



IEEE Magnetics Society NEWSLETTER

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Pallavi Dhagat and Albrecht Jander, Editors

Bits and Bytes (Magnetic, of Course) from Carl

by Carl Patton, Society President

Welcome. Welcome to the January 2008 issue of the IEEE Magnetics Society Newsletter. This marks the one year anniversary of the team editorship by Albrecht and Pallavi. I hope you have found the new format and content enjoyable and informative. Thanks to Albrecht and Pallavi for their excellent work for the Society. For this first issue of the new year, I will focus on some of the highlights of Society and AdCom activities over the past year and plans for 2008. I wish a happy and prosperous New Year to all.

AdCom elections. As many of you know, 2007 marked the first Society wide AdCom election. Our Nominations Committee Chair Ron Indeck and his committee of six, comprised of Josef Fidler, Ron Goldfarb, TD Lee, Massimo Pasquale, Yutaka Sugita, and Roger Wood, selected a slate of 16 candidates for a paper ballot that went out to all members of the Society on 15 July. A total of 2819 ballots were mailed out. The election closed on 15 October with 333 ballots cast. The members

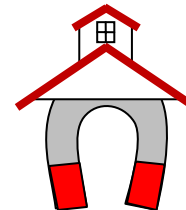
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Magnet School

by J.W. Harrell, Education Committee Chair

Beginning this summer, the Magnetics Society will annually sponsor a one-week summer school. The Education Committee will organize the summer schools. The first summer school will be held at the University of Colorado at Colorado Springs (UCCS) Aug. 3 – Aug. 8, 2008. The summer school will be designed for graduate students doing research in magnetism and related areas. Support will be provided for approximately 50 students to cover all local expenses and most travel expenses. Up to 25 additional students may be accepted without financial support. International students will be supported and are encouraged to apply. The program will include lectures by experts on fundamentals, nanomagnetism, theory and modeling, magnetotransport, magnetic recording, future recording concepts, spin dynamics, ultrafast switching, and advanced characterization. Additionally, the IEEE Magnetics Society Distinguished Lecturers will be invited to give presentations. All students will be required to present a poster on their planned or ongoing research.



The current program committee consists of J.W. Harrell (chair, Univ. Alabama), Roy Chantrell (York Univ.), Martha Pardavi-Horvath (George Washington Univ.), and Alexandru Stancu (Alexandru Ioan Cuza Univ, Romania). Zbigniew Celinski (UCCS) is the local program chair. Robert Camley (UCCS) is chair of the student selection committee, and Liesl Folks (Hitachi GST) is treasurer for the summer school. Tentative plans are to host the 2009 summer school in Nanjing and the 2010 summer school in Europe. For more information, contact J.W. Harrell (jharrell@bama.ua.edu). More details on the program and application forms are available on the Magnetics Society web site: <http://www.ieeemagnetics.org/>. The deadline for submission of applications is March 21. ❖

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About the Newsletter

PLEASE UPDATE YOUR MEMBER PROFILE

The Society communicates with you by e-mail. With no address on record, you will miss out on many items of interest, and other items that need to be communicated to you by the Society and the IEEE. Update your profile at: http://www.ieee.org/web/membership/join/update_profile.html

2087 IEEE Magnetics Society Achievement Award

Professor Jack H. Judy receives the IEEE Magnetics Society 2008 Achievement Award for “contributions to the understanding and improvement of thin films for magnetic recording”.

by Bruce Gurney, Honors and Awards Committee Chair



The Magnetics Society of the IEEE honors one of its outstanding members each year for his or her lifelong professional achievement. This is the highest award of the Magnetics Society and is given for scientific, technical and service contributions to the Society. The award is presented at the Intermag Conference each year and consists of a diploma with citation and a cash prize.

