IEEE Magnetics Society
NEWSLETTER

Volume 48, Issue 4 October 2008

Pallavi Dhagat and Albrecht Jander, Editors

Last Magnetic Bits from Carl

by Carl Patton, Society President

Welcome. Welcome to the October 2008 issue of the IEEE Magnetics Society Newsletter. This will be my last opportunity to provide my Newsletter comments as President of the Society. My two year term has really gone by in a flash. Indeed, the entire six year stint, first as Secretary/Treasurer, then as Vice President (now called President Elect), and then as President, has gone by very quickly. But alas, you will be hearing from me again in 2009 and 2010 as Chair of the Nominations Committee. IEEE mandates that, wherever possible, this position be taken by a recent Past President. Stay tuned for my call to all members for nominations for consideration for the ballot for eight new AdCom members for a 2010-2012 term. For 2009/2010, the current President Elect, Randy Victora, will become President and the current Secretary/Treasurer, Takao Suzuki, will become President Elect. Welcome fellows to the next step in the saga for each of you. Take it from me, it will be a fun ride (most of the time).

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2009 Distinguished Lecturers

by Roy Chantrell, Distinguished Lecturers Coordinator

The magnetics society has selected four Distinguished Lectureres for 2009. Thank you to all the Society members who participated in the seletion process. The lecturers selected for 2009 are:

Prof. Kannan Krishnan

University of Washington
kannanmk@u.washington.edu

Biomedical Nanomagnetics :
A Spin Through New Possibilities

Prof. Hideo Ohno

Tohoku University
ohno@riec.tohoku.ac.jp

Spintronics: Nanoscience and Nanoelectronics

Dr. Mike Mallary

Seagate Technology
Mike.Mallary@Seagate.com

The Evolution and Revolutions in Disk Drive Recording

Prof. Theo Rasing

Radboud University of Nijmegen
theoras@sci.kun.nl

Controlling Magnetism with Light

Abstracts of the lectures and biographies of the speakers will be published in the January newsletter and will also be available on the web at ieeemagnetics.org .

The distinguished lecturers are supported by the Society to travel worldwide and deliver lectures to interested parties. Magnetics society members are encouraged to contact the Distiguished Lecturers and invite them to your area present their lectures on the above topics.

This yeas' lecturers, Dr. Paulo Freitas, Dr. Stuart Parkin, Dr. Bob Stamps and Dr. Bruce Terris have together already delivered over 100 lectures this year in the US, China, UK, Spain, France, Japan Korea, Australia, Taiwan, Sweden, Italy, Brazil, Thailand and Romania ❖

Fostering relation between magnetics and electronics research communities

by B.Dieny, Administrative Committee Member

For several decades, magnetic recording and especially hard disk drive industry has been a driving force for research and development in magnetism. Nowadays, thanks to the development of spinelectronics, new areas of development for magnetic industry seem to emerge. MRAM is an example. Lots of efforts have been focused on MRAM development in the past 12 years and Freescale (now Everspin) succeeded to launch a 4Mbit MRAM chip on market in 2006. This was a major achievement since it demonstrated the possibility of integrating magnetic and CMOS technologies to make a commercial product.

Since then, the field has further progressed. The very large magnetoresistance of MgO based magnetic tunnel junctions (MTJ), the possibility to switch the magnetization in MTJ by spin-transfer, the development of thermal assist write schemes, have opened the prospect of very good scalability of these hybrid MTJ/CMOS components, down to at least the 22 nm node..

READER SURVEY

Are you reading this newsletter?
Please let us know by sending a quick email to

magnetics.newsletter@gmail.com

Take a few extra moments and let us know what you like reading in the newsletter.

Besides MRAM, other hybrid MTJ/CMOS components can be conceived for logic applications. The technology involved in these components is the same as for MRAM (CMOS+magnetic back-end process) but the purpose is different. Until now, very few groups in the world have been working on these hybrid CMOS/MTJ components for logic applications. However, the potential can be very important for microelectronics as well as magnetic industry. Thanks to the very good cyclability of MTJ and speed of magnetization switching, non-volatility could be directly brought into CMOS devices by introducing magnetic flip-flop gates. This approach could yield very significant energy savings by allowing to instantaneously turning off and on the power on CMOS components which are temporarily inactive. It also allows introducing reprogrammability in logic devices by using MTJ as bi-valued resistors. Accordingly, Magnetic Field Programmable Gate Arrays (FPGA) can be designed offering much faster reprogrammable speed than semiconductor FPGA. With this combination of CMOS and MTJ, innovative architecture can be conceived in which logic and memory are completely intermixed. This represents a totally different approach as compared to the traditional Von Neumann architecture. It automatically speeds up the communication between logic and memory (since they are totally intermixed).

