



IEEE Magnetics Society NEWSLETTER

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Pallavi Dhagat and Albrecht Jander, Editors

More Magnetic Bits from Carl

by Carl Patton, Society President

Welcome. Welcome to the April 2008 issue of the IEEE Magnetics Society Newsletter. The Madrid Intermag conference is underway as this article is going to press. So far, it is proving to be one of the best Intermag meetings in history. The venue features modern conference facilities, good transportation at modest cost, and the many sights and sounds of this charming historic city. The technical program is outstanding. General Co-Chairs Manuel Vasquez and Ron Indeck and their international team of conference organizers have done a tremendous job on this meeting. Specific Society activities include the Awards Plenary Session and the Magnetics Society Annual Meeting. If you were not fortunate enough to be able to attend, you may find details of the program at the conference web site:

<http://www.intermagconference.com/intermag2008/index.htm>

continued on page 5



Fine Fellows

by Bruce Gurney, Honors and Awards Committee Chair

Eight members of the Magnetics Society were elevated to IEEE Fellows this year. We are proud to have the following IEEE Fellows among our members:

Roy Chantrell	Vincent Harris
Jinliang He	Thomas Howell
Hiroaki Muraoka	Lalita Udpa
John Wikswo	Jian-Gang (Jimmy) Zhu

The grade of Fellow recognizes unusual distinction in the profession and is conferred by the IEEE Board of Directors upon members with an extraordinary record of accomplishments. Photos of our new Fellows and their cited achievements are listed on page 2 of this issue.

School Starts

by J.W. Harrell, Education Committee Chair

Plans are well underway for the first annual IEEE Magnetics Society Summer School, which will be held Aug 3-8, 2008 on the campus of the University of Colorado at Colorado Springs.

The summer school is designed for graduate students who are doing research in the areas of basic and applied magnetism. 68 students of the 83 that applied were accepted. All local expenses and most of the travel expenses will be provided for the students. Of the 68 students accepted, 40 are from the U.S. and the rest from Europe and Asia. In order to be eligible for consideration, applicants were required to be student members of the IEEE Magnetics Society, have the endorsement of a regular member of the society, and submit an abstract of a poster to be presented during the summer school. The program will consist of 10 half-day lectures, evening poster sessions, and evening presentations by some of the current IEEE Magnetics Society Distinguished Lecturers. Topics to be covered include Fundamentals, Nanomagnetism, Theory and Modeling, GMR/TMR/MRAM, Magnetic Recording, Spin



INSIDE THIS ISSUE

1. More Magnetic Bits from Carl
Fine Fellows
School Starts
2. 2008 Magnetics Society IEEE Fellows
3. Technical Committee Grows
Nominations for IEEE Recognition Sought
Sensors Council Seeking Nominations
4. Book Review (Mondo Magnets on DVD)
2008 Conference Calendar
6. Kids Corner
About the Newsletter

continued on page 4

2008 Magnetics Society IEEE Fellows

Dr. Roy Chantrell
University of York

For contributions to nanoscale magnetism and to the development of computational models of finite temperature magnetization dynamics



Dr. Vincent Harris
Northeastern University

For contributions to the science and engineering of microwave magnetic materials

Dr. Jinliang He
Tsinghua University

For contribution to lightning protection and grounding of power transmission systems



Dr. Thomas Howell
San Jose State University

For contributions to signal processing for digital magnetic recording

Dr. Hiroaki Muraoka
Tohoku University

For contributions to perpendicular magnetic recording and to recording heads and media

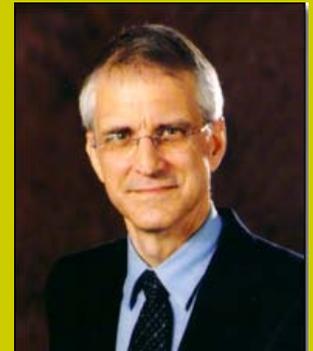


Dr. Lalita Udpa
Michigan State University

For contributions to development of forward and inverse electromagnetic nondestructive evaluation methodologies

Dr. John Wikswo
Vanderbilt University

For contributions to understanding electromagnetic effects on materials and biological tissues



Dr. Jian-Gang Zhu
Carnegie Mellon University

For contributions to micromagnetic simulation in the field of magnetic data storage.