Dr. Judy has made many significant contributions to understanding the fundamental limitations of thin film media and developing ways to improve media performance. He was a pioneer in the observation of the zig-zag pattern of domain walls at the edge of magnetically recorded bits that cause transition noise and in relating it to the medium microstructure. Further work in media led to CoCr alloy structures and the use of C-N overcoats. Recently, his work has shown the extraordinary properties of Co/Pd multilayers grown on indium-tin-oxide, properties that makes these materials promising for perpendicular magnetic recording media. He has also contributed to the understanding of thin films and magnetic materials for GMR recording sensors and magnetic random access memories.

He has consistently emphasized the sharing of knowledge and the education of students and fellow scientists. He has authored more than 180 papers

and supervised more than 50 students. He founded the Center for Micromagnetics and Information Technology at the University of Minnesota. He is also one of the original founders of The Magnetic Recording Conference.

Dr. Judy received B.S.E.E and M.S.E.E. degrees from the Massachusetts Institute of Technology and Ph.D. degree from the University of Minnesota, where he has been a professor since 1969. Prior to joining the faculty at the University of Minnesota, he worked at the IBM Storage Systems Division in Boulder, Colorado.

He has received many honors, including having been named a fellow of the Japan Society for the Promotion of Science, and receiving the Technical Achievement Award of the National Storage Industry Consortium.

Beginning as a student member of the Magnetics Society, Dr. Judy has contributed his time and energy to the Society in many capacities. He has served as chair of the Minneapolis-St. Paul section and as a Distinguished Lecturer. He has participated in organizing the PMRC and TMRC conferences, and served on the Society's Administrative, Education and Distinguished Lecturer committees. He is a Life Fellow of the IEEE. ❖

Dr. Judy joins a distinguished list of past recipients:

1981 Fred Luborsky	1995 Mark Kryder
1982 Herb Storm	1996 Koosuke Harada
1984 Harold Lord	1997 Gordon Slemmon
1985 Joe Suozzi	1998 Stan Charap
1986 Fritz Friedlaender	1999 Dave Thompson
1987 Andrew Bobeck	2000 Denis Mee
1988 Floyd Humphrey	2001 Fred Hagedorn
1989 Paul Biringer	2002 Sun-ichi Iwasaki
1990 Daniel Gordon	2003 Carl Patton
1991 Emerson Pugh	2004 Yutaka Sugita
1992 Yoshifumi Sakurai	2005 Robert Fontana
1993 William Doyle	2006 Neal Bertram
1994 Richard Barker	2007 John C. Mallinson



IEEE

International Magnetics Conference

Madrid - Spain

May 4th - 8th, 2008

MMM 2007 Diary

The 52nd Conference on Magnetism and Magnetic Materials was held November 5-9 in Tampa, Florida. The conference was co-sponsored by the Magnetism Society and the Physics Conferences Inc., in cooperation with The American Physical Society

In addition to over 100 topical sessions on all aspects of magnetism there were several special symposia:

- Magnetic imaging
- Novel dilute magnetic semiconductors
- Emerging applications and devices
- Domain wall motions in magnetic nanoelements
- Magnetization dynamics in nanomagnets
- Domain wall assisted reversal in graded media
- Spin transport in unconventional structures
- RF excitations due to spin-torque in special geometries and materials



Deciding which of the over 100 sessions to attend next was difficult.



Berry Jonker and Bill Egelhoff discuss the latest advances between sessions



Colleagues and friends came together at the conference reception.



The tasty morsels on the buffet were popular not only with the students.



John Moreland of NIST made sure the beer was up to standards.



Many people took advantage of the free internet provided by the conference.



Conference attendees enjoyed the performance of actor Frank Tabbita in *An Evening with Nikola Tesla*

Money for Chapter Activities

by Bob McMichael, Chapters Chair

The Magnetics Society has allocated an unprecedented sum to support chapter activities in 2008, so it's a good time to plan some special events for your chapter. Think big! Planning on hosting a special speaker? Why not make a symposium out of it? Why not subsidize travel for student members? How about a chapter-building picnic to get things going? Your section has the final say, but if the proposed activity chapter, the request will likely be approved.