To progress in this field, it is important to bring together experts in microelectronics and in magnetism and to learn from each other. However, I feel that so far, the microelectronics and magnetism communities are still too separated. As a matter of fact, for decades magnetic materials were considered as contaminants in microelectronic fabs. Furthermore, the industry of magnetic recording has developed for 50 years without bothering about CMOS integration. It is therefore not surprising that a large cultural gap remains between these two communities. Besides that, the magnetism community has traditionally its own large international conferences such as MMM, Intermag... in which microelectronics is not represented. The same is true with the microelectronic community which has its own large conferences in which there is almost no magnetism. By attending one of these large microelectronic conferences, I was surprised to see the number of presentations related to phase change RAM (2 full sessions) whereas in the entire conference, only my presentation was related to MRAM. This situation is undergoing a slow evolution and some intermixed conferences start being organised. My feeling is that we should be more pro-active in fostering more relationship with the microelectronic community because it can be very important for the future of magnetic industry. Towards this goal, we have formed a small committee within the IEEE Magneics Society to list the most appropriate actions which should be undertaken. In particular, we want to list a number of conferences where joint magnetism/microelectronics symposia could be organized. But, bridging this cultural gap between the two communities is a steady long-term effort. It happens through attending joint meetings, delivering and participating in tutorial sessions, initiating trans-disciplinary collaborations etc. Nowadays, innovation most frequently takes place when different expertises are combined. I am convinced that the combination of magnetism and microelectronics can generate a lot of innovation for the benefit of both areas.

If you have comments or suggestions, please contact me at Bernard.dieny@cea.fr ❖

In Memoriam

William D. Doyle

William Doyle, Emeritus Professor of Physics at the University of Alabama passed away in his sleep on Sept. 20, 2008. His colleague JW Harrell provides this tribute to his life:

Bill Doyle received BS and MS degrees from Boston College in 1957 and 1959, and a PhD degree in physics from Temple University in 1964. He joined Franklin Institute Laboratories in 1959, focusing on thin magnetic films for information storage. He continued to work on magnetic materials throughout his career which included scientific positions at Univac (1964-1979), Motorola (1979-1984), and Kodak (1984-1990) where he had both scientific and management responsibilities. In 1970-1971, he was a Senior Visiting Fellow at the University of York, England. In 1990, Doyle left his position as Director of the Kodak San Diego Research Labs to become Professor of Physics and Director of the Center for Materials for Information Technology (MINT) at the University of Alabama.

He held the MINT Director position until August 2000. Bill Doyle was a Fellow of the Institute of Electrical and Electronic Engineers (IEEE) and a member of the American Physical Society. He served as president of the IEEE Magnetics Society from in 1987-88. He authored more than 90 papers in the field of magnetic materials and devices, and was chosen to be Distinguished Lecturer of the IEEE Magnetics Society in 1982 and 1995. In 1993, he received the Achievement Award of the IEEE Magnetics Society, and in 2000 he received the IEEE Millennium Award. He was an editor for the IEEE Transactions on Magnetics at his death.

Bill Doyle had a major impact on scientific and technical research in industry and at the University of Alabama. He brought to the University a no-nonsense industrial perspective which emphasized team work, interdisciplinary cooperation, shared labs, and relevancy to current problems. Under his leadership, the MINT Center secured federal and industrial support and became one of the first universities to receive an NSF Materials Research Science and Engineering Center award.

Bill Doyle is remembered with great fondness and appreciation by all who knew or worked with him. With his passing the magnetics community has lost a friend, mentor, leader and wise counselor. Bill is survived by his wife, Carole, four children, and six grandchildren. ❖

Technical Committee Globalizes

by Axel Hoffmann, Technical Committee Chair

Over the last year the Technical Committee added many new members:

- Adekunle O. Adeyeye (National University of Singapore)
- Kristen Buchanan (Colorado State University)
- Marie-Claire Cyrille (CEA-LETI, MINATEC, Grenoble)
- Alina Deac (NIST Boulder)
- Haifeng Ding (Nanjing University)
- Jürgen Fassbender (Forschungszentrum Drseden-Rossendorf, Germany)
- Miguel Garcia (Universidad Complutense de Madrid, Spain)
- Maria-Elena Gomez (Universidad del Valle, Cali, Colombia)
- 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).

These new members help diversify the Technical Committee in many aspects. All l IEEE Regions are now represented, with the exception of Region 7 (Canada). In fact there are members from each continent, except Antarctica!