Technical Committee Grows Sensors Council Seeking Nominations for Awards

by Alex Hoffmann, Technical Committee Chair

The Technical Committee bolsters its roster with thirteen new additions (see box). The Technical Committee now has a membership of 38 researchers with a wide range of expertise including (but not restricted to) magnetism based information technologies, hard and soft magnetism, nanomagnetism, new materials, novel spin-dependent physics, and biological and medical applications of magnetism. The members come from 15 different countries spanning 5 continents. The range of institutions (20 academia, 8 industry, and 10 national laboratories) reflects roughly how these types of institutions are represented at a typical InterMag conference. While we recently increased the representation of women on the committee there is still room for improvement in that regard (currently there are 5 female members).

If you are organizing workshops or conferences, please do not hesitate to contact the technical committee for advice. The members will be delighted to offer their insight into topics of current interest. ❖

NEW TECHNICAL COMMITTEE MEMBERS

Adekunle O. Adeyeye (National University of Singapore),
Kristen Buchanan (currently: Argonne National Laboratory;
soon: Colorado State University),
Marie-Claire Cyrille (CEA-LETI, MINATEC, Grenoble)
Haifen Ding (Nanjing University)
Miguel Garcia (Universidad Complutense de Madrid, Spain)
Laura Heyderman (Paul-Scherrer Institut, Villigen)
Sang-Koog Kim (Seoul National University)
Ilya Krivorotov (University of California, Irvine)
Mike McHenry (Carnegie Mellon University)
YoshiChika Otani (University of Tokyo)
Ulrich Rüdiger (Universität Konstanz)
Tim St. Pierre (University of Western Australia)
Maria Varela (Oak Ridge National Laboratory)

by Alan Edelstein, Sensors Council Representative

The IEEE Sensors council seeks nominations of qualified candidates for three awards in three different areas. The awards are the Technical Achievement Award, Meritorious Service Award, and IEEE Sensors Journal Best Paper Award.

The purpose of the Technical Achievement Award is to honor a person who has made outstanding technical

contributions within the scope of the IEEE Sensors Council as documented by significant publications and patents. The choice of the award will be based on the general quality and originality of these contributions. The award carries a plaque and a check for \$2,000.

The Meritorious Service Award honors a person with outstanding long-term service to the welfare and goals of the IEEE Sensors Council. It is based on the candidate's dedication, effort

and contributions. The award may be given to any member of the IEEE who has performed significant service in support of the IEEE Sensors Council. The award is a plaque and a \$2,000 check.

The IEEE Sensors Journal Best Paper Award recognizes the best paper published in the IEEE Sensors Journal during 2006 and 2007. It is based on general quality and, originality of the contribution, the subject matter and timeliness. The award is a certificate and a \$2,000 check split equally among authors.

Note all nominations and supporting materials must be submitted by August 15, 2008, to the Award Committee Chair c.schober@computer.org. The 2007 awards will be given to the awardees during the 2008 IEEE Sensors Conference Oct. 26-29, 2008 that will be held in Lecce, Italy.

Information about the awards and nomination forms are available on the Sensor Council website under Society Awards:

http://www.ewh.ieee.org/tc/sensors/SC_awards.htm ❖

Nominations for IEEE Medals and Recognitions Sought

by Leslie Russell, IEEE Awards Presentation Program

The IEEE Awards Board is seeking nominations for IEEE Medals and Recognitions and encourages the use of its online Potential Nominee Form. This form allows a preliminary review of a nominee by the selection committee and an opportunity to obtain feedback prior to submitting an official nomination form. The Potential Nominee Form is available on the IEEE Awards Web Page at

<http://www.ieee.org/portal/pages/about/awards/noms/potnomform.html>.

The deadline for submission of an official nomination form for any of the IEEE Medals and Recognitions is July 1, 2008. For questions concerning the Potential Nominee Form, please contact awards@ieee.org. ❖

School Starts

(continued from page 1)

Dynamics, Ultrafast Switching, and Advanced Characterization. The program committee consists of J.W Harrell (chair), Roy Chantrell, and Martha Pardavi-Horvath. Zbigniew Celinski is the local chair, and Liesl Folks the treasurer. The selection committee consists of Robert Camley (chair), Ching-Ray Chang, and Alexandru Stancu. More details about the summer school, including a list of speakers, can be found on the Magnetics Society web site. Tentative plans are to hold the 2009 summer school in Nanjing, China. ❖

