloway[1], T.M. Wallis[1] and *P. Kabos*[1] *1. Electromagnetics, National Institute of Standards and Technology, Boulder, CO, USA*

FV-05. CPW Cascaded Magnetostatic Wave Band Stop Resonators. *A. Cismaru*[1] and R. Marcelli[2] *1. Microsystems and Micromachined Microwave Components, IMT - BUCHAREST, Bucharest, Romania; 2. Microwave Microsystems Technology, IMM - ROME, Rome, Italy*

FV-06. Numerical Analysis of Electromagnetic Wave Instability in Nonlinear Ferrite Structures Using Bifurcation Points of the Nonlinear Maxwell's Operator. G.S. Makeeva[1], O.A. Golovanov[2] and *M. PARDAVI-HORVATH*[3] *1. Penza State University, Penza, 440026, Russian Federation; 2. Penza Military Institute of Artillery, Penza-5 440005, Russian Federation; 3. ECE, THE GEORGE WASHINGTON UNIVERSITY, WASHINGTON, DC, USA*

FV-07. Textured Sc-doped Barium Ferrite for Microwave Device Applications. *T. Sakai*[1], Y. Chen[2], C. Vittoria[3] and V.G. Harris[4] *1. Center for Microwave Magnetic Materials, Northeastern University, Boston, MA, USA; 2. Center for Microwave Magnetic Materials, Northeastern University, Boston, MA, USA; 3. Center for Microwave Magnetic Materials, Northeastern University, Boston, MA, USA; 4. Center for Microwave Magnetic Materials, Northeastern University, Boston, MA, USA*

FV-08. Characterization conduction properties of $La_{1.4}Sr_{1.6}Mn_2O_7$ by complex impedance spectroscopy. *C. Hsu*[1], H. Chou[2], B. Liao[2], W. Chen[1] and J. Huang[1,3] *1. Physics, National Cheng Kung University, Tainan, Taiwan; 2. Physics, National Sun Yat-sen University, Kaohsiung, Taiwan; 3. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan*

FV-09. Chaotic Noise Increase in High-frequency Carrier-type Thin-film Sensor. *S. Yabukami*[1], Y. Murayama[1], K. Ishiyama[1], K. Arai[1] and H. Okuno[2] *1. RIEC, Tohoku Univ., Sendai, Japan; 2. Institute of Engineering Mechanics and Systems, University of Tsukuba, Tsukuba, Japan*

FV-10. High –frequency GMI effect in glass-coated amorphous wires. C. Garcia[1], *A. Zhukov*[1,2], J. Gonzalez[1], V. Zhukova[2,1] and J. Blanco[2] *1. Materials Physics, Basque Country University, San Sebastian, Spain; 2. Applied Physics, Basque Country University, San Sebastian, Spain*

FV-11. GMI effect in amorphous glass covered microwires as a function of the internal induced stresses. *H. Chiriac*[1], V. Goian[1,2] and S. Corodeanu[1,2] *1. National Institute of Research-Development for Technical Physics-IFT, Iasi, Romania; 2. "Al. I. Cuza" University, Iasi, Romania*

FV-12. Magneto-resonance behavior in a magnetic LC-resonator using a glass-coated microwire for high frequency sensor applications. L. Anh-Tuan[2], K. Yong-Seok[3], Y. Seong-Chu[3], K. Chong-Oh[2] and *L. Heebok*[1] *1. Department of Physics Education, Kongju National University, Kongju 314-701, South Korea; 2. Department of Materials Engineering, Chungnam National University, Daejeon 305-764, South Korea; 3. Department of Physics, Chungbuk National University, Cheongju 361-763, South Korea*

FV-13. 6-Axis Motion Control Sensor Using Magneto-Impedance Sensor. H. Yoshinobu[1], *C. Cai*[1], M. Yamamoto[1] and M. Mori[1] *1. Aichi Steel Corp., Tokai-shi, Japan*

FV-14. Development of a Small and Wide-Range Three-Phase Current Sensor Using a MI Element. *T. Kudo*[1], N. Tsuji[2], T. Asada[1], S. Sugiyama[1] and S. Wakui[3] *1. Electric Equipment Technology Laboratory, Fuji Electric Advanced Technology Co.,Ltd., Hino, Tokyo, Japan; 2. Organic EL Device Development Department, Fuji Electric Advanced Technology Co.,Ltd., Matsumoto, Nagano, Japan; 3. Faculty of technology, Tokyo University of Agriculture & Technology, Koganei, Tokyo, Japan*

THURSDAY AFTERNOON 1:00 — GRAND BALLROOM

Session FW
PERPENDICULAR AND LONGITUDINAL RECORDING LAYERS (POSTER SESSION)

Mary Minardi, Chair
Hitachi Global Storage Technologies

FW-01. Control of M-H Loop Shape in Perpendicular Recording Media by Ion Implantation. C. Choi[1,2], A.I. Gapin[1,2], *S. Jin*[1,2], D. Hong[3] and T. Lee[4] *1. Center for Magnetic Recording Research, University of California at San Diego, La Jolla, CA, USA; 2. Materials Science, University of California at San Diego, La Jolla, CA, USA; 3. Korea Institute of Science and Technology, Seoul, South Korea; 4. Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejon, South Korea*

FW-02. Switching Field Distribution of CoPtCr-SiO_2 Perpendicular Recording Media Obtained by Subtracting Thermal Agitation of Magnetization. *T. Shimatsu*[1], T. Kondo[1], K. Mitsuzuka[1], S. Watanabe[1,2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Fuji Electric Advanced Technology Co., Ltd., Matsumoto, Japan*

FW-03. Magnetic Properties to Optimize the K_{u2} Effect in Perpendicular Recording Media. *H. Sato*[1], T. Shimatsu[1], T. Kondo[1], S. Watanabe[1,3], O. Kitakami[2], S. Okamoto[2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Institute of Multidisciplinary Research for Advanced Material, Tohoku University, Sendai, Japan; 3. Fuji Electric Advanced Technology Co., Ltd., Matsumoto, Japan*

FW-04. Effects of post-annealing on magnetic properties and microstructure of CoCrPt-SiO_2 perpendicular magnetic recording media. *S. Park*[1], S. Kim[1], H. Oh[2], Y. Kim[2], D. Hong[3] and T. Lee[1] *1. Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Device Lab., Samsung Advanced Institute of Technology, Yongin-City, South Korea; 3. Nano Device Research Center, Korea Institute of Science and Technology, Seoul, South Korea*

FW-05. Dispersion Effect of Size, Exchange and Anisotropy of Perpendicular Media on Read/Write Properties. *Y. Nakatani*[1] and Y. Uesaka[2] *1. Department of Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan; 2. Nihon University, Khoriyama, 963, Japan*

FW-06. Micromagnetic Simulation of Thermal Activation Volume in Perpendicular Recording Media with Dispersions of Grain Size. *M. Igarashi*[1], F. Akagi[1] and Y. Sugita[2] *1. Hitachi, Ltd., Kokubunji, Tokyo, Japan; 2. Tohoku Institute of Technology, Sendai, Miyagi, Japan*

FW-07. Effect of Ar pressure on switching field distribution of CoPtCr-SiO_2 perpendicular media. *D. Vokoun*[1], C. Lai[1], M. Lin[1] and R. Jiang[1] *1. Materials Science and Engineering, National Tsing-hua University, Hsinchu, Taiwan*

FW-08. Validity of Values of Thermal Stability and Switching Field in Recording Medium Obtained by Using Sharrck's Formula. *M. Igarashi*[1] and Y. Sugita[2] *1. Hitachi, Ltd., Kokubunji, Tokyo, Japan; 2. Tohoku Institute of Technology, Sendai, Miyagi, Japan*

FW-09. Measurement of Longitudinal Media Switching Speed Down to 1/3 of a Nanosecond. *M.L. Mallary*[1], M. Benakli[1] and R. Beauregard[1] *1. Maxtor Corporation, Shrewsbury, MA, USA*

FW-10. Experimental estimation of the magnetic energy distribution of CoCrTa from EFTEM data. *J.F. Al-Sharab*[1], J. Wittig[2], J. Bentley[3,2], N. Evans[3], G. Bertero[4] and T. Yamashita[4] *1. Materials Science and Engineering, Rutgers University, Piscataway, NJ, USA; 2. Department of Electrical and Computer Engineering, Vanderbilt University, Nashville, TN, USA; 3. Metal and Ceramics Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 4. Komag Incorporated, San Jose, CA, USA*

FW-11. Effect of texture vehicle and diamond on orientation ratio and SNR of media. *A. Tan*[1] and D.P. Solomos[2] *1. R & D, Showa Denko HD Trace, Hsinchu, Taiwan; 2. Product development, Innovative Organics, Anaheim, CA, USA*

FW-12. Texture and Magnetic Viscosity in Longitudinal Thin Film Media. *M.A. Gonzalez-Fernandez*[1], A. Polcyn[2], M.F. Doerner[2] and K. O'Grady[1] *1. Physics Dept, The University of York, York, United Kingdom; 2. Hitachi GST, San Jose, CA, USA*

FW-13. FMR, Magnetisation and Dynamic Coercivity Studies of Anisotropy in CoCrPtB Recording Media. *T. Thomson*[1], C.J. Oates[2], G.M. Smith[2] and P.C. Riedi[2] *1. Hitachi San Jose Research Center, San Jose, CA, USA; 2. School of Physics and Astronomy, University of St. Andrews, St. Andrews, Fife KY16 9SS, United Kingdom*

THURSDAY AFTERNOON 1:00 — GRAND BALLROOM

Session FX
SPIN TRANSFER SWITCHING (POSTER SESSION)

Pieter Visscher, Chair
University of Alabama

FX-01. Spin Transfer Induced Magnetization Switching in CoGd|Cu|CoFe Spin Valves. *L. Gao*[1,3], X. Jiang[1], J.Z. Sun[2] and S. Parkin[1] *1. IBM Research Division, Almaden Research Center, San Jose, CA, USA; 2. IBM Research Division, Thomas J. Watson Research Center, Yorktown Heights, NY, USA; 3. Department of Applied Physics, Stanford University, Stanford, CA, USA*

FX-02. Spin injection induced magnetization switching: definition of the effective temperature in the activation regime. *J. Wegrowe*[1] and H. Drouhin[1] *1. LSI, Ecole Polytechnique, Palaiseau, France*

FX-03. Current induced magnetization switching in 30nmϕ scale CPP-GMR spin valves fabricated using EB assisted CVD hard masks. *S. Isogami*[1], M. Tsunoda[1] and M. Takahashi[1,2] *1. Electronic Engineering, Tohoku University, Graduate School of Engineering, SENDAI, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Graduate School of Engineering, SENDAI, Japan*

FX-04. Thermally induced switching in uniaxial nanomagnets subject to spin-polarized currents. *C. Serpico*[1], G. Bertotti[2], I. Mayergoyz[3], M. d'Aquino[1] and R. Bonin[2,4] *1. Dept. of Electrical Engineering, University of Naples Federico II, Napoli, Italy; 2. Materials Dept., IEN Galileo Ferraris (INRiM), Turin, Italy; 3. Dept. of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 4. Politecnico di Torino, Turin, Italy*

FX-05. Micromagnetic Simulation on Effect of Ampere Field and External Field on Dynamics of Spin Transfer Torque Switching. *K. Ito*[1], T. Devolder[2], C. Chappert[2], M.J. Carey[3] and J.A. Katine[3] *1. Hitachi Cambridge Laboratory, Hitachi Europe, Ltd., Cambridge, United Kingdom; 2. Institute Electronique Fondamentale, Universite Paris Sud, Paris, France; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

FX-06. Spin-Transfer in Magnetic Tunnel Junctions with Resonance Sates due to Impurities. N. Ryzhanova[1,2], *M. Aurelien*[1], B. Dieny[1] and A. Vedyayev[1,2] *1. DRFMC, CEA/SPINTEC, Grenoble, France; 2. Department of Physics, Lomonosov University, Moscow, Russian Federation*

FX-07. Incoherent Spin-Wave Excitations in Nanopillars with Perpendicular Polarizers. W. Jin[1] and *Y. Liu*[1] *1. Physics Department, Tongji University, Shanghai, China*

FX-08. Oscillatory dependence of current driven domain wall motion on current pulse length. *L. Thomas*[1], M. Hayashi[1], X. Jiang[1], R. Moriya[1], C. Rettner[1] and S. Parkin[1] *1. IBM Almaden Research Center, San Jose, CA, USA*

FX-09. Influence of the bias sign on the dynamic modes induced by spin-transfer in exchange biased spin-valves. *A.M. Deac*[1,3], O. Redon[3,1], Y. Liu[2], S. Petit[1], M. Li[2], P. Wang[2] and B. Dieny[1] *1. Spintec, CEA/CNRS, Grenoble, France; 2. Headway Technologies, Milpitas, CA, USA; 3. Leti, CEA, Grenoble, France*

FRIDAY MORNING 9:00

TOWN AND COUNTRY

Session GA
SYMPOSIUM ON ADVANCED RECORDING MEDIA

Thomas Thomson, Chair
HGST

9:00 **GA-01. Perpendicular Thin-Film Recording Media – Materials and Design Challenges.** ***(Invited)*** *K.E. Johnson*[1], G. Choe[1], B. Acharya[1] and E. Abarra[1] *1. MMC Technology / A Maxtor Company, San Jose, CA, USA*

9:30 **GA-02. Perpendicular Media Overcoat Coverage Challenge.** *Q. Dai*[1], K. Takano[1], G. Wang[1], E. Brinkman[1], R. Waltman[1], V. Nayak[1] and B.K. Yen[1] *1. Hitachi GST, San Jose, CA, USA*

10:00 **GA-03. Analysis of Magnetic Switching Field of Perpendicular/Patterned Media Using in-Field Magnetic Force Microscopy.** ***(Invited)*** *S. Ishio*[1], W. Pei[2], J. Bai[2], H. Saito[1] and N. Honda[3] *1. Department of Materials Science and Engineering, Akita University, Akita, Japan; 2. Venture Business Laboratory, Akita University, Akita, Japan; 3. Akita Research Institute of Advanced Technology, Akita, Japan*

10:30 **GA-04. First-Order Reversal Curve Studies of Magnetization Reversal in Prototype Recording Media.** ***(Invited)*** *K. Liu*[1], J.E. Davies[1], R.K. Dumas[1], G.T. Zimanyi[1], O. Hellwig[2], E.E. Fullerton[2], J.S. Jiang[3], S.D. Bader[3], G. Denbeaux[4], J.B. Kortright[5], I.V. Roshchin[6], C.P. Li[6] and I.K. Schuller[6] *1. Physics Department, University of California, Davis, CA, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA; 3. Argonne National Laboratory, Argonne, IL, USA; 4. University at Albany, Albany, NY, USA; 5. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 6. University of California - San Diego, La Jolla, CA, USA*

11:00 **GA-05. Micromagnetic modelling of composite perpendicular media.** ***(Invited)*** D. Suess[2], *T. Schrefl*[1], M. Kirschner[2], F. Dorfbauer[2] and J. Fidler[2] *1. University of Sheffield, Sheffield, United Kingdom; 2. Technical University of Vienna, Vienna, Austria*