We would like to welcome to the new Nagoya Chapter! Our thanks and congratulations to Satoshi Iwata (Nagoya University) who will be the founding chapter Chair, and to Takao Suzuki, who was instrumental in getting this chapter formed.

If no chapter has been formed yet in your Section, consider forming a new chapter to get the most out of your membership. There are three simple requirements to form a new chapter:

1. A petition with 12 signatures of current, regular Magnetics Society members in your section,
2. Approval of the section executive board, and
3. Approval of the society president.

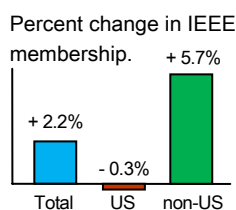
The Magnetics Society is ready to support the activities of its chapters around the globe. Please contact me at bob.mcmichael@ieee.org about chapter formation in your area, or visit the IEEE new chapters website <http://www.ieee.org/portal/pages/tab/cha/newchap.html> ❖

Membership Shifting from US

by R. Hasegawa, Membership Committee Chair

New statistics indicate a 2.2% increase in the IEEE membership during the year ending September 2007. A 0.3% decrease in U.S. membership was compensated by a 5.7% increase outside of the U.S. The U.S. membership decrease is the lowest in 7 years, which is a welcoming trend. The shift in demographics towards non-U.S. participation is also evident in the Magnetics Society membership. In light of this, membership development efforts at conferences outside the U.S. are becoming increasingly important for our Society.

A membership desk will be set up at the upcoming Intermag 2008 Conference in Madrid. Members of the Magnetics Society are requested to help with the membership drive. If you are attending the conference, please visit the desk, bringing your associates and friends who may be interested in becoming members. The greatest PR in the world is accomplished by enthusiastic people sharing what they value with their friends and colleagues! ❖



2008 CONFERENCE CALENDAR

9TH INTERNATIONAL WORKSHOP ON NON-CRYSTALLINE SOLIDS

April 27-30, 2008, Porto, Portugal
<http://www2.fc.up.pt/iwncls/>

INTERMAG 2008

May 4-8, 2008, Madrid, Spain
<http://www.intermagconference.com/intermag2008>

2008 MAGNETICS CONFERENCE

May 15-16, 2008, Denver, CO, USA
http://www.magneticsmagazine.com/mag_conf08_index.htm

THE 7TH INTERNATIONAL CONFERENCE ON SCIENTIFIC AND CLINICAL APPLICATIONS OF MAGNETIC CARRIERS

May 21-24, 2008, Vancouver, Canada
<http://www.magneticmicrosphere.com/meetings/meet2008>

2ND WUN INTERNATIONAL CONFERENCE ON SPINTRONIC MATERIALS AND TECHNOLOGY (WUN-SPIN08)

July 14-20, 2008, Nanjing & Hangzhou, China
<http://www.wun.ac.uk/wun-spin2008>

THE MAGNETIC RECORDING CONFERENCE (TMRC 2008)

July 29-31, 2008, Singapore
<http://tmrc2008.dsi.a-star.edu.sg/>

FIRST IEEE MAGNETICS SOCIETY SUMMER SCHOOL

August 3-8, 2008, Colorado Springs, CO, USA
<http://www.ieeemagnetics.org>

8TH IEEE CONFERENCE ON NANOTECHNOLOGY

August 18-21, 2008, Arlington, TX, USA
<http://www.ieee.org/NANO2008>

10TH INTERNATIONAL CONFERENCE ON FERRITES (ICF10)

October 10-14, 2008, Chengdu, China
<http://www.cnmagnet.net>

53RD CONFERENCE ON MAGNETISM AND MAGNETIC MATERIALS (MMM 2008)

November 10-14, 2008, Austin, TX, USA
<http://www.magnetism.org>

Bits and Bytes (continued from page 1)

ected to the AdCom for the 2008-2010 term are listed in the box below. The election was marred by the sad news that our colleague, Klaas Klaassen, passed away on 3 September 2007 (See "In Memoriam" in the October 2007 issue). John, Burkard, Hiroaki, Martha, and Bruce are returning members who have previously served one term. The Society Bylaws specify a limit of two consecutive terms for AdCom membership. Olle, Dmitri, and Usha are the new elected members. Usha also served as a one year replacement member for 2007. A hearty welcome to Olle, Dmitri, and Usha as incoming elected members and a heartfelt thanks to all of the AdCom members, new and returning, for their willingness to serve the Society and the magnetics community in this important capacity.