The Technical Committee members assisted the IEEE Magnetics Society in identifying emerging areas of research and development. The society is seeking to build ties with the microelectronics research community (see article by B. Dieny on page 2 of this newsletter) and become more involved in biomagnetics conferences such as the conference on “Scientific and Clinical Applications of Magnetic Carriers.”

I would like to remind all members of the Magnetics Society that the Technical Committee is willing always available to assist with their expertise. We are there to provide suggestions and advice for organizing conferences and workshops. Please do not hesitate to contact the Technical Committee with your questions and requests. ❖

Society Sponsorship of Small Conferences and Syposia

by Doug Lavers, Conference Committee Chair

Most members of the Magnetics Society are aware of the major conferences that the Society sponsors: INTERMAG, the flagship conference of the Society, and MMM, a conference that the Society cosponsors with Physics Conferences Inc. (PCI). Both of these are large, well established, annual meetings. Many will also be aware that the Society sponsors TMRC, a smaller focused annual conference that, to date, has been held exclusively in North America. In each of these instances, sponsorship involves accepting financial responsibility for the conference, in proportion to the agreed fraction of sponsorship that the Society assumes.

During recent years, membership in the Society has shifted significantly toward Europe and Asia. In order to meet the needs of members from these regions, the Society has recently undertaken to seek out and financially sponsor technical conferences that take place outside of North America. Three recently sponsored meetings demonstrate how the society can provide assistance:

IEEE Symposium on Metallic Multilayers (MML)
October 14-19, 2007, in Perth, Australia.
Conference Chair: Prof. Robert Stamps
The Society assumed full financial responsibility for the event. The symposium attracted 127 registrants, 33 of whom were students.

IEEE Conference on Electromagnetic Field Computation (CEFC)
May 12-15, 2008, Athens, Greece.
Conference Chair: Prof. Antonios Kladas
The Society assumed an 80% financial responsibility, with the National Technical University of Athens assuming 20%. The highly successful conference attracted more that 425 registrants.

IEEE Magnetic Recording Conference (TMRC)
July 29-31, 2008, Singapore.
Conf. Chairs: Profs. Tow Chong Chong and Mark Kryder
The Society assumed full financial responsibility. This was the first time that TMRC was held outside of North America. The conference was highly successful, attracting 170 registrants.

In each of these instances, the Society not only provided financial underwriting of the event, but it also assisted in the organization of the event to serve the technical interests of local and international participants.

The Society is dedicated to continue with assistance to conferences and symposia that fall within the scope of activities of the Society. Should any member wish to explore conference possibilities, please contact Doug Lavers, the Conference Executive Committee Chair (doug.lavers@utoronto.ca) ❖

2009 Conference Calendar

Asian Magnetics Conference

Dec. 10-13, 2008, Busan, South Korea
http://www.asianmag.org

Magnetism Meets Semiconductors

Jan. 5-7, 2009, Bad Honnef, Germany
http://www.uni-mainz.de/FB/Physik/Magnetismus/Magnetismus/3K2009/MmS.htm

Asia-Pacific Magnetic Recording Conference

Jan. 14-16, 2009, Singapore
http://apmrc2009.dsi.a-star.edu.sg

Magnetics Conference 2009

April 15-16, 2009, Chicago, IL, USA
http://magneticsmagazine.com/

European Wrkshop on Self-Organized Nanomagnets

Mar 29- Apr 4, 2009, Aussois, France
http://nanomagnets2009.neel.cnrs.fr

INTERMAG 2009

May 4-8, 2009, Sacramento, CA, USA
http://www.intermagconference.com

7th International Symposium on Hysteresis Modeling and Micromagnetics

May 11-14, 2009, Gaithersburg, MD, USA
http://www.metallurgy.nist.gov/magnet/hmm2009

20th Int. Colloquium on Magnetic Films and Surfaces

July 20-24, 2009, Berlin, Germany
http://www1.mpi-halle.mpg.de/~theory/dates.html

International Conference on Magnetism

July 26-31, 2009, Karlsruhe, Germany
http://www.icm2009.de

19th Soft Magnetic Materials Conference

Sept. 7-9, 2009, Torino, Italy
http://www.smm19.eu

To list your conference on the Newsletter conference calender, please contact the editors.