11:30 **GA-06. Recording on bit-patterned media at densities of 1Tb/in^2 and beyond.** ***(Invited)*** *H.J. Richter*[1], A.Y. Dobin[1], K. Gao[2], O. Heinonen[2], R.J. van de Veerdonk[3], R.T. Lynch[1], J. Xue[2], D.K. Weller[1], P. Asselin[3], M.F. Erden[3] and R.M. Brockie[1] *1. Seagate Technology, Fremont, CA, USA; 2. Seagate Technology, Minneapolis, MN, USA; 3. Seagate Technology, Pittsburgh, PA, USA*

FRIDAY MORNING 9:00 SAN DIEGO

Session GB
TRANSPORT IN MAGNETIC TUNNELING II

Stefan Maat, Chair
HitachiGST

9:00 **GB-01. Giant tunnel magnetoresistance in Co_2MnSi/Al-O/Co_2MnSi magnetic tunnel junctions.** *Y. Sakuraba*[1], M. Hattori[1], M. Oogane[1], H. Kubota[2], Y. Ando[1], A. Sakuma[1] and T. Miyazaki[1] *1. Department of Applied Physics, Graduate School of Engineering, Tohoku university, Sendai, Japan; 2. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Sendai, Japan*

9:30 **GB-02. Highly spin-polarized tunneling in fully epitaxial magnetic tunnel junctions using full-Heusler alloy $Co_2Cr_{0.6}Fe_{0.4}Al$ thin film and MgO tunnel barrier.** *T. Marukame*[1], T. Ishikawa[1], H. Kijima[1], W. Sekine[1], K. Matsuda[1], T. Uemura[1] and M. Yamamoto[1] *1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan*

9:45 **GB-03. Tunnel Magnetoresistance Effect in CoFeB/MgO/Heusler Alloys(Co_2FeSi,Co_2MnSi) Tunnel Junctions.** *T. Daibou*[1], M. Shinano[1], Y. Sakuraba[1], M. Oogane[1] and T. Miyazaki[1] *1. Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan*

10:00 **GB-04. Magnetoresistance Effect in a $La_{0.8}Bi_{0.2}MnO_3$/MgO/Co Trilayer Device.** *T. Ogawa*[1], H. Shindo[1], H. Takeuchi[1] and Y. Koizumi[1] *1. Department of Applied Science, Graduate School of Engineering, Tokai University, Kanagawa, Japan*

10:15 **GB-05. Spintronics with Multiferroics.** M. Gajek[1], H. Bea[1], M. Bibes[2], K. Bouzehouane[1], S. Fusil[3], *G. Herranz*[1], E. Jacquet[1], J. Contour[1], M. Varela[5], J. Fontcuberta[4] and A. Fert[1] *1. Unite Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Institut d'Electronique Fondamentale, Universite Paris-Sud, Orsay, France; 3. Universite d'Evry, Evry, France; 4. Institut de Ciencia de Materials de Barcelona, CSIC, Bellaterra, Spain; 5. Dept. de Fisica Aplicada i Optica, Universitat de Barcelona, Barcelona, Spain*

10:30 **GB-06. Dielectric breakdown in underoxidized magnetic tunnel junctions.** J. Ventura[1], R. Ferreira[2], *J.B. Sousa*[1] and P.P. Freitas[2] *1. IFIMUP, Porto, Portugal; 2. INESC-MN, Lisbon, Portugal*

10:45 **GB-07. Dynamic Lorentz Microscopy of Magnetization Reversal in Magnetic Tunnel Junctions.** *J.M. Shaw*[1], R. Geiss[1], D. Pappas[1] and S. Russek[1] *1. Magnetics Group, National Institute of Standards and Technology, Boulder, CO, USA*

11:00 **GB-08. Intrinsic Reliability of AlOx-based Magnetic Tunnel Junctions.** *J. Akerman*[1], M. DeHerrera[2], J.M. Slaughter[2], R. Dave[2], J. Sun[2] and S. Tehrani[2] *1. KTH, Kista, Sweden; 2. Technology Solution Organization, Freescale Semiconductor, Inc., Chandler, AZ, USA*

11:15 **GB-09. Pre-oxidation Suppresses Orange-peel Coupling in Magnetic Tunnel Junctions .** *W.F. Egelhoff Jr.*[1], R.D. McMichael[1], C.L. Dennis[1], M.D. Siles[1], A.J. Shapiro[1], B.B. Maranville[1] and C.J. Powell[1] *1. NIST, Gaithersburg, MD, USA*

11:30 **GB-10. Effect of magnetic domain on thermal stability for MRAM cells with propeller shape.** *T. Kai*[1], N. Shimomura[1], Y. Shimizu[2], S. Ikegawa[1], Y. Asao[1,2], K. Tsuchida[1,2] and H. Yoda[1,2] *1. R&D Center, Toshiba Corporation, Kawasaki, Japan; 2. SoC Research & Development Center, Semiconductor Company, Toshiba Corporation, Yokohama, Japan*

FRIDAY MORNING 9:00 **GOLDEN WEST**

Session GC
MRAM AND LOGIC DEVICES I

Paulo Freitas, Chair
INESC

9:00 **GC-01. Stress induced enhancement of magnetization reversal process of DyFeCo films for MRAM element with perpendicular magnetization.** *S. Nakagawa*[1], M. Yamada[1] and N. Tokuriki[1] *1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan*

9:15 **GC-02. Magnetic and Writing Properties of Clad Lines in a Toggle MRAM.** *K. Shimura*[1], N. Ohshima[1], S. Miura[1], R. Nebashi[1], T. Suzuki[1], H. Hada[1], S. Tahara[1], H. Aikawa[2], T. Ueda[2], T. Kajiyama[3] and H. Yoda[3] *1. System Devices Research Laboratories, NEC Corporation, Sagamihara, Japan; 2. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan; 3. SoC Research & Development Center, Toshiba Corporation, Yokohama, Japan*

9:30 **GC-03. A Spin Torque Perpendicular MRAM Design Scalable beyond 50 Gbits/in^2 Density.** *X. Zhu*[1] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA*

9:45 **GC-04. Spin-flop switching of the guided synthetic anti-ferromagnet MRAM.** *Y. Zheng*[1], J. Qiu[1], K. Li[1], G. Han[1], Z. Guo[1], P. Luo[1], L. An[1], Z. Liu[1], B. Liu[1] and Y. Wu[2] *1. Spintronics, Media and Interface Division, Data Storage Institute, Singapore, Singapore; 2. Department of Electrical and computer Engineering, National University of Singapore, Singapore, Singapore*

10:00 **GC-05. Ion-beam-etched profile control of MTJ cells for improving the switching characteristics of high-density MRAM.** *S. Takahashi*[1], T. Kai[1], N. Shimomura[1], T. Ueda[1], M. Amano[1], M. Yoshikawa[1], E. Kitagawa[1], Y. Asao[1], S. Ikegawa[1], T. Kishi[1], H. Yoda[1], K. Nagahara[2], T. Mukai[2] and H. Hada[2] *1. Corporate Research & Development Center, TOSHIBA Corporation, Kawasaki, Japan; 2. System Devices Laboratories, NEC Corporation, Sagamihara, Japan*

10:15 **GC-06. Improvement of Switching Field in Magnetic Tunnel Junction Using Ru/Ta Capping Layer.** *C. Yen*[1], W. Chen[1], Y. Wang[1], S. Yang[1], K. Shen[1], M. Kao[1] and M. Tsai[1] *1. Electronics Research and Service Organization (ERSO), Industrial Technology Research Institute (ITRI), Hsinchu, Taiwan*

10:30 **GC-07. Performance of a Silicon-Based Spin Diffusion Transistor.** *C. Dennis*[1], E. Hourdakis[2], P. Chen[1], N. Zimmerman[2] and W. Egelhoff, Jr.[1] *1. MSEL, NIST, Gaithersburg, MD, USA; 2. EEEL, NIST, Gaithersburg, MD, USA*

10:45 **GC-08. Magnetic Latches for Space Applications.** *K.J. Hass*[1], G.W. Donohoe[2], Y. Hong[3] and B. Choi[4] *1. CAMBR, University of Idaho, Post Falls, ID, USA; 2. Electrical and Computer Engineering, University of Idaho, Moscow, ID, USA; 3. Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 4. Physics and Astronomy, University of Victoria, Victoria, BC, Canada*

11:00 **GC-09. VHDL Simulation of magnetic domain wall logic.** *J. KLEIN*[1], E. BELHAIRE[1], C. CHAPPERT[1], R. COWBURN[2], D. PETIT[2] and D. READ[2] *1. Institut d'Electronique Fondamentale, Orsay, France; 2. Blackett Physics Laboratory, Imperial College, London, United Kingdom*

FRIDAY MORNING 9:00

ROYAL PALM 1/2

Session GD
FERRITES

Vince Harris, Chair
Northeastern

9:00 **GD-01. Ba-hexaferrite films grown on single crystal 6-H SiC with Low FMR Linewidth.** *z. chen*[1], a. yang[1], S. yoon[1], K. Ziemer[2], C. Vittoria[1] and v. harris[1] *1. ECE, northeastern university, boston, MA, USA; 2. Department of Chemical Engineering, Northeastern University, Boston, MA, USA*

9:15 **GD-02. alkaline metal ion free synthesis of NiZn ferrite film for GHz conducted noise suppressors.** *M. Tada*[1], J. Miyasaka[1], N. Matsushita[2] and M. Abe[1] *1. Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 2. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan*

9:30 **GD-03. Magnetic properties of Self-Assembled CoFe2O4-PbTiO3 Multiferroic Nanostructures.** *V. Provenzano*[1], I. Levin[1], R.D. Shull[1], L.H. Bennett[1], J. Li[1,2] and A.L. Royburd[2] *1. MSEL, NIST, Gaithersburg, MD, USA; 2. Department of Materials Science and Engineering, University of Maryland, College Park, MD, USA*

9:45 **GD-04. Finite-size effect and magnetic properties of ultra-small magnetite nanocrystals for biomedical applications.** S. Ko[1], H. Liu[2], *J. Wu*[3] and Y. Kim[1] *1. Department of Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, South Korea; 3. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea*

10:00 **GD-05. Structural and magnetic characterizations of coprecipitated Ni-Zn and Mn-Zn ferrite nanoparticles .** B. Parvatheeswara Rao[1], I. Dumitru[2], *L. Spinu*[3] and O.F. Caltun[2] *1. Department of Physics, Andhra University, Visakhapatnam, India; 2. Department of Solid State and Theoretical Physics, "Alexandru Ioan Cuza" University, Iasi, Iasi, Romania; 3. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA*

10:15 **GD-06. Magneto-impedance behavior of nano-sized NiZn-Ferrite synthesized by microwave induced combustion and ball milling.** *C. Fu*[1,2], P. Chou[3], W. Liu[3], M. Yang[2] and . Wu[3] *1. Applied Physics Department, National University of Kaoshiung, Kaoshiung, Taiwan; 2. Physics Department, National Kaohsiung Normal University, Kaohsiung, Taiwan; 3. Department of Mechatronics Engineering, National Changhua University of Education, Changhua, Taiwan*

10:30 **GD-07. The Effect of Cr-Substitution on the Magnetic Anisotropy and Its Temperature Dependence in Cr-Substituted Cobalt Ferrite.** *Y. Melikhov*[1], J. Snyder[2], C. Lo[1], P. Matlage[2], S. Song[2], K. Dennis[3] and D. Jiles[4] *1. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA; 2. Materials Science and Engineering Department, Iowa State University, Ames, IA, USA; 3. Materials and Engineering Physics Program, Ames Laboratory, US DoE, Ames, IA, USA; 4. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

10:45 **GD-08. Influence of V2O5 on the Magnetic Properties of Nickel-Zinc-Copper Ferrites.** *R.R. Lebourgeois*[1], J. Ganne[1] and S.A. Duguey[2] *1. Technological Platform, Thales R&T, Palaiseau, France; 2. Temex Ceramics, Pessac, France*

11:00 **GD-09. Magnetic properties of ferrites near ferromagnetic resonance in millimeter waves.** *K.A. Korolev*[1,2], L. Subramanian[1] and M.N. Afsar[1] *1. Tufts University, Medford, MA, USA; 2. Institute of Radio-engineering and Electronics of RAS, Moscow, Russian Federation*

11:15 **GD-10. Measurement and prediction of magnetic losses in Mn-Zn ferrites from DC to the MHz range.** *F. Fiorillo*[1] and C. Beatrice[1] *1. IEN Galileo Ferraris, Torino, Italy*

11:30 **GD-11. The effect of rare-earth oxide CeO2 on the electromagnetic properties of ferrite-ceramic composite materials.** W.H. Zhang[1], *H. Zhong*[1] and Y. Shi[1] *1. School of Microelectronic and Solid-state Electronic, University of Electronic Science and Technology of China, Chengdu, China*

11:45 **GD-12. 57Fe Mossbauer Spectroscopic and Bulk Magnetic Study of the Spinel System: Cualxcrxfe 2-2xO4.** *U.N. Trivedi*[1], H.H. Joshi[1], M. Chhantbar[1], K. Modi[1] and H.C. Verma[2] *1. Physics, Saurashtra university, RAJKOT, Gujarat, India; 2. Physics, Indian Institute of Technology, KANPUR, India*

FRIDAY MORNING 9:00 **ROYAL PALM 3/4**

Session GE
MAGNETISM IN NANO-STRUCTURED THIN FILMS I

Guohan Hu, Chair
Hitachi GST

9:00 **GE-01. Controlling magnetic vortices through exchange bias.** *J. Sort*[1], K. Buchanan[2], M. Grimsditch[2], S. Chung[2], V. Novosad[2], A. Hoffmann[2], G. Salazar-Alvarez[3], M. Baro[2], B. Dieny[4] and J. Nogues[1] *1. Physics, Institucio Catalana de Recerca i Estudis Avancats (ICREA) and UAB, Bellaterra, Spain; 2. Materials Science Division and Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL, USA; 3. Physics, Universitat Autonoma de Barcelona (UAB), Bellaterra, Spain; 4. SPINTEC, CEA-Grenoble, Grenoble, France*

9:15 **GE-02. Theory of Spin Wave Modes of a Magnetic Ring in a Vortex State.** *A.N. Slavin*[1], S. Tacchi[2] and V. Tiberkevich[1] *1. Department of Physics, Oakland University, Rochester, MI, USA; 2. Dipartimento di Fisica, Universita di Perugia, Perugia, Italy*

9:30 **GE-03. Magnetic vortex dynamics in elliptical dots: Field dependence and interaction effects.** *K.S. Buchanan*[1], P.E. Roy[2], M. Grimsditch[1], F.Y. Fradin[1], K.Y. Guslienko[1], S.D. Bader[1] and V. Novosad[1] *1. Argonne National Laboratory, Argonne, IL, USA; 2. Uppsala University, Uppsala, Sweden*

9:45 GE-04. Anisotropy of Magnetization Reversal and Magnetoresistance in Square Arrays of Permalloy Nano-Rings. A. Goncharov[1], *A. Zhukov*[1], V. Metlushko[2], G. Bordingnon[3], H. Fangohr[3], K. de Groot[4], G. Karapetrov[5], B. Ilic[6] and P. de Groot[1] *1. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 2. Department of Electrical and Computer Engineering, University of Illinois at Chicago, Chicago, IL, USA; 3. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 4. School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom; 5. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 6. Cornell Nanofabrication Facility and School of Applied and Engineering Physics, Cornell University, Ithaca, NY, USA*