More elections. Nominations Chair Ron Indeck is presently preparing a reconstituted Nominations Committee slate for AdCom approval, as required by the Society Bylaws. A new election will commence on the same timetable as in 2007 for the election of eight AdCom members for a 2009-2011 term. A Call for Nominations for the Ballot will be going to all members in the next several months. All members are encouraged to submit nominations to Ron. Following the election of new members for the 2009-2011 term, there will also be an internal election by the Adcom itself for a new Secretary Treasurer for a 2009-2010 term. The current Vice President, Randy Victora, will become the President for 2009-2010 and the current Secretary-Treasurer, Takao Suzuki, will become Vice President. Candidates for the next Secretary-Treasurer are to come from the current AdCom. All members are encouraged to look over the AdCom roster (shown on the inside front cover of any issue of the IEEE Transactions on Magnetics) and suggest suitable candidates to Ron Indeck.

Web based AdCom meetings. In 2007, we also conducted a significant portion of the AdCom business, some fairly routine and some not so routine, through web based meetings. This has been done with some relatively simple Message Board software called "Zope" (that I borrowed from the Society of Physics Students at Colorado State University!). The procedure is as follows: As President, I announce a meeting to commence 20 days hence and open a Message Board for informal discussion. AdCom members then enter informal comments and opinions for the 20 day period. A second Message Board is then opened for official discussion of the motion. There is usually little or no additional discussion at this point. After the lapse of one day or so without further entries from the AdCom, a third Message Board is opened for voting and held open for seven

days. The meeting is then closed and the vote tallied. At any time in the process, all AdCom members can access any of the message boards to review the motion and explanations, the discussion, and the votes to date. This approach seems to be working well. It takes little time and effort (especially no travel time!). It involves the AdCom in a proactive way throughout the year, and not just at the two sometimes long and tedious physical meetings we usually have. In 2007, there were eight such meetings, two to approve Standing Committee Chairs (Axel Hoffmann for Technical and Souk Hasegawa for Membership Committee), one to approve the Nominations Committee membership for 2007, one for a straw vote on Council sponsorship and involvement, one for approval of the 2008 budget, one for approval of the slate for the AdCom election ballot, one for approval of an initiative for the Tampa MMM Conference, and one for approval of an initiative for the Madrid Intermag.

Members Elected to AdCom for 2008-10

John N. Chapman (University of Glasgow)
Olle G. Heinonen (Seagate Technologies)
Burkard Hillebrands (Technical University Kaiserslautern)
Klaas Klaassen (Hitachi Global Storage)
Dmitri Litvinov (University of Houston)
Hiroaki Muraoka (Tohoku University)
Martha Pardavi-Horvath (George Washington University)
Bruce D. Terris (Hitachi Global Storage)
Usha Varshney (National Science Foundation)

Revised Constitution and Bylaws. Another major accomplishment for 2007 was the reorganization and revision of the Constitution and Bylaws of the Society. After considerable work by many members, these new documents were approved by the AdCom

in January 2007 and ratified formally at the June 2007 meeting of the Technical Activities Board (or TAB, the umbrella subgroup of the IEEE in which the Magnetics Society resides). These documents appear in the May 2007 issue of the Newsletter.