Publications News

by Ron Goldfarb, Publications Chair

Five-Year Publications Review: The Magnetics Society's five-year publications review by the IEEE Technical Activities Board was held 19 June 2008 in Denver, Colorado, in conjunction with the Magnetics Society's five-year society review. The committee was favorably impressed with the operation of the *Transactions* and *Newsletter*. It cited several *Transactions* procedures as "best practices," including detailed instructions for authors, short average time from article submission to publication, and the fact that all conference-related papers receive the same level of peer review as regular papers. The committee was impressed with the large number of *Transactions* articles viewed annually on IEEE Xplore.

Patents: The IEEE did a study on which scientific publishers were most cited in patents filed in 2006 by the world's 25 top patenting companies (i.e., IBM, Hitachi, Samsung, Matsushita, Canon, HP, Sony, Intel, Toshiba, Fujitsu, Microsoft, Micron, Siemens, GE, Fuji, Seiko, NEC, Honda, Philips, Infineon, Motorola, TI, Alcatel-Lucent, Sharp, and Nippondenso). IEEE was cited far more often than any other publisher: about 4 times as often as Elsevier, and about 6 times as often as American Vacuum Society and Association for Computing Machinery. All other publishers were minimally cited, including SPIE, the Institute of Pure and Applied Physics, and the American Physical Society. *IEEE Transactions on Magnetics* was the seventh most cited of all IEEE journals. ❖

MANUSCRIPT CENTRAL

On Nov. 3, the Transactions migrated to the latest version of Manuscript Central for on-line article submission and peer review.

The new URL is http://mc.manuscriptcentral.com/transmag-ieee

POSITION AVAILABLE

We need a new Newsletter editor beginning in 2009. If interested, please contact Publications Chair Ron Goldfarb goldfarb@boulder.nist.gov

MagSoc Financial Outlook

by Liesl Folks, Finance Chair

Following a trend of several years, the Magnetics Society generated a record surplus of $912,000 in 2007. This outcome was driven by highly successful conferences, high publishing revenues, and solid investment returns. The Adcom has made many moves over the past few years to return benefis to members through lower fees for conference-related papers, lower registration rates for members at MagSoc conferences, enhanced support for student travel and the Distinguished Lecturer program, as well as initiating in 2008 a graduate summer school on magnetism. Our financial objective for 2008 and following is to operate with a balanced budget, now that we have a healthy nest-egg (more than $4M) in the IEEE Reserve account. The current outlook for 2008 is that we will end the year with a surplus of a few tens of thousands of dollars from operations, which we believe is an appropriate figure for a not-for-profit organization.

We are currently preparing the budget for 2009, and a key change for that year will be a large increase (of more than $100,000) in the 'tax' we pay to the IEEE. In this, we are a victim of our own success: we have increased membership while the IEEE overall has dropped in numbers, and our expenditures have increased while the majority of societies have decreased spending. Since we pay for services provided centrally by the IEEE in proportion to our fraction of the total membership and total expenditures, we are seeing large increases in the recoup to IEEE's central administration.

Finally, the AdCom is currently considering a proposal to use some of the reserve funds to endow our awards program through the IEEE Foundation. This move would ensure a base level of support for the Achievement Award, the student travel awards, and the Best Poster Award for Intermag, in perpetuity. ❖

A+ For Summer School

by J.W. Harrell, Education Committee Chair

The first IEEE Magnetics Society Summer School was held Aug. 3-8, 2008 at the University of Colorado at Colorado Springs. The summer school was designed for advanced graduate students in the field of magnetics and was open to students from all over the world. Approximately 70 students attended, with about 60% from the US and 40% from 12 different countries outside the US.

The summer school consisted of half-day lectures on topics including fundamentals, nanomagnetism, theory and modeling, magnetotransport, magnetic recording, spin dynamics, ultrafast switching, and advanced characterization. Lecturers included J.W. Harrell, Bill Butler, Martha Pardavi-Horvath, Zbigniew Celinski, Robert Camley, Roy Chantrell, Thomas Schrefl, Roger Wood, Jan-Ulrich Thiele, Michael Coey, Andrei Kirilyuk, and Claus Schneider. Bruce Terris, one of the 2008 Magnetics Society Distinguished Lecturers, gave an evening lecture on Patterned Nanomagnetic Bits and Devices. Each student presented a poster on his or her research work.

The summer school was organized by the Education Committee and was supported by the Magnetics Society. All students were provided with free room and board and with funds to cover most of their travel expenses. The summer school was a great success due to the efforts of a large number of people. These included the program committee, selection committee, treasurer, lecturers, faculty and staff at Colorado Springs, and, of course, the students who attended. Tentative plans are to have the 2009 summer school at Nanjing University. ❖

Attendees of the first Magnetics Society summer school.