10:00 GE-05. Magnetometry methods for thin film edge property measurements. *B.B. Maranville*[1], R.D. McMichael[1], C.A. Ross[2], J.Y. Cheng[2] and C.L. Dennis[1] *1. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

10:15 GE-06. Trapping Domain Walls in Diode-like Structures. *M.T. Bryan*[1], T. Schrefl[1], M.R. Gibbs[1] and D.A. Allwood[1] *1. Department of Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom*

10:30 GE-07. Micromagnetic simulation of magnetic triangularly shaped nanoelement formed by nanosphere lithography. *Z. Zhong*[1], S. Liu[2], X. Tang[1], K. Tang[1] and H. Zhang[1] *1. College of Microelectronics and Solid-state Electronics, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 2. College of Opto-electronic Information, University of Electronic Science and Technology of China, Chengdu, Sichuan, China*

10:45 GE-08. Highly ordered FePd and FePt nanostructures. *R. Lukaszew*[1], J. Skuza[1], A. Cebollada[2], C. Clavero[2] and J. Garcia-Martin[2] *1. Physics and Astronomy, University of Toledo, Toledo, OH, USA; 2. IMM-CSIC, Tres Cantos, Madrid, Spain*

11:00 GE-09. Magnetization Switching of 2.5-inch CoCrPt Patterned Media by a Ring Head. *Y. Kamata*[1], A. Kikitsu[1], H. Hieda[1], M. Sakurai[1], K. Naito[1], J. Bai[2] and S. Ishio[2] *1. R&D center, Toshiba corp., Kawasaki, Japan; 2. Venture Business Laboratory, Akita University, Akita, Japan*

11:15 **GE-10. Magnetic Properties of TbFeCo Amorphous Films Deposited on Patterned Underlayer.**
M. Rahman[1], *X. Liu*[1] and A. Morisako[1] *1. Department of Information Engineering, Shinshu University, Nagano, Naganoken, Japan*

11:30 **GE-11. Ferromagnetic Resonance Studies on patterned Trilayer films.** *Y. Zhai*[1,3], D. Zhang[1], J. Shi[2], P. Wong[3], D. Niu[3], G. Li[3], Y. Xu[3] and H. Zhai[4] *1. Department of Physics, Southeast University, Nanjing, Jiangsu, China; 2. Department of Physics, University of Utah, Salt Lake City, UT, USA; 3. Spintronics Laboratory, Depatment of Electronics, University of York, York, Yorkshire, United Kingdom; 4. National Laboratory of Solid Microstructures, Nanjing University, Nanjing, Jiangsu, China*

11:45 **GE-12. Coercivity engineered magnetic multilayer structures .** *F. van Belle*[1], W. Lew[1], T. Mitrelias[1] and J. Bland[1] *1. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom*

FRIDAY MORNING 9:00 **ROYAL PALM 5/6**

Session GF
MOTORS AND ACTUATORS II

David Dorrell, Chair
University of Glasgow

9:00 **GF-01. An approach to the optimum design of the magnetic circuit of a PM linear electrical generator driven by stochastical forces.** *M. Trapanese*[1] *1. Dipartimento di Ingegneria Elettrica Palermo University, Palermo, Italy*

9:15 **GF-02. Calculation of Differential Inductances for Nonlinear Dynamic Analysis of A Tubular Linear PM Actuator.** *H. Lu*[1], J. Zhu[1] and Y. Guo[1] *1. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia*

9:30 **GF-03. Torque Calculation in Finite Element Solutions of Electrical Machines by Consideration of Stored Energy.** *D.G. Dorrell*[1], M. Popescu[1] and M.I. McGilp[1] *1. Dept of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom*

9:45 GF-04. Current ripple minimisation in switched reluctance (SR) machines for aerospace applications. *S.D. Calverley*[1], G.W. Jewell[1], S.J. Forrest[1], J.B. Wang[1] and C.M. Johnson[1] *1. Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom*

10:00 GF-05. Modeling and characterization of induction motor internal faults using finite element and discrete wavelet transform . *O.A. Mohammed*[1], N.Y. Abed[1] and S.C. Ganu[1] *1. Electrical and Computer Department, Florida International University, Miami, FL, USA*

10:15 GF-06. Eddy Current Effects in a Switched Reluctance Motor. M. Klauz[1] and *D.G. Dorrell*[1] *1. Dept of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom*

10:30 GF-07. A Method for Calculating Iron Loss of an SR Motor Based on Reluctance Network Analysis and Comparison of Symmetric and Asymmetric Excitation. *K. Nakamura*[1], S. Fujio[1] and O. Ichinokura[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan*

10:45 GF-08. Calculation of Characteristics of an SR Motor with Divided Stator Cores Considering the Influence of Micro Air Gaps. *K. Murota*[1], K. Nakamura[1] and O. Ichinokura[1] *1. Graduate School of Engineering, Tohoku University, Sendai, Japan*

11:00 GF-09. Embedded hysteresis compensation and control on a magnetostrictive actuator. *D. Davino*[1], A. Giustiniani[1], V. Vacca[1] and C. Visone[1] *1. Engineering, University of Sannio, Benevento, Italy*

11:15 GF-10. Design considerations for an active electro-magnetic suspension system. *J. Paulides*[1], E. Lomonova[1] and A. Vandenput[1] *1. Electromechanics & Power Electronics Group, Eindhoven University of Technology, Eindhoven, Netherlands*

11:30 GF-11. Development of a High Speed Permanent Magnet Motor for Driving Embroidery Machines. *J. Chen*[1,2], Y. Guo[2] and J. Zhu[2] *1. College of Electromechanical Engineering, Donghua University, Shanghai, China; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia*

11:45 GF-12. Back-EMF synthesis for sinusoidal and trapezoidal tooth-wound interior permanent magnet synchronous machines without skewing. *D. Iles-Klumpner*[1], M. Risticevic[2], I. Serban[2] and I. Boldea[3] *1. Automotive Competence Center, MACCON GmbH, Munich, Germany; 2. R&D Laboratory for Electric Drives, ebm-papst GmbH, St. Georgen, Germany; 3. Electric Machines and Drives Laboratory, University Politehnica Timisoara, Timisoara, Romania*

FRIDAY MORNING 8:00

GRAND BALLROOM

Session GP
HEAD-DISK INTERFACE & TRIBOLOGY IV (POSTER SESSION)

Huan Tang, Chair
Seagate

GP-01. The Viscoelastic Behavior of Perfluoropolyether Lubricants. *Q. Guo*[1] and M.S. Jhon[1] *1. Department of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

GP-02. REDUCTION OF CROWN SENSITIVITY ON DISK SHAPE INDUCED FLYING HEIGHT VARIATION THROUGH ABS DESIGN. *K.W. Ng*[1], Z. Yuan[1], B. Liu[1] and T. Chong[2] *1. Data Storage Institute, Singapore, Singapore; 2. ECE Department, National University of Singapore, Singapore, Singapore*

GP-03. Effects of Humidity and Temperature on Head Wear on Thin-Film Disk. *S. Nakazawa*[1] and Y. Kawakubo[2] *1. Glass Media Development Group, Fuji Electric Device Technology Co.,Ltd., Minami-Alps, Yamanashi, Japan; 2. Mechanical Systems Engineering, Shinshu University, Nagano, Nagano, Japan*

GP-04. Calculation of Disjoining Pressure of Lubricant Films via Molecular Simulation. *S. Izumisawa*[1] and M.S. Jhon[1] *1. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

GP-05. Lattice Boltzmann Simulation of Viscoelastic Liquid Bearing in Head-Disk Interface: A Three-Dimensional Model. *H. Chen*[1], W. Kim[1] and M.S. Jhon[1] *1. Department of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA*

GP-06. Effect of slider trailing pad size on lubricant transfer. *T. Boon Kee*[1,2], L. Bo[1], M. Yansheng[1] and L. Shih Fu[2] *1. SMI, Data Storage Institute, nil, Singapore; 2. MAE, Nanyang Technological University, nil, Singapore*

GP-07. Comparison Study of Repeatability of Harmonic In-Situ Fly-Height Measurement Methods. *y. zhou*[1] and B. Liu[2] *1. Hitachi Global Storage Technology Singapore, Singapore, Singapore; 2. SMI, Data Storage Institute of Singapore, Singapore, Singapore*

GP-08. A New Sensorless Write Fault Protection Mechanism For HDD. *Q. Jia*[1] and S. Yoshida[1] *1. Storage Mechanics Lab, Hitachi Asia Ltd, Singapore, Singapore*

GP-09. Lubrication for Heat Assisted Magnetic Recording Media. *J. Zhang*[1], R. Ji[1], J. Xu[2], J. Ng[2], B. Xu[1], S. Hu[1], H. Yuan[1] and S. Piramanayagam[1] *1. Data Storage Institute, Singapore, Singapore; 2. Institute of Materials Research and Engineering, Singapore, Singapore*

FRIDAY MORNING 8:00 GRAND BALLROOM

Session GQ
RECORDING SYSTEMS III: CODING, DETECTION AND EQUALIZATION (POSTER SESSION)

Brian Kurkoski, Chair
University of Electro Communications

GQ-01. Experimental Study of R/W Characteristics in Perpendicular Magnetic Recording Drives. *H. Mutoh*[1], K. Chiba[1], I. Kakiki[1] and H. Ashikaga[1] *1. Storage Products Group, Fujitsu LTD., Kawasaki, Kanagawa, Japan*

GQ-02. Weakly-Constrained Coding with Parity-Check for Perpendicular Recording Channels. M.R. Elidrissi[1,2] and *G. Mathew*[1,2] *1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Mechatronics and Recording Channels, Data Storage Institute, Singapore, Singapore*

GQ-03. A study on application of partial response maximum likelihood channel to magnetic recording system using patterned media. *Y. Okamoto*[1], H. Sugai[1], H. Osawa[1], Y. Nakamura[1], H. Aoi[2], H. Muraoka[2] and Y. Nakamura[2] *1. Faculty of Engineering, Ehime Univ., Matsuyama, Ehime, Japan; 2. RIEC, Tohoku Univ., Sendai, Miyagi, Japan*

GQ-04. Run-length Limited Codes with Free Distance Properties: Construction and Soft-Decision Decoding. *H. Tiwari*[1] and A. Thangaraj[1] *1. Electrical Engineering, IIT Madras, Chennai, Tamil Nadu, India*

GQ-05. Coding gain by Integrated Interleaving ECC. *H. Kamabe*[1] and H. Katou[1] *1. Information Science, Gifu University, Gifu, Gifu, Japan*

GQ-06. A Reliability-Based Reed-Solomon Decoding Algorithm for Magnetic Recording Channels. H. Xia[1,2] and *J.R. Cruz*[2] *1. Link A Media Devices Corp., Santa Clara, CA, USA; 2. School of Electrical and Computer Engineering, The University of Oklahoma, Norman, OK, USA*

GQ-07. FPGA-based LDPC Code Evaluation using an Advanced Magnetic Recording Channel Model. *X. Hu*[1], B. Vijaya Kumar[1], L. Sun[2] and J. Xie[1] *1. ECE, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Agere Systems, Longmont, CO, USA*

GQ-08. Read Channel Designs for Efficient Data Recovery in Storage Systems Employing Imperfect Patterned Media. *I.T. Ntokas*[1], P.W. Nutter[1], B.K. Middleton[1], C.J. Tjhai[2] and M.Z. Ahmed[2] *1. School of Computer Science, The University of Manchester, Manchester, United Kingdom; 2. School of Computing, Communications and Electronics, The University of Plymouth, Plymouth, United Kingdom*

GQ-09. Baseline Wander Compensation by Per-Survivor-Processing. *J. Xie*[1], B. Kumar[1] and X. Hu[1] *1. ECE, CMU, Pittsburgh, PA, USA*

GQ-10. Performance of soft feedback equalization over magnetic recording channels. *J. Jiang*[1], C. He[2], E.M. Kurtas[2] and K.R. Narayanan[1] *1. Electrical and Computer Engineering, Texas A&M University, Collage Station, TX, USA; 2. Seagate Technology, Pittsburgh, PA, USA*

GQ-11. Optimal Equalizers and Targets for Detection in ISI Channels. *R. Venkataramani*[1] and F. Erden[1] *1. Seagate Technology, Pittsburgh, PA, USA*

GQ-12. Potential of Servo Pattern Printing on PMR Media With High Density Servo Signal Pattern. *M. Nishikawa*[1], S. Wakamatsu[1], K. Ichikawa[1], T. Usa[1], M. Nagao[1], T. Ishioka[1], T. Yasunaga[1], T. Komine[2] and R. Sugita[2] *1. R&D Laboratories, Recording media product div., Fuji Photo Film Co., Ltd., Odawara, Kanagawa, Japan; 2. Dept. of Media and Telecommunications Eng., Ibaraki university, Hitachi, Ibaraki, Japan*

FRIDAY MORNING 8:00

GRAND BALLROOM

Session GR
RECORDING PHYSICS - MOSTLY THEORY (POSTER SESSION)

Alexander Dobin, Chair
Seagate

GR-01. Fast calculation of read field from perpendicular recording medium using head characteristic matrix. *Y. Suzuki*[1,2], H. Aoi[1], H. Muraoka[1] and Y. Nakamura[1] *1. RIEC, IT21 Center, Tohoku University, Sendai, Japan; 2. Central Research Lab., Hitachi Ltd, Kokubunji, Japan*

GR-02. Direct Solution of Medium Field and Cross Track Characteristics of Read Sensor. *Z. Liu*[1], J. Li[2], K. Chai[1] and L. Wang[1] *1. Data Storage Institute, Singapore, Singapore; 2. ECE, National University of Singapore, Singapore, Singapore*

GR-03. The Use of the Hilbert Transform for Intersymbol Interference Removal in Spin-Stand Imaging. *P. McAvoy*[1], I. Mayergoyz[1], C. Tse[1], C. Krafft[2] and C. Tseng[1] *1. University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Sciences, College Park, MD, USA*

GR-04. Magneto-resistive playback heads for bit patterned medium recording applications. *D. Smith*[1], C. E[1], S. Khizroev[2] and D. Litvinov[1] *1. Electrical & Computer Engineering, University of Houston, Houston, TX, USA; 2. Electrical and Computer Engineering, Florida International University, Miami, FL, USA*

GR-05. Micromagnetic Modeling of Track Squeeze and Erasure vs. Skew Angle. *A.F. Torabi*[1], D. Bai[2], P. Luo[2], J. Wang[2] and M. Novid[1] *1. Western Digital Corporation, San Jose, CA, USA; 2. Western Digital Corporation, Fremont, CA, USA*

GR-06. Storage Layer Effect on Writability of Perpendicular Recording Head. *A. Shukh*[1], J. Judy[2] and J. van Ek[1] *1. Seagate Technology, Minneapolis, MN, USA; 2. University of Minnesota, Minneapolis, MN, USA*