Revitalization of Society participation in Councils. Efforts were made during 2007 to revitalize our Council involvement and designate proactive representatives to the three Councils that the Society sponsors. These are the Council on Superconductivity, for which Albert Zeller (Michigan State University) and Ron Goldfarb (National Institute of Standards and Technology, or NIST) are our designated representatives, the Council on Sensors, with Alan Edelstein (Army Research Laboratory) as our representative, and the Council on Nanotechnology, with Dmitri Litvinov (University of Houston) and Randy Rannow (Tyco Electronics) as our representatives. At the January 2007 AdCom meeting, our council representatives were incorporated into the AdCom as nonvoting members. The involvement of these volunteers in the Councils named above for the promotion of appropriate magnetics related activities is very much appreciated. I am sure that we can look forward to a significant magnetics presence in these Councils in the years to come. The Society is presently deliberating, through a web based meeting, on the prospect of sponsorship for a newly formed Council on Biometrics. If the AdCom approves such sponsorship, more information will follow in the April 2008 Newsletter.

continued on next page

Society participation in IEEE GOLD program. The Chair of the Standing Committee on Membership, Souk Hasegawa (Metglas, Inc.) has named John Nibarger (Sun Microsystems) as the Society representative to the Regional Activities Board (RAB) Graduates of the Last Decade (GOLD) Committee to attract and retain "younger" members..

No changes of the (main) guard for 2008. I am pleased to report to the membership that the Chairs of the various Standing Committees have graciously agreed to extend their terms through 2008. The committee chairs are listed in the table below. We are all extremely grateful to these volunteers for their exemplary service to the Society in these crucial jobs.

Best wishes,
 Carl Patton, President
 patton@lamar.colostate.edu

Doyle to Chair Fellows Committee

by Bruce Gurney, Honors and Awards Committee Chair

Bill Doyle, Professor Emeritus at the University of Alabama and past President of the Society, has agreed to take over the chairmanship of the Fellows Evaluation Committee. Isaak Mayergoz (University of Maryland) has served the Society well in this capacity for a number of years. Many thanks to these dedicated volunteers for their tremendous level of service to the Society. Bob Fontana (Hitachi Global Storage, recently retired), also a Past President of the Society as well as a current AdCom member, has been appointed to the IEEE Fellows Evaluation Committee. Special thanks to Bob for his dedicated service to the Society and the IEEE for many years. ❖

Chairs of Standing Committees	
Ron Goldfarb (NIST)	Publications
Axel Hoffmann (Argonne Nat. Lab.)	Technical
Bruce Gurney (Hitachi GST)	Honors and Awards
J. W. Harrell (University of Alabama)	Education
Ryusuke Hasegawa (Metglas Inc.)	Membership
Can Korman (George Washington U.)	Publicity
Liesl Folks (Hitachi GST)	Finance
Bob McMichael (NIST)	Chapters
Ron Indeck (Washington University)	Nominations
Doug Lavers (University of Toronto)	Conference Executive

IEEE-NANO 2008

8th IEEE Conference on Nanotechnology



August 18-21, 2008
 Arlington, TX, USA

Sponsored by the IEEE
 Nanotechnology Council

<http://www.ieee.org/NANO2008>

A conference on engineering and business issues related to nanotechnology. Topics include: **Spintronics and Nanomagnetism.**

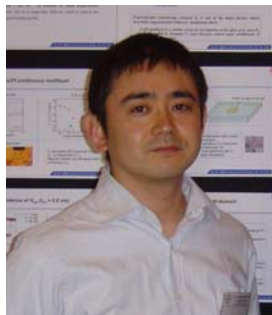
Congratulations to the Winners of the MMM 2007 Best Student Poster and Best Student Presentation Awards!!