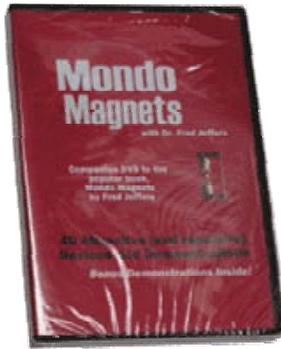
Book Review

Mondo Magnets (DVD)

By Fred Jeffers

Review by Linda Engelbrecht, Student Member

For an hour of fun and interesting magnetic concepts, "Mondo Magnets" is a DVD which delivers both. Dr. Fred Jeffers attests to spending forty years gathering the understanding that underlies the 43 "home-grown" experiments. It is clear that his intent is for the viewer to enjoy the phenomena and gain a better understanding of magnetism common to our daily experience. The presentation targets elementary and higher education science teachers, home school parents and students, interested hobbyists of any age, and magic-trick nerds. As a graduate student in magnetics, I learned several new magnetic concepts that I was previously unaware of.



While the videography isn't spectacular and Dr. Jeffers seems a tad uncomfortable on camera at first, what is lacking in Spielberg production quality is made up for in the special effects of the magnetics itself. Dr. Jeffers brings to us a number of clever observations in his practical experiments that one would normally accept as inexplicable. He provides a detailed explanation for most of the phenomena, but ends some segments with enough information to allow the viewers to investigate more for themselves. For those who are unfamiliar with terms like "oersted" and "coercivity", the presentation context allows the viewer to look-up those definitions with some foresight, and indeed, the entire DVD is focused at involving the viewer to become the experimentalist and researcher (or even the "magician" performer). Dr. Jeffers' zeal for his subject makes this production a nerdy-but-fun look at the workings of amazing, "everyday" magnetic phenomena.

Mondo Magnets (DVD) is available for \$19.95 from www.supermagnetman.net. ❖

2008 CONFERENCE CALENDAR

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>

SUMMER SCHOOL: NANOMAGNETISM AND SPINTRONICS

September 5-13, 2008, Pargue, Czech Republic

<http://cmd.karlov.mff.cuni.cz/Spintronics-2008/>

JOINT EUROPEAN MAGNETICS SYMPOSIA (JEMS08)

September 14-19, 2008, Dublin, Ireland

<http://www.jems08.ie/>

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>

More Bits

(continued from page 1)

Nobel Celebration at Intermag in Madrid. Bruce Gurney, Honors and Awards Chair, posted an article in the October 2007 issue of the Newsletter on the naming of Albert Fert and Peter Grünberg as the Nobel Prize winners in Physics for the discovery of “giant magnetoresistance,” or GMR. Both Albert and Peter graciously agreed to join us at the start of the Madrid Intermag Conference, on Monday, May 5, for a special Nobel Celebration. Their presentations were followed by a Celebratory Reception and Toast to the Nobel Laureates.

AdCom elections. In the January issue, I gave a brief report on the results of the 2007 AdCom election, the first Society-wide AdCom election in the history of the Society. Very soon, our Nominations Committee Chair, Ron Indeck, and his committee of six, comprised of Ching-Ray Chang, John Chapman, Ron Goldfarb, Sara Majetich, Hiroaki Muraoka, Manuel Vasquez, and Roger Wood, will be sending out a call for nominations of candidates for the ballot. All members are urged to be proactive in this nominations process. Please work with one or more fellow members to prepare nominations to the ballot of suitable individuals for consideration by the Nominations Committee. The more sponsors a nominee has, the better his or her chances to be selected for the ballot. The vitality of the society depends on the proactive involvement of you, the grassroots member, in putting up good candidates to manage the affairs of the organization. The Bylaws state: “4.2.1 Qualifications. In general, persons selected for the ballot shall be individuals who have demonstrated service to the Society either as previous or current elected or ex-officio members of the AdCom, members of Society committees, or individuals who have made other significant contributions to the Magnetics Society or to the magnetics community in general. Duly made nominations by petition shall be included on the ballot, irrespective of other considerations.” The Society Bylaws specify a limit of two consecutive terms for AdCom membership. We look forward to seeing many good nominations. Let one of them be from you!