GR-07. Influences of Thermal Fluctuation on Recorded Magnetizations during Recording Process. K. Yoshida[1] and *M. Ichida*[1] *1. Electronics Engineering, Kogakuin University, Tokyo, Japan*

GR-08. Thermal Reversal of Magnetic Grains Under Arbitrary Time Varying Pulse Field. *X. Wang*[1] and J. Fernandez-de-Castro[1] *1. Seagate Technology, bloomington, MN, USA*

FRIDAY MORNING 8:00

GRAND BALLROOM

Session GS
MAGNETIC SHIELDING, PROPULSION AND LEVITATION (POSTER SESSION)

Ichiro Sasada, Chair
Kyushu University

GS-01. Optimal Structure of Magnetic and Conductive Layers of a Magnetically Shielded Room. *K. Yamazaki*[1], K. Muramatsu[2], M. Hirayama[2], A. Haga[3] and F. Torita[3] *1. Research & Development Inst., Takenaka Corp., Inzai, Chiba, Japan; 2. Dept. of Electrical and Electronic Engineering, Saga Univ., Saga, Japan; 3. Dept. of Electrical Engng. & Information Technology, Tohoku Gakuin Univ., Tagajo, Miyagi, Japan*

GS-02. Measured and computed effect of holes on low frequency magnetic shielding performance of electrical steel sheet. *X. Di*[1], A.J. Moses[1] and P. Anderson[1] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom*

GS-03. Magnetic Disturbance Due to The Hemispherical Hole in The Ground for A Building at The Magnetic Test Site. *K. Yamazaki*[1], K. Kato[1], Y. Hyakusoku[2], K. Muramatsu[3], H. Kitamura[3], K. Fujiwara[4] and K. Kobayashi[5] *1. Takenaka Corp., Chiba, Japan; 2. Japan Aerospace Exploration Agency, Ibaragi, Japan; 3. Saga University, Saga, Japan; 4. Okayama University, Okayama, Japan; 5. Iwate University, Iwate, Japan*

GS-04. 1-100 kHz Magnetic Shielding Efficiency by Metallic Sheets: Modelling and Experiment by a Laboratory Test Bed. O. Bottauscio[1], M. Chiampi[2], P.E. Roccato[2] and *M. Zucca*[1]*1. IEN Galileo Ferraris, Torino, Italy; 2. Dipartimento Ingegneria Elettrica, Politecnico di Torino, Torino, Italy*

GS-05. Development of a Maglev Propulsion System Based on the Halbach Magnet Arrays. *C.H. Ham*[1] and W. Ko[1]*1. FSI, University of Central Florida, Kennedy Space Center, FL, USA*

GS-06. Magnetic Levitation Assisted Guide for a Linear Microactuator. C. Ruffert[1], R. Gehrking[2], B. Ponick[2] and *H.H. Gatzen*[1]*1. Institute for Microtechnology, Hanover University, Garbsen, Germany; 2. Institute for Drive Systems and Power Electronics, Hanover University, Hanover, Germany*

GS-07. An Efficient Electromagnetic Model for Operational Behavior Predictions of a Non-contacting Industrial Steel Plate Conveyance System. *C. Liu*[1], S. Lin[1] and Y. Yang[2]*1. Electrical Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan; 2. Steel and Aluminum Research and Development, China Steel Corporation, Kaohsiung, Taiwan*

GS-08. Nondestructive Evaluation of Mechanical Property by Appratus for Magnetic Measurements of Charpy Test Pieces. *H. Kikuchi*[1], M. Harada[1], K. Ara[1], Y. Kamada[1], S. Kobayashi[1] and S. Takahashi[1]*1. NDE & SRC, Faculty of Engineering, Iwate University, Morioka, Iwate, Japan*

GS-09. Development of Digital FLL System for SQUID Using Double Counter Method. *D. Oyama*[1], K. Kobayashi[1], M. Yoshizawa[1] and U. Yoshinori[2]*1. Iwate University, Morioka, Iwate, Japan; 2. Tokyo Denki University, Ishizaka, Hatoyama, Saitama, Japan*

GS-10. Open Type of Magnetically Shielded Room Combined With Cancelling Coils for Magnetic Resonance Imaging. *K. Yamazaki*[1], S. Hirosato[1], K. Muramatsu[2], M. Hirayama[2] and A. Haga[3]*1. Research & Development Inst., Takenaka Corp., Inzai, Chiba, Japan; 2. Dept. of Electrical and Electronic Engineering, Saga Univ., Saga, Saga, Japan; 3. Dept. of Electrical Engng. & Information Technology, Tohoku Gakuin Univ., Tagajo, Miyagi, Japan*

GS-11. Magnetic field leakage from a 45-degree-angle magnetic shell and its reduction - Toward a high-performance magnetic shield. *Y. Nakashima*[1], T. Kimura[1] and I. Sasada[1] *1. Applied Science for Electronics and Materials, Kyushu University, Kasuga, Japan*

FRIDAY MORNING 8:00 GRAND BALLROOM

Session GT
MULTILAYERS AND SUPERLATTICES (POSTER SESSION)

Eric Fullerton, Chair
Hitachi Global Storage

GT-01. Temperature Dependent XMCD Studies on the Magnetic Properties of Mn3O4/Fe3O4 Superlattice. *C. Chen*[1], M. Wu[1], G. Chern[2], H. Lin[3] and C. Chang[4] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of physics, Chung-Cheng University, Chiayi, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Department of physics, Tamkang University, Tamsui, Taiwan*

GT-02. Combinatorial Synthesis of Co/Pd Magnetic Multilayers. *C. E*[1], D. Smith[1], E. Svedberg[2], S. Khizroev[3] and D. Litvinov[1] *1. Electrical & Computer Engineering, University of Houston, Houston, TX, USA; 2. National Institute of Standards & Technology, Gaithersburg, MD, USA; 3. Electrical & Computer Engineering, Florida International University, Miami, FL, USA*

GT-03. Anomalous temperature variation of interlayer exchange coupling in CoFe/Bi/Co trilayers. *J. Hsu*[1] and Z. Xue[1] *1. Physics, National Taiwan University, Taipei, Taiwan*

GT-04. Effect of hard layer demagnetization on the magnetization reversal of epitaxial Fe/SmCo spring magnets. *J.E. Davies*[1], K. Liu[1], E.E. Fullerton[2], J.S. Jiang[3] and S.D. Bader[3] *1. Physics Department, University of California, Davis, CA, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA; 3. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA*

GT-05. Effects of lattice expansion and moment enhancement on saturation magnetization of $Fe_{70}Co_{30}$ sublayers in $[Fe_{70}Co_{30}/M]_n$ super-lattice films. *K. Noma*[1], M. Matsuoka[1], H. Kanai[1] and Y. Uehara[1] *1. Advanced Head Technology, Fujitsu Ltd., Nagano, Japan*

GT-06. Growth of (001)-textured FePt films on Fe(Rh,Ir)/SiO_2-glass. S. Koyama[1,2], *T. Goto*[2] and T. Shima[2] *1. Daido Electronics Co., Ltd., Nakatsugawa, Gifu, Japan; 2. Faculty of engineering, Tohoku Gakuin University, Tagajo, Miyagi, Japan*

GT-07. Thermal Stability in Textured CoFe/IrMn Films with Os Buffer and Barrier Layer. *T. Peng*[1], C. Lo[2,4], S. Chen[1] and Y. Yao[3,1] *1. The Department of Materials Science and Engineering, National Chiao Tung University, HsinChu, Taiwan; 2. Lab. for spintronics, Opto Electronics and Systems Laboratories, Industrial Technology Research Institute, HsinChu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Nano Technology Research Center, Industrial Technology Research Institute, HsinChu, Taiwan*

GT-08. Magnetization reversal in electrodeposited CoNi/Cu multilayer nanowires. *X. Tang*[1], G. Wang[1] and M. Shima[2] *1. Department of Physics, Applied Physics and Astronomy, Rensselaer Polytechnic Institute, Troy, NY, USA; 2. Department of Materials Science and Engineering, Rensselaer Polytechnic Institute, Troy, NY, USA*

GT-09. Dependence of GMR in Co/Cu Multilayers on Sputtering Conditions. C. Chen[2], Y. Sakashita[2], Y. Suzuki[2], T. Kato[2], *S. Iwata*[1], S. Tsunashima[2], H. Toyoda[2], K. Sasaki[2] and H. Sugai[2] *1. CCRAST, Nagoya University, Nagoya, Aichi, Japan; 2. Dept. of Electronics, Nagoya University, Nagoya, Aichi, Japan*

GT-10. Asymmetric Magnetization Reversal in IrMn/CoFe/FeO_X/CoFe Structures. P. Hsu[1], *C. Lai*[1], P. Huang[1] and C. Shen[1] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan*

GT-11. Tunneling, giant zero bias conductance, and polarized carriers injection from La2/3Ca1/3MnO3 epitaxial films. W. Saldarriaga[1], O. Moran[1] and *E. Baca*[1] *1. Physics Department, Universidad del Valle, Cali, Colombia*

GT-12. Magnetotransport properties in epitaxial $La_{2/3}Ca_{1/3}MnO_3/La_{1/3}Ca_{2/3}MnO_3$ superlattices. *M.E. Gomez*[1], G. Campillo[1], J.G. Ramirez[1], A. Hoffmann[2], J. Guimpel[3], N. Haberkorn[3], A. Condo[3], F. Lovey [3] and P. Prieto[1] *1. Excellence Center for Novel Materials, Department of Physics, Universidad del Valle, Cali, Colombia; 2. Materials Science Division, Argonne National Laboratory, Argonne, Illinois 60439, IL, USA; 3. Instituto Balseiro, Centro Atomico de Bariloche, 8400 Bariloche, Argentina*

FRIDAY MORNING 8:00

GRAND BALLROOM

Session GU
FUNDAMENTAL PROPERTIES (POSTER SESSION)

Michael Bonder, Chair
U.Delaware

GU-01. Rapidly solidified $La(Fe_{0.88}Si_{0.12})_{13}$ alloys and their magnetocaloric properties. *S. Hirosawa*[1], H. Tomizawa[1] and K. Bekki[1] *1. Research and Development Division, NEOMAX Co. Ltd., Mishimagun, Osaka, Japan*

GU-02. Magnetoelectric Properties of $CoFe_2O_4$-$BaTiO_3$ Core-Shell Structure Composites. *V. Giap*[1,2], R. Groessinger[1] and R. Sato Tuertelli[1] *1. Institute for Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Faculty of Chemical Engineering, Hanoi University of Technology, Hanoi, Viet Nam*

GU-03. In-field Mössbauer spectra for $La_xSr_{1-x}FeO_{3-y}$ (x=1/3, 1/2) above their charge disproportionation temperature. *S. Yoon*[1] and C. Kim[2] *1. Gunsan national university, Gunsan, South Korea; 2. Kookmin University, Seoul, South Korea*

GU-04. Photomagnetism Studies in Nd0.7Sr0.3CoO3. *D. Bahadur*[1], S. Asthana[1], C. Carbonera[2] and J. Letard[2] *1. Metallurgical Engineering and Materials Science, IIT, Bombay, Mumbai, Maharastra, India; 2. Institut de Chimie de la Matiere Condensee de Bordeaux, Bordeaux 1 University - UPR CNRS 9048, Pessac, France*

GU-05. Pauli Matrix Based Formulation of Classical Spin Wave Dispersion Theory. *N. Mo*[1] and C.E. Patton[1] *1. Physics, Colorado State University, Fort Collins, CO, USA*

GU-06. Activation volumes of magnetic aftereffects: role of the chemical potential in nanomagnets. *L.H. Bennett*[1,2], E. Della Torre[1,2] and R.E. Watson[3] *1. ECE, George Washington University, Ashburn, MD, USA; 2. MSEL, National Institute of Standards and Technology, Gaithersburg, MD, USA; 3. Physics, Brookhaven National Laboratory, Upton, NY, USA*

GU-07. Charge-Dependent Magnetization in Nanoporous Pd-Co Alloys. *S. Ghosh*[1], C. Lemier[1] and J. Weissmueller[1,2] *1. Institute of Naotechnology, Forchungszentrum Karlsruhe, Karlsruhe, Baden-Wurttemberg, Germany; 2. Fachrichtung Technische Physik, Universitaet des Saarlandes, Saarbruecken, Baden-Wuttemberg, Germany*

GU-08. Characteristic of Co doping in Fe3O4 ferrite films. *S. Tong*[1] and M. Tung[1] *1. Materials Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan*

GU-09. Preparation of gold/iron oxide composite nanoparticles by a laser soldering method. *K. Kawaguchi*[1], J. Jacek[2], Y. Ishikawa[1], T. Sasaki[1] and N. Koshizaki[1] *1. NARC, AIST, Tsukuba, Ibaraki, Japan; 2. Institute of Nuclear Physics, Krakow, Radzikowskiego, Poland*

GU-10. Magnetism of Nanoclusters and Nanocluster-Assembled Thin Films. *Y. Qiang*[1], J. Antony[1], A. Sharma[1], D. Meyer[1] and J. Nutting[1] *1. Physics, University of Idaho, Moscow, ID, USA*

FRIDAY MORNING 8:00 GRAND BALLROOM

Session GV
SOFT MATERIALS - CRYSTALLINE, NANOCRYSTALLINE AND AMORPHOUS (POSTER SESSION)

Frank Johnson, Chair
GE Global Research

GV-01. The Structure and Magnetic Properties of CoNbZr-Sm_2O_3 Granular Films. *W. Jung*[1], C. Lee[1], B. Koo[1], K. Shin[1], J. Yoo[1] and Y. Shimada[2] *1. School of Nano & Advanced Meterials Engineering, Changwon University, Changwon, South Korea; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan*

GV-02. Giant Magneto-Impedance Effect in $Ni_{80}Fe_{20}$ Composited Multilayers. Z. Song[1], W. Yuan[1], *Z. Zhao*[1], J. Ruan[1] and X. Yang[1] *1. Physics, East China Normal University, Shanghai, China*

GV-03. Permeability measurements of various magnetic films by a broad band CPW technique. *K. Jongryoul*[1], K. Inyoung[2], K. Ki Hyeon[3] and Y. Masahiro[3] *1. Metallugy and Materials Engineering College of Engineering Science, Hanyang University, Ansan, Kyunggi-do, South Korea; 2. eMD Lab, Central R&D Centre, Samsung Electro-Mechanics Co, Suwon, South Korea; 3. Electrical and Communication Engineering, Tohoku University, Sendai, Japan*

GV-04. Influence of dc Joule Annealing on Magnetoimpedance of CuBe/CoNiP Composite Wires. L. Liu[1], *Z. Zhao*[1], Z. Wu[1], J. Ruan[1] and X. Yang[1] *1. Physics, East China Normal University, Shanghai, China*

GV-05. Effect of Ta Replacement on Soft Magnetic Properties and Glass Formation of Fe-Y-B BMG. *M. Lee*[1], C. Lin[1] and T. Chin[1] *1. Materials Science and Engineering, Hsinchu, Taiwan*

GV-06. Variation of magnetic properties by heat treatment on CoFeNi alloys. *H. Kim*[1], C. Park[1], J. Lee[2] and W. Jeung[1] *1. KIST(Korea Institute of Science and Technology), Seoul, South Korea; 2. Seoul National University, Seoul, South Korea*