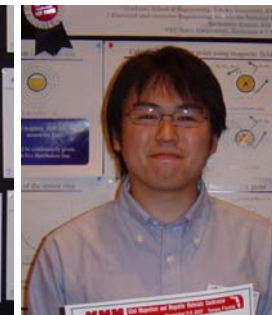
Matthew Vannette
Iowa State University



Dan Allwood
University of Sheffield



Nobuaki Kikuchi
Tohoku University



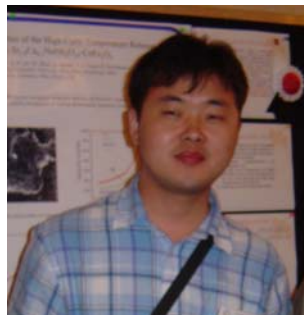
Goichi Owada
Tohoku University



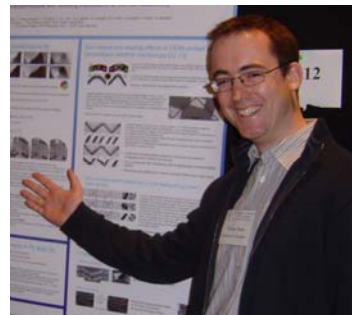
Joana Loureiro
INESC, Lisbon



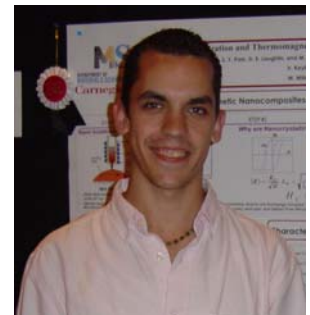
Anton Geiler
Northeastern University



Wenchao Liu
Hong Kong Polytechnic



Thomas Moore
Universität Konstanz



Paul Ohodnicki
Carnegie Mellon

KIDS CORNER

by Albrecht Jander

Holey Cow! Why do farmers feed magnets to their cows? Well, actually, it's because farmers don't like holes in their cows. You see, cows (unlike kids) are not picky eaters: they eat grass and hay and sometimes a screw or a nail or a piece of barbed wire fence. These bits and pieces can poke through the cow's tummy and sometimes even pierce her heart. So, if the farmer makes the cow swallow a magnet, those iron bits will get stuck to the magnet and not hurt the cow.

I asked my veterinarian friend, Dr. Villarroel at Oregon State University, about this. She says: "Yes, it is true, *in a way*. We don't "feed" them magnets, we give them ONE magnet. When you put a magnet in their mouth, they swallow it and it stays in their stomach. One magnet should last a lifetime and we often find them when the cows are slaughtered."

"If we don't give them a magnet, the nails and wires can cross the reticulum wall into the heart and kill the cow. Farmers call it Hardware Disease."

Dr. Villarroel sent me this picture of a magnet that she got out of a cow's stomach. You can see some of those deadly pieces of wire safely stuck to the magnet along with some left over bits of hay.



Photo courtesy Dr. Villarroel, Oregon State University

You can buy cow magnets from science stores online. Just do a web search for "cow magnet". Even if you don't have a cow, the magnets are still fun to play with. Just don't try to swallow it yourself or feed it to the neighbor's dog!! ❖

Sparks for Women in Engineering

by Carl Patton

Professor Patti Sparks has accepted the position of liaison to the IEEE Women in Engineering Committee (WIEC). Patti is a Professor of Physics at Harvey Mudd College. She has a Ph.D. from Cornell University and conducts research in the field of magnetic materials. She has served on site visits for the American Physical Society's investigation of the climate for women in physics and has organized Networking Receptions for the Women in Magnetism.

The mission of the WIE is to inspire, engage, encourage, and empower IEEE women worldwide. The WIE Vision is a vibrant community of IEEE women and men innovating the world of tomorrow. For further information on the WIEC, please contact Keyana Tennant at keyana.tennant@ieee.org. We welcome Patti to the roster of Magnetics Society volunteers and extend to her our appreciation for her willingness to serve in this important job. ❖

About the Newsletter

The purpose of the **IEEE Magnetics Society Newsletter** is to publicize activities, conferences, workshops and other information of interest to the Society members and technical people in the general area of applied magnetics. Manuscripts are solicited from the Magnetics Society members, organizers of conferences, officers of the Society, local chapters, and other individuals with relevant material.

The Newsletter is published in January, April, July and October electronically on the Magnetics Society webpage, <http://www.ieeemagnetics.org/>

Submission deadlines are January 1, April 1, July 1, and October 1 respectively. Please send articles, letters and other contributions to the editors:

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