Fellow Matters. The IEEE Fellows for 2008 have been announced recently. Among them, there are eight members of the Magnetics Society: Roy Chantrell, Vincent Harris, Jinliang He, Thomas Howell, Hiroaki Muraoka, Lalita Udpa, John Wikswo, and Jian-Gang (Jimmy) Zhu. Congratulations to these good “fellows.” Bill Doyle (Emeritus, University of Alabama), current Chair of the Fellows Evaluation Committee, reports that we have only two nominees for Fellow for consideration for the next election cycle. I know many individuals, and I am sure that you do too, that qualify for advancement to the grade of Fellow of the IEEE. Please go to the IEEE web site, <http://www.ieee.org/web/membership/fellows/index.html>, for more information. Nominations for the Class of 2009 are closed. However, nominations for the Class of 2010 will open shortly. Please help us to make sure that there are a

representative number of Magnetics Society members on the slate for the Class of 2010. Please contact Bruce Gurney (bruce.gurney@hitachigst.com), Chair, Honors and Awards Committee, for more information.

Magnetics Society Five Year Review in June 2008. Yours truly, the other officers, the various committees, your Executive Director, and many AdCom members have been working hard on the draft report that was submitted on May 1 to the TAB Society Review Committee as a prelude to the five year review of the Society to take place in connection with the June TAB meeting in Denver. Our day of reckoning will be on Thursday, 19 June. So far, the draft report is running about 44 pages, and that is before tacking on the Constitution and Bylaws! Myself, Randy Victora (President Elect), Takao Suzuki (Secretary/Treasurer), Doug Lavers (CEC Chair), Ron Goldfarb (Pub. Chair), Bob McMichael (Chapters Chair), John Nibarger (GOLD - “Graduates of the Last Decade,” representative, Bruce Gurney (Honors and Awards Chair), and Liesl Folks (Finance Chair), will be in attendance for the face-to-face review. I will provide a full report to the membership in the next Newsletter. ❖

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

**53rd Annual Conference on
Magnetism and Magnetic Materials**
November 10 – 14, 2008 • Austin Texas



Abstract Deadline: July 2, 2008

The 53rd Magnetism and Magnetic Materials Conference will be held at the Hilton Austin, located near the State Capitol in Austin, Texas from Monday, November 10 through Friday, November 14, 2008. Members of the international scientific and engineering communities interested in recent developments in magnetism and associated technologies are invited to attend the Conference and contribute to its technical sessions.

SCOPE OF THE CONFERENCE: This conference will include all basic and applied science and technology related to the field of magnetism.

More information, submission instructions, and list of technical topics can be found at the conference web site:

www.magnetism.org

KIDS CORNER

by Albrecht Jander

188 years ago (about the time when your great-great-great-great-great-grandfather was alive) a man named Hans Christian Ørsted discovered that an electric current produces a magnetic field.

It was April 21, 1820, and Hans, who was a teacher at the University of Copenhagen in Denmark, was preparing for class. He was going to show his students how electric current in a wire makes it get hot. He noticed that every time he connected the wire to his battery, a compass (that just so happened to be sitting on his desk) would turn. He was very surprised and excited to make this discovery, but he kept mum about it until he had a chance to check it out quietly, by himself, in his laboratory. A scientist doesn't believe anything unless he can do the experiment over and get the same result.



AIP Emilio Segre Visual Archives,
Brittle Books Collection

It is easy to do Hans' experiment yourself. All you need is a compass, a battery (D-size works best) and a paperclip. Bend the paperclip so that you can connect it to both ends of the battery. Place the compass on a table and wait for the needle to settle



down (pointing north, of course). Now hold the paperclip over the compass along the north-south line. When you connect the battery you should see the compass needle turn towards the east or west. What happens if you reverse the battery so that the electricity flows the other way? ❖

JEMS

Joint European Magnetic Symposia
September 14 - 19, 2008, Dublin, Ireland

The Joint European Magnetic Symposia is the largest and most comprehensive Magnetism Conference in Europe. Held bi-annually, JEMS brings together two important meetings, EMMA (European Magnetic Materials and Applications) and MRM (Magnetic Recording Materials). JEMS'08 in Dublin will be the fourth in the series, following Grenoble 2001, Dresden 2004 and San Sebastian 2006.

JEMS'08 will be held in Ireland at Trinity College Dublin, from 14-19 September. Members of the international scientific and engineering communities interested in recent developments in magnetism and related technology are welcome to participate the Conference. Plenary and semi-plenary lectures aimed at the general technical audience are a highlight of the meeting. Reports of new research results will be organized in a series of independent symposia, listed below. A special tutorial session aimed at graduate students and young engineers will be held on 14th.

<http://www.jems08.ie>

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 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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