GV-07. Surface and bulk magnetic hysteresis loops of Co-rich glass covered microwires. *A. Chizhik*[1], J. Gonzalez[1], J. Blanco[2] and A. Zhukov[1] *1. Dep. Fis. Mat., University of Basque Country, San Sebastian, Spain; 2. Departamento Fisica Aplicada I, EUPDS, UPV/EHU, San Sebastian, Spain*

GV-08. Influence of DC Joule heating on the Domain Structures of Fe-B-Si Amorphous Glass-Covered Magnetic Wires. *I. Astefanoaei*[1], A.A. Stancu[1] and H.H. Chiriac[2] *1. Department of Physics, Al.I. Cuza University, Faculty of Physics, Carol I Blvd., No. 11, RO-700050, Iasi, Romania, Iasi, Romania; 2. Department of MDM, National Institute of Research and Development for Technical Physics, 47 Mangeron Blvd.,Iasi 3,, Iasi, Romania*

GV-09. Effects of the Addition of Permalloy Powder on the High-Frequency Magnetic Properties of Fe-based Amorphous Powder Cores. *Y. Kim*[1] and K. Kim[1] *1. Advanced Metals Research Center, Korea Institute of Science and Technology, Seoul, South Korea*

GV-10. Magnetization Process of h.c.p.-CoIr Nanoparticles with Negative Uniaxial Magnetocrystalline Anisotropy. *D. Hasegawa*[1], S. Nakasaka[1], T. Ogawa[1] and M. Takahashi[2] *1. Department of Electronic Engineering, Tohoku university, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

GV-11. Bulk Nanocrystalline Fe84Nb4W3B9 Alloy Prepared by Super-high-pressure Consolidation from Mechanically Alloyed Powders. *W. Lu*[1,2], B. Yan[1,2] and T. Renjian[1,2] *1. School of Materials Science and Engineering, Tongji University, Shanghai, China; 2. Shanghai Key Lab. of D&A for Metal-Functional Materials, Tongji University, Shanghai, China*

GV-12. Synthesis of nano cryatalline Ni and Fe by levitational gas condensation (LGC) method. *B. Han*[1], Y. Uhm[1], M. Lee[1] and C. Rhee[1] *1. Korea Atomic energy research institute, Daejeon, South Korea*

GV-13. Soft Magnetic FeNi-X (X= CuO, NiO, and CoO) Exchange Coupled Nanocomposites Prepared via Ball Milling. *S.R. Mishra*[1], I. Dubenko[2], M. Khan[2], T. Young[1], H. Ganegoda[3], N. Ali[2] and G. Marasinghe[3] *1. Physics, The University of Memphis, Memphis, TN, USA; 2. Physics, Southern Illinois University, Carbondale, IL, USA; 3. Physics, The University of North Dakota, Grand Forks, ND, USA*

GV-14. Effect of frequency on the iron losses of 0.5% and 1.5%Si non-oriented electrical steels. *F.P. Missell*[1,3], M.F. de Campos[1], T. Yonamine[1], M. Fukuhara[1], F.J. Landgraf[2] and C.A. Achete[1] *1. DIMCI/DIMAT, Inmetro - Instituto Nacional de Metrologia, Normalizacao e Qualidade Industrial, Duque de Caxias, RJ, Brazil; 2. Depto de Metalurgia e de Materiais, Escola Politecnica, Universidade de Sao Paulo, Sao Paulo, SP, Brazil; 3. Centro de Ciencias Exatas e Tecnologia, Universidade de Caxias do Sul, Caxias do Sul, RS, Brazil*

GV-15. Rotational power losses under controlled flux density or magnetic field in electrical steel sheets. *S. Zurek*[1] and T. Meydan[1] *1. Wolfson Centre for Magnetics, School of Engineering, Cardiff University, Cardiff, United Kingdom*

GV-16. Composition and Temperature Dependence of Magnetic and Structural Properties of Nanocrystalline FeTaC Soft Magnetic Films. *H. Zhao*[1], J. Hu[1] and J. Chen[1] *1. Data Storage Institute, Singapore, Singapore*

FRIDAY AFTERNOON 2:00 SAN DIEGO

Session HA
MGO MAGNETIC TUNNEL JUNCTIONS

Sining Mao, Chair
Seagate technology

2:00 HA-01. Structural and Electrical Properties of $(Co_xFe_{100-x})_{81}B_{19}$/MgO/$(Co_xFe_{100-x})_{81}B_{19}$ Magnetic Tunnel Junctions. *K. Tsunekawa*[1], Y. Nagamine[1], H. Maehara[1], D.D. Djayaprawira[1] and N. Watanabe[1] *1. Electron Device Equipment Engineering Division, Canon ANELVA Corp., Fuchu-shi, Tokyo, Japan*

2:15 **HA-02. Giant tunneling magnetoresistance in CoFeB/MgO/CoFeB magnetic tunnel junction with a synthetic ferrimagnetic pin layer annealed at and above 400°C.** *Y. Lee*[1], J. Hayakawa[2,1], S. Ikeda[1], F. Matsukura[1] and H. Ohno[1] *1. Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku Univiersity, Sendai, Miyagi, Japan; 2. Advanced Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan*

2:30 **HA-03. Large exchange coupling and high thermal stability in synthetic antiferromagnet with ultrathin seed layer.** *Y. Fukumoto*[1], H. Honjo[1], C. Igarashi[1], T. Nagase[2], N. Ishiwata[1], S. Ikegawa[2], H. Yoda[2] and S. Tahara[1] *1. System Devices Research Laboratories, NEC Corporation, Sagamihara, Japan; 2. Corporate R&D Center, Toshiba Corporation, Kawasaki, Japan*

2:45 **HA-04. Low Frequency Noise in CoFeB/MgO(100)/CoFeB Magnetic Tunnel Junctions.** *A.F. Md Nor*[1], T. Daibou[1], M. Oogane[1], Y. Ando[1] and T. Miyazaki[1] *1. Department of Applied Physics, Graduate School of Engineering,, University of Tohoku, Sendai, Japan*

3:00 **HA-05. Low RA tunnel-junctions with MgO-Barrier.** *J. Langer*[1], B. Ocker[1] and W. Maass[1] *1. Singulus Technologies AG, Kahl, Germany*

3:15 **HA-06. Effect Of Adjacent Layers on Crystallization and Magnetoresistance in CoFeB/MgO/CoFeB Magnetic Tunnel Junction .** *C. Park*[1], Y. Wang[2] and J. Zhu[1] *1. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Electronics Research and Service Organization, Industrial Technology Research Institute, Hsinchu, Taiwan*

3:30 **HA-07. Reduction of the bias dependence in MgO-based magnetic tunnel junctions.** *W. Shen*[1], D. Mazumdar[1], X. Liu[1,2], X. Zou[1], B.D. Schrag[2] and G. Xiao[1] *1. Physics Department, Brown University, Providence, RI, USA; 2. Micro Magnetics, Inc., Fall River, MA, USA*

3:45 **HA-08. Magnetic and electrical properties of magnetic tunnel junctions with radical oxidized MgO barriers.** *S. Oh*[1], J. Jeong[1], K. Nam[1], J. Lee[1], H. Kim[1], S. Park[1], H. Kim[1], U. Chung[1] and J. Moon[1] *1. Process Development Team, Memory Division, Semiconductor Business,Samsung Electronics Co.LTD, Yongin-City, Gyeonggi-Do, South Korea*

4:00 **HA-09. Electronic structure of MgO/Fe(001) interface.** *L. Plucinski*[1], Y. Zhao[1], B. Sinkovic[1] and E. Vescovo[2] *1. Department of Physics, University of Connecticut, Storrs, CT, USA; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA*

4:15 **HA-10. Inverse TMR in the Fe/MgO/Fe(001) Epitaxial System.** *M. SICOT*[1], S. Andrieu[2], C. Tiusan[2], F. Montaigne[2] and A. Schuhl[2] *1. Departement of Applied Physics, Group Physics of nanostructures, Eindhoven, Netherlands; 2. UMR 7556 CNRS/Univ. Nancy I, Laboratoire de Physique des Materiaux, Vandoeuvre, France*

4:30 **HA-11. Resonant inversion of tunneling magnetoresistance using MgO/NiO barriers.** *H. Yang*[1,2], S. Yang[1], C. Kaiser[1] and S. Parkin[1] *1. IBM almaden research center, San Jose, CA, USA; 2. Electrical Engineering, Stanford Univ., Stanford, CA, USA*

4:45 **HA-12. Tunneling magnetoresistance in FeCo/MgO/FeCo tunneling junctions depending on FeCo/MgO interface state.** *T. Moriyama*[1], W. Wang[1] and J.Q. Xiao[1] *1. Physics and Astronomy, University of Delaware, Newark, DE, USA*

FRIDAY AFTERNOON 2:00 **GOLDEN WEST**

Session HB
FEPT L10 AND MULTILAYERS

Kazuhiro Hono, Chair
National Institute for Materials Science, Japan

2:00 **HB-01. Temperature Dependence of the Giant Magnetic Anisotropy Constants in Ordered Fe_3Pt Alloy Thin Films.** *T. Suzuki*[1], M.I. Nahid[1], H. Yamamoto[1] and K. Nakajima[1] *1. Toyota Technological Institute, Nagoya, Japan*

2:15 **HB-02. Interface effect of MgO intermediate layer on the perpendicular anisotropy of $L1_0$ FePt films and the initial growth layer.** *B. Lim*[1,2], J. Chen[1], J. Hu[1], S. Chow[3] and G. Chow[2] *1. SMI, Data Storage Institute, Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 3. Institute of Materials Research and Engineering (IMRE), Singapore, Singapore*

2:30 **HB-03. Magneto-crystalline anisotropy in highly chemically ordered pseudo-binary $(Fe_{1-x}Mn_x)_{50}Pt_{50}$ $L1_0$ alloys .** *G. Meyer*[1] and J. Thiele[2] *1. SLAC, Stanford University, Menlo PArk, CA, USA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA*

2:45 **HB-04. Epitaxial, exchange coupled $SmCo_5$/Fe/$SmCo_5$ trilayers .** *V. Neu*[1], K. Ha"fner[1], A. Patra[1], S. Oswald[1], S. Baunack[1] and L. Schultz[1] *1. IFW Dresden, Dresden, Germany*

3:00 **HB-05. Exchange Coupling in Hard Magnet-biased Antiferrimagnetically Coupled CoCrTa/Ru/CoTaZr Films .** *H. Jung*[1], E. Velu[1], S. Malhotra[1], U. Kwon[2] and G. Bertero[1] *1. Komag Inc., San Jose, CA, USA; 2. Materials Science and Engineering, Stanford University, Stanford, CA, USA*

3:15 **HB-06. Synthesis and Magnetic Moment of bct and fct-Fe-N.** *K. Sunaga*[1], M. Tsunoda[1] and M. Takahashi[2,1] *1. Electronic Engineering, Tohoku university, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan*

3:30 **HB-07. CPP-GMR Films with Tilted Incident Deposition.** *H. Hoshiya*[1] and K. Hoshino[1] *1. Central Research Laboratory, Hitachi, Ltd., Odawara, Kanagawa, Japan*

3:45 **HB-08. Electrodeposition of Co/Cu Multilayered Nanowires with Controlled Crystallographic Orientation .** *L. Tan*[1], R.K. Cobian[2], B.J. Stadler[3], L. Wang[1], C. Leighton[1] and P. Crowell[4] *1. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA; 2. BH Product, Minneapolis, MN, USA; 3. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA; 4. Physics, University of Minnesota, Minneapolis, MN, USA*

4:00 **HB-09. Characteristics of Fe/Co super-lattices on Au electrode.** *I. Chu*[1], M. Doi[1] and M. Sahashi[1] *1. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

4:15 **HB-10. A Ballistic Electron Emission Microscopy (BEEM) Study of Metallic Multilayers.** *J. Thompson*[1], T. Zhang[1], T. Shen[1] and M. Hopkinson[2] *1. Joule Physics Laboratory, Institute for Materials Research, University of Salford, Salford, United Kingdom; 2. EPSRC National Centre for III-V Technologies, University of Sheffield, Sheffield, United Kingdom*

FRIDAY AFTERNOON 2:00 — CALIFORNIA

Session HC
MAGNETIC SENSORS (NON RECORDING)II

Dexin Wang, Chair
Seagate Technology

2:00 **HC-01. Pulse Excitation Approach for Low Power Orthogonal Fluxgate Sensor.** *J. Fan*[1], X. Li[1] and X. Qian[1] *1. Mechanical Engineering, National University of Singapore, Singapore, Singapore*

2:15 HC-02. A Fully Integrated Ring-Type Fluxgate Sensor Using A Localized Core Saturation Method. *P. Wu*[1] and C.H. Ahn[1] *1. Department of Electrical & Computer Engineering & Computer Science, University of Cincinnati, Cincinnati, OH, USA*

2:30 HC-03. Sinusoidal behavior of a di-pole magnetization for position sensing applications. *J. Paulides*[1], E. Lomonova[1], A. Vandenput[1] and E. Zaaijer[2] *1. Electromechanics & Power Electronics Group, Eindhoven University of Technology, Eindhoven, Netherlands; 2. TDC Mechatronics, SKF Engineering Research Centre, Nieuwegein, Netherlands*

2:45 HC-04. Multiturn counter using movement and storage of 180° magnetic domain walls. *R.M. Mattheis*[1], E. Halder[2] and M. Diegel[1] *1. Magnetoelectronics, IPHT, Jena, Germany; 2. Novotechnik Stiftung & Co. Messwertaufnehmer OHG, Ostfildern, Germany*

3:00 HC-05. Control of Demagnetizing Field and Magnetostatic Coupling in FeCoV Wires for Zero-speed Sensor. *Y. Takemura*[1], T. Aoki[1], T. Yamada[1], S. Abe[2], S. Kohno[3] and H. Nakamura[3] *1. Yokohama National University, Yokohama, Japan; 2. Kanagawa University, Yokohama, Japan; 3. Nikkoshi Co., Ltd., Tokyo, Japan*

3:15 HC-06. An Active Magnetic Probe Array for the Multiple-point Concurrent Measurement of the Electromagnetic Emissions. *S. Aoyama*[1], S. Kawahito[2] and M. Yamaguchi[3] *1. Graduate School of Electronic Science and Technology, Shizuoka University, Hamamatsu, Japan; 2. Research Institute of Electronics, Shizuoka University, Hamamatsu, Japan; 3. Graduate School of Engineering, Tohoku University, Sendai, Japan*

3:30 HC-07. Effects of flux concentrators on the low frequency noise in magnetoresistive sensing devices. *E. Nowak*[1], A. Ozbay[1], A. Edelstein[2], G. Fischer[2], C. Nordman[3] and S. Cheng[4] *1. Physics & Astronomy, University of Delaware, Newark, DE, USA; 2. U.S. Army Research Laboratory, Adelphi, MD, USA; 3. NVE Corp, Eden Prairie, MN, USA; 4. U.S. Naval Research Laboratory, Washington, DC, USA*

3:45 HC-08. Magnetic Field sensors employing Fiber Bragg Grating and Magneto-Elastic active material. *D. Davino*[1], C. Visone[1], C. Ambrosino[2], S. Campopiano[2], P. Capoluongo[2], A. Cusano[2], A. Cutolo[2] and M. Giordano[3] *1. Dept. of Engineering, University of Sannio, Benevento, Italy; 2. Optoelectronic Division - Dept. of Engineering, University of Sannio, Benevento, Italy; 3. IBCM, National Research Council, Naples, Italy*

4:00 **HC-09. A figure-of-eight flexible coil for a magnetostrictive torque sensor.** *I. Sasada*[1], Y. Eto[1] and T. Kato[1] *1. Applied Science for Electronics and Materials, Kyushu University, Kasuga, Japan*

4:15 **HC-10. A GMR based Eddy Current Field Sensing System for NDE of Aircraft Structures.** *N.V. Nair*[1], V.R. Melapudi[1], L. Xin[1], L. Udpa[1] and S.S. Udpa[1] *1. Electrical and Computer Engineering, Michigan State University, East Lansing, MI, USA*

4:30 **HC-11. Low Frequency Eddy Current Imaging using MR Sensor Detecting Tangential Magnetic Components for Non-destructing Evaluation.** *K. Tsukada*[1], T. Kiwa[1], T. Kawata[1] and Y. Ishihara[1] *1. Electrical and Electronic Engineering, Okayama University, Okayama, Japan*

4:45 **HC-12. Magnetic Sensor Signals Ascertain both of the Metallic Material Properties and Physical Dimensions.** K. Kawamura[1], *H. Endo*[2], S. Hayano[1] and Y. Saito[1] *1. Graduate School of Engineering, Hosei University, Tokyo, Japan; 2. Institute of Fluid Science, Tohoku University, Sendai, Miyagi, Japan*

FRIDAY AFTERNOON 2:00

ROYAL PALM 1/2

Session HD
MAGNETIC MICROSCOPY AND IMAGING

Stephen McVitie, Chair
University of Glasgow

2:00 **HD-01. Advanced Magnetic Nanostructure Characterization via Resonant Soft X-Ray Spectro Holography Imaging in Combination with Microscopic Hysteresis Loop Analysis.** *O. Hellwig*[1,2], S. Eisebitt[2], C. Guenther[2], F. Radu[2], J. Luening[3], W.F. Schlotter[3,4] and J. Stoehr[3] *1. Research, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. BESSY GmbH, Berlin, Germany; 3. SSRL, Stanford Linear Accelerator, Menlo Park, CA, USA; 4. Applied Physics, Stanford University, Stanford, CA, USA*

2:15 **HD-02. Magnetic phase contrast X-ray microscopy.** *P. Fischer*[1], A.E. Sakdinawat[1], C. Chang[2], E.H. Anderson[1] and D.T. Attwood[1] *1. CXRO, LBNL, Berkeley, CA, USA; 2. School of Biomedical Engineering, Science and Health Systems, Drexel University, Philadelphia, PA, USA*

2:30 HD-03. Controlled Switching in Magnetic Thin Film Elements. *C. Brownlie*[1], S. McVitie[1], J.N. Chapman[1] and C.D. Wilkinson[2]*1. Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 2. Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom*

2:45 HD-04. Recorded bit observation by spin-polarized scanning electron microscopy (spin SEM). *T. Kohashi*[1], M. Konoto[2], A. Nakamura[3], R. Araki[3] and K. Koike[4]*1. Advanced Measurement and Analysis Center, Hitachi, Ltd., Central Research Laboratory, Tokyo, Japan; 2. Correlated Electron Research Center (CERC), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 3. Storage Technology Research Center, Hitachi, Ltd., Central Research Laboratory, Tokyo, Japan; 4. Division of Physics, Graduate Scholl of Science, Hokkaido University, Sapporo, Japan*

3:00 HD-05. Magnetic Force Microscopy Study of CoPtCrO Perpendicular Media With Superparamagnetic And Permanent Magnet Tips. *L. Yuan*[1], L. Gao[1], L. Nicholl[1], S.H. Liou[1], M. Zheng[2], E.N. Abarra[2], B.R. Acharya[2], G. Choe[2], S.S. Malhotra[3] and B. Han[4]*1. Physics & Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. MMC Technology, San Jose, CA, USA; 3. Komag, San Jose, CA, USA; 4. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Science, Beijing, Beijing, China*

3:15 HD-06. Quantitative Evaluation of Current through Magnetic Field Observation by Magnetic Force Microscopy. D. Saida[1], T. Edura[2], K. Tsutsui[2], Y. Wada[2] and *T. Takahashi*[1]*1. Institute of Industrial Science, University of Tokyo, Tokyo, Japan; 2. Nanotechnology Research Laboratory, Waseda University, Tokyo, Japan*

3:30 HD-07. High-frequency MFM (HF-MFM) characterization of magnetic recording writer poles. *M.R. Koblischka*[1], J. Wei[1], T. Sulzbach[2] and U. Hartmann[1]*1. Institute of Experimental Physics, University of the Saarland, Saarbruecken, Germany; 2. Nanoworld Services GmbH, Erlangen, Germany*

3:45 HD-08. Drive-Independent Data Recovery Via Spin-Stand Imaging. *P. McAvoy*[1], C. Tse[1], C. Tseng[1], S. Tkachuk[1], I. Mayergoyz[1] and C. Krafft[2]*1. University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Sciences, College Park, MD, USA*

4:00 **HD-09. Phase-Sensitive Brillouin Light Scattering Spectroscopy.** *B. Hillebrands*[1], A.A. Serga[1], T. Schneider[1], S.O. Demokritov[2] and M.P. Kostylev[3] *1. Fachbereich Physik, Technische Universitaet Kaiserslautern, Kaiserslautern, Germany; 2. Institute of Applied Physics, University of Muenster, Muenster, Germany; 3. Department of Physics, University of Western Australia, Nedlands, WA, Australia*

4:15 **HD-10. Characterization of Magneto-Optic Imaging Data for Aircraft Inspection.** *Y. Deng*[1], X. Liu[1], Y. Fan[1], Z. Zeng[1], L. Udpa[1] and W. Shih[2] *1. Electrical and Computer Engineering, Michigan State University, East Lansing, MI, USA; 2. PRI Research and Development Corporation, Torrance, CA, USA*

4:30 **HD-11. Magnetic Nanostructures as Amplifiers of Transverse Fields in Magnetic Resonance.** *M. Barbic*[1] and A. Scherer[2] *1. Physics and Astronomy, California State University, Long Beach, Long Beach, CA, USA; 2. Caltech, Pasadena, CA, USA*

FRIDAY AFTERNOON 2:00

ROYAL PALM 3/4

Session HE
SOFT MATERIALS - CRYSTALLINE ALLOYS AND PARTICLES

You Qiang, Chair
University of Idaho

2:00 **HE-01. Magnetostriction vs. Magnetization of Hiperco 50 from 20 to 700°C.** *B. Lorenz*[2,1] and C. Graham[1] *1. Materials Science, Univ of Pennsylvania, Philadelphia, PA, USA; 2. Electrical Engineering, Widener Univ., Chester, PA, USA*

2:15 **HE-02. Crystallographic texture evolution during processing of hot dipped and diffusion annealed high silicon electrical steel.** *T. Ros-Yanez*[1], J. Barros[1], Y. Houbaert[1] and J. Schneider[1,2] *1. Metallurgy and Materials Science, Universiteit Gent, Gent-Zwijnaarde, Belgium; 2. ThyssenKruppStahl, Bochum, Germany*

2:30 **HE-03. Effect of Strain by Mechanical Punching on Non-Oriented Si-Fe Electrical Sheets for 9-slot Motor Core.** *M. Takezawa*[1], K. Kitajima[1], Y. Morimoto[1], J. Yamasaki[1] and C. Kaido[1,2] *1. Dept. of Appl. Sci. for Integ. Syst. Engin., Kyushu Institute of Technology, Kitakyushu, Japan; 2. Nippon Steel Corporation, Futtsu, Japan*

2:45 HE-04. New aspect for high frequency soft magnetic material -Application of superparamagnetic nanoparticle assembly-. *T. OGAWA*[1], D. HASEGAWA[1], H. YANG[1] and M. TAKAHASHI[2] *1. Department of electronic Engineering, Tohoku University, Sendai, Japan; 2. New Industry Hatchery Center, Tohoku University, Sendai, Japan*

3:00 HE-05. Soft magnetic particles and their composites for high frequency applications. *J. Hong*[1], C. Choi[1], A.E. Berkowitz[1,2] and M. Brand[3] *1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. Physics Department, University of California-San Diego, La Jolla, CA, USA; 3. Raytheon Company, El Segundo, CA, USA*

3:15 HE-06. Magnetic properties of ball milled Fe0.6Mn0.1Al0.3 alloys. A.F. Rebolledo[1], *J.J. Romero*[1], R. Cuadrado[2], J.M. Gonzalez[1,2], F. Pigazo[2], F.J. Palomares[2], M.H. Medina[3] and G.A. Perez-Alcazar[3] *1. Universidad Complutense de Madrid, Instituto de Magnetismo Aplicado, Las Rozas (Madrid), Madrid, Spain; 2. Instituto de Ciencia de Materiales-CSIC, Madrid, Spain; 3. Depto de Fisica, Universidad del Valle, Cali, Colombia*

3:30 HE-07. Formation of metastable $TbFe_5$ phase by mechanical alloying. N.S. Jammalamadaka[1], *G. Markandeyulu*[1] and B. Krishnan[2] *1. Physics, Indian Institute of Technology, CHENNAI, India; 2. Mechanical Engineering, Indian Institute of Technology, Chennai, India*

3:45 HE-08. Soft Magnetic Materials with Metastable $Cr_{23}C_6$-Type Nanocrystalline Phases. *B. IDZIKOWSKI*[1] and S. KOSTYRYA[1] *1. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

4:00 HE-09. Synthesis of FeCo Alloy Particles by Modified Polyol Process and their Structural and Magnetic Properties. J. Balachandran[1], *D. Kodama*[1], K. Shinoda[1], K. Sato[2], Y. Sato[1] and K. Tohji[1] *1. Graduate School of Environmental Studies, Tohoku University, Sendai, Japan; 2. Dowa Mining Company, Tokyo, Japan*

4:15 HE-10. "On Energy dissipation and Hysteresis of materials in electromagnetic formulations, the dilemma of heterogeneity, local non linear properties, and fields coupling. *O. maloberti*[1,2], G. Meunier[1], V. Mazauric[2] and A. Kedous-Lebouc[1] *1. bureau D031, Leg, Grenoble, France; 2. CRD/I2EA/DST, schneider-electric, Grenoble, France*

FRIDAY
AFTERNOON
2:00

ROYAL PALM 5/6

Session HF
PERMANENT MAGNETS - STRUCTURE AND PROPERTIES III

J. Ping Liu, Chair
Univ. of Texas at Arlington

2:00 HF-01. Coercivity Enhancement by Grain Boundary Diffusion Process to Nd-Fe-B Sintered Magnets. *K. Hirota*[1], H. Nakamura[1], T. Minowa[1] and M. Honshima[1] *1. Magnetic Materials Research Center, Shin-Etsu Chemical Co.,Ltd., Fukui, Japan*

2:15 HF-02. Enhancing Magnetic Properties of Bulk Nanograin Composite Nd-Fe-B/Fe-Co Magnets by Applying Powder Coating Technologies. *S. Liu*[1], A. Higgings[1], E. Shin[1], S. Bauser[1], C.H. Chen[1], D. Lee[1], Y. Shen[2], Y. He[2] and M. Huang[3] *1. Magnetics Lab., University of Dayton, Dayton, OH, USA; 2. FutureTek USA Corporation, Dayton, OH, USA; 3. UES Inc., Dayton, OH, USA*

2:30 HF-03. High-coercivity nanocomposite permanent magnet based on Nd-Fe-B-Ti-C with Cr addition for high temperature applications. *R. ISHII*[1], T. MIYOSHI[1], H. KANEKIYO[1] and S. HIROSAWA[1] *1. R&D Division, NEOMAX CO.,LTD., Osaka, Japan*

2:45 HF-04. Abnormal Coercivity Enhancement in Hybrid Nanograin Pr2(Fe,Co)14B/Pr(Co,Fe)5 Magnets. *Y. Shen*[1], Y. He[1], M. Huang[2], D. Lee[3], S. Bauser[3], A. Higgings[3], C. Chen[3] and S. Liu[3] *1. FutureTek USA Corporation, Dayton, OH, USA; 2. UES Inc., Dayton, OH, USA; 3. Magnetics Lab., University of Dayton, Dayton, OH, USA*

3:00 HF-05. Field-induced alignment of Nd-rich phase and coercivity in sintered Nd-Fe-B magnets. *H. Kato*[1], T. Akiya[1], M. Sagawa[3], K. Koyama[2] and T. Miyazaki[1] *1. Dept. of Applied Physics, Tohoku University, Sendai, Miyagi, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Intermetallics Co., Ltd., Kyoto, Japan*

3:15 HF-06. Structure Analysis of Sm2(Fe,Mn)17Nx Magnet. *K. Ohmori*[1], N. Oshimura[1], T. Iseki[1] and T. Ishikawa[1] *1. Ichikawa Research Laboratory, Sumitomo Metal Mining Co.,Ltd, Ichikawa, Chiba, Japan*

3:30 **HF-07. Coercivity Enhancement of the Nd-Fe-B Sintered Magnets with Grain Boundary Diffused by Dy or Tb Element.** *K. Machida*[1], S. Suzuki[1] and D. Li[1] *1. Center for Advanced Science and Innovation, Osaka University, Suita, Osaka, Japan*

3:45 **HF-08. Effect of Co on the magnetic properties of $YGdFe_{17}Ga$.** R. Srilatha[1], *G. Markandeyulu*[1] and V. Murty[1] *1. Physics, Indian Institute of Technology, CHENNAI, India*

4:00 **HF-09. Magnetic Properties of $(Sm_{0.4}Pr_{0.6})_3$ $(Fe_{1-x}Co_x)_{27.5}Ti_{1.5}$ [x = 0.1, 0.2, 0.3, 0.4].** S. Venkatesh[1], R. N/A[2] and *G. Markandeyulu*[1] *1. Physics, Indian Institute of Technology Madras, CHENNAI, India; 2. Metallurgical and Materials Engineering, Indian Institute of Technology Madras, CHENNAI, India*

4:15 **HF-10. Enhanced Coercivity in Melt-Spun $Sm(Co, Fe, Cu)_5$ Ribbons by Low Temperature Aging .** *D. Sultana*[1], M. Marinescu[1], Y. Zhang[1] and G.C. Hadjipanayis[1] *1. Physics & Astronomy, University of Delaware, Newark, DE, USA*

4:30 **HF-11. Analysis of High Coercivities in Pulsed Laser Deposited Epitaxial $SmCo_5$ Thin Films.** *A. Singh*[1], V. Neu[1], K. Nenkov[1], S. Fahler[1], L. Schultz[1] and B. Holzapfel[1] *1. Institute for Metallic Materials, IFW Dresden, Dresden, Saxony, Germany*

4:45 **HF-12. Ultra thin $Nd_2Fe_{14}B$ films with perpendicular magnetic anisotropy.** *A. Morisako*[1], X. Liu[1] and K. Yamasawa[1] *1. Department of Information Engineering, Shinshu University, Nagano, Naganoken, Japan*

FRIDAY AFTERNOON 1:00 — GRAND BALLROOM

Session HP
MRAM AND LOGIC DEVICES II (POSTER SESSION)

Young Kim, Co-Chair
Korea University

HP-01. Switching Current Fluctuation And Repeatability for MRAM with Propeller Shape MTJ. *N. Shimomura*[1], H. Yoda[1,2], S. Ikegawa[1], T. Kai[1], M. Amano[1], H. Aikawa[1], T. Ueda[1], Y. Asao[1,2], K. Hosotani[2], Y. Shimizu[2] and K. Tsuchida[1,2] *1. Corporate Resarch and Development Center, Toshiba Corporation, Kawasaki, Kanagawa-ken, Japan; 2. SoC Research & Development Center, Semiconductor Company, Toshiba Corporation, Yokohama, Kanagawa-ken, Japan*

HP-02. Numerical Study for Successive Ballistic Motion of Magnetization in Single Domain Particle Caused by Alternating Magnetic Fields. *Y. Nozaki*[1] and K. Matsuyama[1] *1. Electronics, Kyushu University, Fukuoka, Japan*

HP-03. Enlargement of Operating Window and Reduction of Switching Current in MRAM with Yoke Wire. *H. Aikawa*[1], T. Ueda[1], T. Kai[1], T. Kajiyama[2], N. Shimomura[1], S. Ikegawa[1], Y. Asao[1], H. Yoda[1], K. Shimura[3], S. Miura[3], N. Ishiwata[3], H. Hada[3] and S. Tahara[3] *1. Corporate Reserch & Development Center, Toshiba corp., Kanagawa, Japan; 2. SoC Research and Development Center, Toshiba corp., Kanagawa, Japan; 3. System Devices Research Labolatories, NEC corp., Kanagawa, Japan*

HP-04. A Composite Free Layer for High Density Magnetic Random Access Memory with Low Writing Field. *H. Meng*[1] and J.J. Wang[1] *1. Electrical Engineering, University of Minnesota, Minneapolis, MN, USA*

HP-05. Ballistic Bit Addressing in a Magnetic Memory Cell Array. *H.W. Schumacher*[1] *1. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany*

HP-06. A Novel Dual-Bit MRAM Cell. *K. Ju*[1] *1. MagLabs Inc., Monte Sereno, CA, USA*

HP-07. Fabrication and characterization of microstructured magnetic tunnel junction rings. *C. Chen*[1], C. Chang[1], C. Kuo[1], J. Wu[1], L. Horng[1], T. Wu[2], G. Chern[3], M. Tsunoda[4] and M. Takahashi[4] *1. Taiwan spin research center, National Chang-Hua University of Education, Chang-Hua city, Taiwan; 2. Taiwan spin research center, National Yunlin University of Science & Technology, Taiwan, Dou-liou city, Taiwan; 3. Taiwan spin research center, National Chung-Cheng University, Chia-Yi county, Taiwan; 4. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

HP-08. Microwave assisted switching in Ni_{81} Fe_{19} elements. *P. Martin Pimentel*[1], H.T. Nembach[1], S.J. Hermsdoerfer[1], S.O. Demokritov[2], B. Leven[1] and B. Hillebrands[1] *1. Fachbereich Physik und Forschungsschwerpunkt MINAS, TU Kaiserslautern, Kaiserslautern, Germany; 2. Institut fuer Angewandte Physik, Westfaelische Wilhelms-Universitaet Muenster, Muenster, Germany*

HP-09. Domain walls detection in a single magnetic ring by MR measuring. *D. Chen*[2,1], Y. Yao[1,2] and C. Yu[1] *1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Material Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan*

FRIDAY AFTERNOON 1:00 — GRAND BALLROOM

Session HQ
MAGNETISM IN NANO-STRUCTURED THIN FILMS II (POSTER SESSION)

David Abraham, Chair
IBM T. J. Watson Research Center

HQ-01. Edge saturation fields and dynamic edge modes in ideal and non-ideal magnetic film edges. *R.D. McMichael*[1] and B.B. Maranville[1] *1. Metallurgy Division, NIST, Gaithersburg, MD, USA*

HQ-02. Magnetotransport and current-induced domain wall displacement at the notches in a submicron pseudo-spin-valve stripe. *Y. Zhou*[1], Y. Du[1], Z. Lu[1], D. Wilton[1], R. Moate[1] and G. Pan[1] *1. CRIST, Faculty of Technology, University of Plymouth, Plymouth, United Kingdom*

HQ-03. Magnetic Configuration of A New Memory Cell Utilizing Domain Wall Motion. *H. Numata*[1] and S. Tahara[1] *1. System Device Research Labs., NEC Corp., Sagamihara, Kanagawa, Japan*

HQ-04. Ferromagnetic Resonance Studies on Ni80Fe20 Wire Arrays. *A. Maeda*[1], M. Susaki[1], K. Furukawa[2] and T. Takui[3] *1. Osaka Prefectural College of Technology, Osaka, Japan; 2. Institute for Molecular Science, Okazaki, Japan; 3. Osaka City University, Osaka, Japan*

HQ-05. Ferromagnetic Resonance Characterization of the Nanoislands Fe/MgO (001) Films. S.A. Nikitov[1], *J.V. Nikulin*[2], A.S. Dzumaliev[2], A.V. Kozhevnikov[2], S.L. Vysotsky[2], A.V. Butko[2] and Y.A. Filimonov[2] *1. Institute of Radioengineering and Electronics of the Russian Academy of Science, Moskow, Russian Federation; 2. Institute of Radioengineering and Electronics of the Russian Academy of Science, Saratov Department, Saratov, Saratov province, Russian Federation*

HQ-06. Boundary Conditions for Magnetization in Thin Magnetic Elements. *K. Guslienko*[1] and A. Slavin[2] *1. Argonne National Laboratory, Argonne, IL, USA; 2. Oakland University, Rochester, MI, USA*

HQ-07. Magnetic and transport properties revealing a structural percolation in Ni81Fe19-Al2O3 multilayers. *B. Rimantas*[1] and H. Maj[1] *1. Department of Applied Physics, Chalmers University of Technology, Goteborg, Sweden*

HQ-08. Manipulation of magnetization reversal of Permalloy ring element. *C. Chang*[1], Y. Chang[1,2] and J. Wu[1,2] *1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Taiwan SPIN Research Center, National Changhua University of Education, Changhua, Taiwan*

HQ-09. Focused Magneto-optical Kerr Effect measurement of single pseudo spin-valve ring elements. *T.J. Hayward*[1], F. Van Belle[1], J. Bland[1], F.J. Castano[2], W. Jung[2], D. Morecroft[2] and C.A. Ross[2] *1. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA*

HQ-10. Competing reversal mechanisms and edge roughness in thin micron-scale ferromagnetic ring elements. *T.J. Hayward*[1], F. Van Belle[1] and J. Bland[1] *1. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom*

HQ-11. Probing the magnetization reversal of microstructured permalloy cross by planar hall measurement and magnetic force microscopy. *Y. Chang*[1], C. Chang[1], J. Wu[1], Z. Wei[2] and C. Chang[2] *1. Taiwan SPIN Research Center, Changhua, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan*

HQ-12. Magnetic Properties of Dumbbell Shaped Nanostructures. *V. Ng*[1] and L.K. Verma[1] *1. Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, 4 Engineering Drive 3, National University of Singapore, Singapore, Singapore*

HQ-13. Transition from vortex to transverse walls in NiFe nano-structures. *S. Bance*[1], G. Hrkac[1], D. Suess[2], C. Brownlie[3], S. McVitie[3] and T. Schrefl[1] *1. University of Sheffield, Sheffield, United Kingdom; 2. Vienna University of Technology, Vienna, Austria; 3. University of Glasgow, Glasgow, United Kingdom*

FRIDAY AFTERNOON 1:00

GRAND BALLROOM

Session HR
MAGNETISM IN NANOSTRUCTURED THIN FILMS III: HARD MAGNETIC FILMS (POSTER SESSION)

Jan Thiele, Chair
HGST

HR-01. Magnetic Cluster Formation in Perpendicular Thin Films. *H. Endo*[1], Y. Uesaka[1], Y. Nakatani[2], N. Hayashi[3] and H. Fukushima[4] *1. Nihon University, Koriyama, Fukushima, Japan; 2. University of Electro-Communications, Chofu, Japan; 3. Individual capacity, Tokyo, Japan; 4. Individual capacity, Chiba, Japan*

HR-02. Fabrication of High Anisotropy Nanoscale Patterned Magnetic Recording Medium for Data Storage Applications. *V.A. Parekh*[1], C. E[1], D. Smith[1], A. Ruiz[1], J.C. Wolfe[1], P. Ruchhoeft[1], E. Svedberg[2], S. Khizroev[3] and D. Litvinov[1] *1. Electrical & Computer Engineering, University of Houston, Houston, TX, USA; 2. National Institute of Standards and Technology, Gaithersburg, MD, USA; 3. Electrical & Computer Engineering, Florida International University, Miami, FL, USA*

HR-03. Micromagnetic Investigation of an Ordered FePt Nano Particle with Twin Boundary. *A. Kikitsu*[1], T. Maeda[1] and J. Akiyama[1] *1. Storage Materials & Devices Laboratory, Toshiba Corp., Corporate R&D Center, Kawasaki, Kanagawa, Japan*

HR-04. Magnetic Properties of Lithographically Patterned Co/Pd Nanostructures Obtained by E-Beam and Ga Ion Irradiation. E. Suharyadi[1], *T. Kato*[1], S. Tsunashima[1] and S. Iwata[2] *1. Department of Electronics, Nagoya University, Nagoya, Aichi, Japan; 2. CCRAST, Nagoya University, Nagoya, Aichi, Japan*

HR-05. Magnetization reversal in micron-sized stripes of epitaxial (110) YFe_2 films. *K. Wang*[1], K. Martin[1], R. Ward[2], G. Bowden[1] and P. de Groot[1] *1. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 2. Clarendon Laboratory, Oxford University, Oxford, United Kingdom*

FRIDAY AFTERNOON 1:00

GRAND BALLROOM

Session HS
EXCHANGE-BIASED MULTILAYERS II (POSTER SESSION)

Matthew Carey, Chair
Hitachi Global Storage

HS-01. Angular dependence of Magnetization Reversal In Exchange Biased Multilayers. *A. Paul*[1], E. Kentzinger[1], U. Ruecker[1] and T. Brueckel[1] *1. Institut for Festkorperforschung, Forschungszentrum Juelich, Juelich, Germany*

HS-02. Effect of Oxygen Bombardment on Structural and Magnetic Properties of Ion-beam Deposited NiFe/Fe-oxide Bilayers. *K. Lin*[1], P. Ko[1], C. Liu[1], Z. Guo[1] and J. van Lierop[2] *1. Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada*

HS-03. Superparamagnetic Transition in Diluted Exchange Coupled Bilayers. *O. Traistaru*[1] and H. Fujiwara[1] *1. MINT Center,University of Alabama, Tuscaloosa, AL, USA*

HS-04. Interface Role in CoFe/IrMn Exchange Biased Systems. *G. Vallejo-Fernandez*[1], L. Fernandez-Outon[1] and K. O'Grady[1] *1. Department of Physics, The University of York, York, North Yorkshire, United Kingdom*

HS-05. Interface Effects in Tri-layer IrMn Exchange Biased Systems. C. Huerrich[1], *J.D. Dutson*[1], S. Mao[2] and K. O'Grady[1] *1. Physics Dept, The University of York, York, United Kingdom; 2. Seagate Technology Ltd, Derry, United Kingdom*

HS-06. Influence of interfacial exchange coupling on microwave permeability in exchange coupled CoFe/MnIr bilayers. *D. Kim*[1], C. Kim[1], C. Kim[1], M. Tsunoda[2], M. Yamaguchi[3] and M. Takahashi[2] *1. ReCAMM, Chungnam National University, Taejon, South Korea; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 3. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan*

HS-07. Critical angle behaviour of exchange bias and coercivity with field angle in exchange coupled CoFe/MnIr bilayers. *D. Kim*[1], C. Kim[1], C. Kim[1], M. Tsunoda[2], M. Naka[2] and M. Takahashi[2] *1. ReCAMM, Chungnam National University, Taejon, South Korea; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan*

HS-08. Exchange bias between ZnCoO and IrMn. *P. Huang*[1], C. Lai[1], C. Yang[1], H. Huang[1], T. Chin[1], C. Chen[2], M. Lan[3], H. Huang[4] and H. Bor[4] *1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 3. Department of Physics, National Chung Hsing University, Taichung, Taiwan; 4. Materials & Electro-Optics Research Division, Chuang-Shan Institute of Science and Technology, Taoyoun, Taiwan*

FRIDAY AFTERNOON 1:00 — GRAND BALLROOM

Session HT
IN-PLANE AND PERPENDICULAR EXCHANGE BIAS (POSTER SESSION)

Jaingwan Cai, Chair
Chinese Academy of Sciences
Bernard Dieny, Chair
SPINTEC

HT-01. Asymmetric Magnetization Reversal and Angular Dependence in Perpendicular Exchange-Biased Pd/Co Multilayers. *D. Yun*[1], S. Choi[1], S. Kim[2], J. Rhee[2] and K. Lee[1] *1. physics, Dankook university, Cheonan, South Korea; 2. physics, Sookmjung Women University, Seoul, South Korea*

HT-02. Dependence of The Exchange Bias and Coercivity of [Pd/Ferromagnet]$_N$/FeMn Multilayers on the Stack Number N. *H. Joo*[1], M. Kim[2], S. Kim[4], S. Kim[3], J. Lee[4], J. Baek[2], C. You[1], K. Lee[2], J. Rhee[3], S. Lee[4] and D. Hwang[4] *1. Physics, Inha University, Incheon, South Korea; 2. Physics, Dankook University, Cheonam, South Korea; 3. Physics, Sookmyung Women's University, Seoul, South Korea; 4. Computer & Electronic Physics, Sangji University, Wonju, South Korea*

HT-03. Exchange bias effect in virgin and annealed [Pt/Co]/NiFe systems. *A. Bollero*[1], L. Buda-Prejbeanu[1], V. Baltz[1], B. Rodmacq[1] and B. Dieny[1] *1. SPINTEC CEA, Grenoble, France*

HT-04. XMCD studies of epitaxially grown $Mn_{1-x}Pt_x$ / Ferromagnet exchange bilayers with (001) orientation. *T. Kato*[1], T. Yamato[1], T. Kume[1], T. Nakamura[2], Y. Fujiwara[3], S. Iwata[4] and S. Tsunashima[1] *1. Department of Electronics, Nagoya University, Nagoya, Aichi, Japan; 2. SPring-8/JASRI, Sayo-gun, Hyogo, Japan; 3. Department of Physics Eng., Mie University, Tsu, Mie, Japan; 4. CCRAST, Nagoya University, Nagoya, Aichi, Japan*

HT-05. Microwave and DC anisotropy fields of exchange-coupled CoFe/PtMn/CoFe trilayers. *C.I. Pettiford*[1], A. Zeltser[2], S. Yoon[1], V. Harris[1], C. Vittoria[1] and N. Sun[1] *1. Northeastern University, Boston, MA, USA; 2. Hitachi Global Storage technologies, San Jose, CA, USA*

HT-06. Anomalous Spontaneous Reversal in Magnetic Heterostructures. *Z. Li*[1], C.W. Miller[1], J. Eisenmenger[2], I.V. Roshchin[1] and I.K. Schuller[1] *1. Physics Department, UC San Diego, La Jolla, CA, USA; 2. Abteilung Festkorperphysik, Universitat Ulm, Ulm, Germany*

HT-07. Formation of uncompensated spins by substitution of Mg for Co in antiferromagnetic $Co_{1-x}Mg_xO$. *J. Hong*[1], T. Leo[2], D.J. Smith[2] and A.E. Berkowitz[1,3] *1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. Dept. of Physics and Astronomy and Center for Solid State Science, Arizona State University, Tempe, AZ, USA; 3. Physics Department, University of California-San Diego, La Jolla, AZ, USA*

FRIDAY AFTERNOON 1:00 — GRAND BALLROOM

Session HU
MOTOR AND ACTUATORS III (POSTER SESSION)

D. Howe, Chair
Univeristy of Sheffield

HU-01. High-speed drag-cup induction motors for turbo-molecular pumps applications. *O. Bottauscio*[1], F. Casaro[3], M. Chiampi[2], S. Giors[3], C. Maccarrone[3] and M. Zucca[1] *1. IEN Galileo Ferraris, Torino, Italy; 2. Dipartimento di Ingegneria Elettrica, Politecnico di Torino, Torino, Italy; 3. Varian S.p.A., Leini' (TO), Italy*

HU-02. A Simple Method to Reduce Torque Ripple of SR Motors using Freewheeling mode for Electric Vehicles. *H. Goto*[1], M. Sato[1], H. Guo[2] and O. Ichinokura[1] *1. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan; 2. Department of Electrical and Infomation Engneering, Tohoku Gakuin University, Sendai, Japan*

HU-03. Improvement in Performance of Short Chorded Three-Phase Induction Motors with Variable in PWM Switching Frequency. *R.R. Deshmukh*[1], A.J. Moses[1] and F.J. Anayi[1] *1. Engineering, Wolfson Centre for Magnetics, Cardiff, Wales, United Kingdom*

HU-04. Development of a new brushless doubly-fed doubly-salient machine for wind power generation. *Y. Fan*[1] and K. Chau[1] *1. The University of Hong Kong, Hong Kong, China*

HU-05. Characteristics of 8/6 Switched Reluctance Generator Excited by Suppresion Resister Converter. *A. Takahashi*[1,2], H. Goto[2], K. Nakamura[2], T. Watanabe[2] and O. Ichinokura[2] *1. Fukushima Technology Centre, Koriyama, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan*

HU-06. Design and Analyses of a Coreless-Stator Type Bearingless Motor/Generator for Clean Energy Generation and Storage Systems. *M. Ooshima*[1], S. Kitazawa[1], A. Chiba[2], T. Fukao[3] and D.G. Dorrell[4] *1. Electronic Systems Engineering, Tokyo University of Science, Suwa College, Chino, Nagano, Japan; 2. Tokyo University of Science, Noda, Chiba, Japan; 3. Musashi Institute of Technology, Setagaya-ku, Tokyo, Japan; 4. University of Glasgow, Glasgow, United Kingdom*

HU-07. An Efficient Approach for Cogging Torque Analysis of Motors with Three-Dimensional Flux Distribution. *M. Hsieh*[1], M. Tsai[2], Y. Horng[3] and Y. Lai[2] *1. Systems and Naval Mechatronic Eng., National Cheng Kung University, Tainan, Taiwan; 2. Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan; 3. Sunonwealth Electric Machine Industry Co., Ltd., Kaohsiung, Taiwan*

HU-08. A Novel Permanent Magnet Array of Synchronous Permanent Magnet Planar Motor. *H. Rui*[1], Z. Jianpei[1], H. Kwang Kyu[1] and K. Gyu-Tak[1] *1. Electrical Engineering, Changwon National University, Changwon, Gyeongnam, South Korea*

HU-09. Electromagnetic Analysis of High Speed Machines with Diametrically Magnetized Rotor for Flywheel Battery Applications. S. Jang[1], *J. Choi*[1], H. Cho[1] and S. Choi[2] *1. Chungnam National University, Dae-jeon, South Korea; 2. Korea Institute of Machinery&Materials, Daejeon, South Korea*

HU-10. An analysis of the force profile developed by a linear switched reluctance. A.F. Flores Filho[1], V. Rinaldi[1] and *M.A. da Silveira*[2] *1. Electrical Engineering, Federal University of Rio Grande do Sul, Porto Alegre, Brazil; 2. Electrical Engineering, Brazilian Lutheran University, Canoas, Brazil*

HU-11. Involvement of Armature Reaction Property in the Computer Aided Design of Radial-Flux Permanent Magnet Brushless DC Motor. *P.R. Upadhyay*[1,2] and K.R. Rajagopal[1] *1. Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi, Delhi, India; 2. Electrical Engineering Department, Institute of Technology, Nirma University of Science and Technology, Ahmedabad, Gujarat, India*

HU-12. A Practical Measurement Method for Back EMF Coefficients of Switched Reluctance Motors. *W. GAN*[1], K. Chan[1], D. Chan[1] and G. Widdowson[1] *1. R&D Motion, ASM Assembly Automation Hong Kong Ltd, Hong Kong, Hong Kong*

FRIDAY AFTERNOON 1:00

GRAND BALLROOM

Session HV
MOTORS AND ACTUATORS IV (POSTER SESSION)

Terence O'Donnell, Chair
Tyndall National Institute

HV-01. A Novel Miniature Matrix Array Transducer System for Loudspeakers. *R. Rashedin*[1], T. Meydan[1], F. Borza[1] and T. Lin[1] *1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, Wales, United Kingdom*

HV-02. Design and Analyze of a Stator Doubly Fed Doubly Salient Permanent Magnet Machine for Automotive Engines. K. Chau[1], Y. Li[2], J. Jiang[3] and *C. Liu*[1] *1. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. School of Electrical Engineering, Shangdong University, Shandong, China; 3. Department of Automation, Shanghai University, Shanghai, China*

HV-03. Design and Analysis of a Novel Disk Permanent Magnet Generator. *S. Hosseini*[1], M. Mirsalim[1] and M. Mirzayee[1] *1. Amirkabir University of technology, Tehran, Iran*

HV-04. Position Calibration techniques Comparison for Sensorless Controlled PMSM. *M. Huang*[1], A. Moses[1] and F. Anayi[1] *1. School of Engineering, cardiff university, cardiff, United Kingdom*

HV-05. Optimal Determination of Commutation Position of a Brushless DC Motor by Utilizing the Symmetry of Terminal Voltage. *G. Jang*[1] and M. Kim[1] *1. Dept. of Mechanical Engineering, PREM Lab., Hanyang University, Seoul, South Korea*

HV-06. A New Torque Ripple Analysis Method for Permanent Magnet Assisted Synchronous Reluctance Motor by using Load Angle Characteristic. *K. Kim*[1], J. Ahn[1], S. Won[1] and J. Lee[1] *1. Dept. of electrical engineering, hanyang university, seoul, South Korea*

HV-07. Induction motor rotor quantities at load conditions: Finite Element analysis and experimental validation. A. Bellini[4], *O. Bottauscio*[1], M. Chiampi[2], C. Tassoni[3] and M. Zucca[1] *1. IEN Galileo Ferraris, Torino, Italy; 2. Dipartimento di Ingegneria Elettrica, Politecnico di Torino, Torino, Italy; 3. Dipartimento di Ingegneria dell' Informazione, Universita di Parma, Parma, Italy; 4. Dipartimento di Scienze e Metodi dell'Ingegneria, Universita di Modena e Reggio Emilia, Modena, Italy*

HV-08. The Influence of Operating Mode on Rotor Losses in High-Speed Permanent Magnet Synchronous Motor/Generator for Micro-Gas Turbine. *H. Cho*[1] and S. Jang[1] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea*

HV-09. Rotor Design on Torque Ripple Reduction for a Synchronous Reluctance Motor with Concentrated Winding using Response Surface Methodology. *J. Park*[1], S. Park[2], M. Lee[1], J. Chun[3] and J. Lee[1] *1. Electrical Engineering, Hanbat National University, Daejeon, South Korea; 2. WOOJIN Industrial Systems Co., Ltd. San 64-3,Bangchuk-ri, sari-myun, Goesan-gun., Chungchongbuk-do, South Korea; 3. TSA Co.,Ltd.,Bucheon Techno Park 2-danji, Yakdae, Wonmi, Bucheon, Gyeonggi, South Korea*

HV-10. A New Doubly Salient Hybrid Excited Motor with True Field Weakening Capability. *X. Zhu*[1], M. Cheng[1], W. Hua[1] and J. Zhang[1] *1. Department of Electrical Engineering, Southeast University, Nanjing, China*

HV-11. Development of a High-Speed and High Power Density Brushless DC Motor for Turbo-Compressor. S. Jang[1], *H. Cho*[1] and S. Choi[2] *1. Electrical Engineering, Chungnam National University, Daejeon, South Korea; 2. Applied Mechatronics Group, KIMM, Daejeon, South Korea*

FRIDAY AFTERNOON 1:00 GRAND BALLROOM

Session HW
FERRITE AND OTHER OXIDES (POSTER SESSION)

Ch. Chinnasamy, Chair
Northeastern University

HW-01. Magnetic Properties of Barium Ferrite Thin Films Grown Under Oxygen Pressure by Pulsed Laser Deposition. *D. Choi*[1], I. Shim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul 136-702, South Korea*

HW-02. Magnetism, structure and cation distribution in $MnFe_2O_4$ films processing by conventional and alternating target laser ablation deposition. *A. Yang*[1], D. Arena[2], X. Zuo[3], C. Vittoria[1] and V.G. Harris[1] *1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 3. College of Information Technical Science, Nankai University, Tianjin, China*

HW-03. Crystallographic orientation analysis of magnetite thin films by means of electron backscatter diffraction (EBSD). *A.D. Koblischka-Veneva*[1], M.R. Koblischka[2], F. Muecklich[1], S. Murphy[3], Y. Zhou[3] and I.V. Shvets[3] *1. Institute for Functional Materials, University of the Saarland, Saarbruecken, Saarland, Germany; 2. Institute of Experimental Physics, University of the Saarland, Saarbruecken, Germany; 3. SFI Nanoscience Laboratory, Trinity College, Dublin, Ireland*

HW-04. Magnetic Properties on Ferromagnetic $FeAlO_3$. *J. We*[1], S. Kim[1] and C. Kim[1] *1. Department of physics, Kookmin University, seoul 136-702, South Korea*

HW-05. Crystallographic and Magnetic Properties of $KFeO_2$. *S. Moon*[1], I. Shim[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul 136-702, South Korea*

HW-06. Synthesis and Magnetic Properties of $LiFeO_2$ Powders by a Sol-Gel Method. *S. Lee*[1], Y. Ryu[1], S. An[2] and C. Kim[3] *1. Department of Electronic Engineering, Chungju National University, Chungju 380-702, South Korea; 2. Passive Components Division, Samsung Electro-mechanics CO., LTD., Gyunggi-Do 443-743, South Korea; 3. Department of Physics, Kookmin University, Seoul 136-702, South Korea*

HW-07. Nonlinear Saturation Modelling of Magnetic Components for Circuit Simulation. R. Salas[1], *J. Pleite*[1], E. Olias[1] and A. Barrado[1] *1. Electronic Technology Department, Universidad Carlos III de Madrid, Leganes, Madrid, Spain*

HW-08. Calculation of Exchange Constants and Electronic Structure of Artificial Nickel Ferrite. *X. Zuo*[1], A. Yang[2,3], V.G. Harris[2,3] and C. Vittoria[2,3] *1. College of Information Technical Science, Nankai University, Tianjin, Tianjin, China; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Center of Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA, USA*

HW-09. Complex phase, microstructure and magnetic properties of Z-type hexaferrite sintered at low-temperature. *L. Jia*[1], H. Zhang[1], Y. Liu[1] and Z. Zhong[1] *1. School of Microelectronics and Solid-State Electronics, university of electronic science and technology of China, chengdu, China*

HW-10. Magnetic and Microwave Absorbing Properties of Ti and Co Substituted M-hexaferrites in Ka-band Frequencies (26.5~40 GHz). Y. Kim[1], J. Kim[1] and *S. Kim*[1] *1. Department of Materials Engineering, Chungbuk National University, Cheongju 361-763, South Korea*

HW-11. Magnetic and electrical properties of Li0.5Fe2.5-xMnxO4 ferrite from microwave-induced combustion. *Y. Fu*[1], C. Lin[2] and Y. Yao[3] *1. Department of Materials Science and Engineering, National Dong-Hwa University, Hualien, Taiwan; 2. Department of Chemical Engineering, Wu-Feng Institute of Technology, Chiayi, Taiwan; 3. Institute of Physics, Academia Sinica, taipei, Taiwan*

HW-12. $Mn_xZn_{1-x}Fe_{2-y}R_yO_4$ (R = Gd, Eu) Ferrite Nanocrystals for Magnetocaloric Applications. *O. Perales-Perez*[1], M. Tomar[2], E. Calderon[4], G. Gutierrez[3], C. Rinaldi[4] and P. Voyles[5] *1. General Engineering-Materials Science and Engineering, University of Puerto Rico, Mayaguez, Puerto Rico; 2. Physics Department, University of Puerto Rico, Mayaguez, Puerto Rico; 3. Mechanical Engineering, University of Puerto Rico, Mayaguez, Puerto Rico; 4. Chemical Engineering, University of Puerto Rico, Mayaguez, Puerto Rico; 5. Materials Science and Engineering, University of Puerto Rico, Mayaguez, WI, USA*

HW-13. Magnetic and magnetocaloric properties of $MnFe_{1-x}Co_xGe$ compounds. L. Song[1,2], *O. Tegus*[1,2], W. Dagula[1,2], E. Bruck[1], T. Gortenmulder[1] and K. Buschow[1] *1. Van der Waals-Zeeman Institute, University of Amsterdam, Amsterdam, Netherlands; 2. Key Lab of magnetic materials and department of physics, Inner Mongolia Normal University, Hohhot, China*

HW-14. Temperature Dependent Magnetic Properties of Bismuth Substituted Terbium Iron Garnets. *I. Park*[1], K. Kang[1] and C. Kim[1] *1. Department of Physics, Kookmin University, Seoul 136-702, South Korea*

HW-15. Cavity perturbation measurement of dielectric and magnetic properties of ferrite materials in microwave frequency range. *M. Lin*[1] and M.N. Afsar[1] *1. Electrcial and Computer Engineering, Tufts University, Medford, MA, USA*

HW-16. Flux screening technique for growth of high quality ferrite films by pulsed laser deposition. *Y. Chen*[1,2], T. Lu[3], X. Zhang[3], C. Vittoria[1,2] and V.G. Harris[1,2] *1. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA, USA; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Department of Physics, Suzhou University, Suzhou, Jiangsu, China*

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