Promoting Society Membership

by R. Hasegawa, Membership Chair

Our membership desk activity at the last Intermag Conference in Madrid was successful. Conference registration fee discount and the participation of two enthusiastic students, Tom Deakin (UK) and Karla Merazzo (Spain) at the membership desk, helped increase our society's membership by 69. Current total membership is 3,235, of which 2,920, 267 and 48 are Higher Grade Members, Students and Affiliates, respectively. At the moment, student membership amounts to about 8 %. Since the students of today will be our society's leaders of tomorrow, it is important for us to increase this number. I would like to ask you to encourage students you may know to join our society. Personal promotion is the most effective and long lasting inducement to potential new members.

One of the IEEE membership development activities introduced recently is to let members know the benefits of joining other societies by going to "Featured Society" (http:www.ieee.org/web/membership/Featured_Societies/index.htm) webpage. There are thirty-eight societies; the website showcases three of them at a time according to the present plan. Those who are interested in being aware of other societies in addition to the Magnetics Society can take advantage of this. For example, if you are interested in extending your research into energy related-areas, visiting web pages for the Power & Energy Society (PES) and Power Electronics Society (PELS) should be instructive. At the moment, these two societies and the Computer Society are featured. ❖

Poster session at the summer school.

Last Bits

(continued from page 1)

2007/2008 Overview. Society wise, many things have happened in the past two years. In 2007, the first six months of my term were occupied with the final touches on the revised Constitution and By-Laws for the Society. This was a tremendous effort on the part of many volunteers inside the Society, as well as Mary Curtis and others at the IEEE. These new documents paved the way for the expansion of the election of AdCom members to a society wide vote, first in the summer/fall of 2007 for the 2008-2010 term and then in the AdCom election just completed for the 2009-2011 term. Ron Indeck (Washington University), a recent Society President and current chair of the Nominations Committee, provides an uptdate on these results in this issue. The Society also undertook an effort to revitalize our involvement in the IEEE Councils on Nanotechnology, Sensors, and Superconductivity. On Nanotechnology, we are represented by Dmitri Litvinov (University of Houston) and Randy Rannow. On Sensors, we are represented by Alan Edelstein (Army Research Laboratory). On Superconductivity, we are represented by Al Zeller (Michigan State University) and Ron Goldfarb (National Institute of Standards and Technology). Many thanks to these energetic volunteers for their efforts to represent the Society on these councils in a proactive way. The year 2007 started with a very successful Joint MMM/Intermag Conference in Baltimore. May 2008 saw the able execution of one the best Intermag Conferences ever in Madrid, Spain, expertly managed by Manuel Vázquez (Instituto de Ciencia de Materiales de Madrid) and Ron Indeck. Our membership has held relatively steady during the past two years, with a current total of about 3,200, roughly evenly balanced between U.S. and non-U.S. members. We are truly an international society. Budget wise, our society continues to be very healthy. Due to a very successful *Transactions*, many "hits" from IEEE Xplore, and our vibrant and well attended conferences, our funds continue to grow in spite of a number of major initiatives for increased professional and monetary member benefits. These initiatives have included conference registration fee subsidies for Society members, receptions and Internet capabilities at our sponsored conferences, and the start up of an annual summer school. The first such school was held in August 2008 at the University of Colorado at Colorado Springs (Zbigniew Celinski, Chair). The 2010 Summer School is planned for the Peoples Republic of China. One major activity for 2008 was the completion of the IEEE mandated five year reviews for the Society as a whole and the Publications Department. Both reviews were completed with flying colors and accolades from the IEEE review committees (no mean feat!). The final steps of the review were completed in September with the receipt of and response to the written evaluations of the Society Review Committee. This document will be posted on the Society web site shortly. A brief summary of these review activities was given in the July 2008 Newsletter.

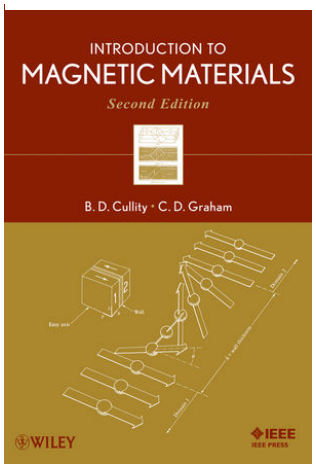
People. My work as President has gone smoothly these past two years due to the energetic and expert work of many Society volunteers and other devotees. Top honors go to our long time Executive Secretary, Diane Melton (Courtesy Associates). Diane represents the corporate memory of the Society and is the power behind the AdCom in the day-to-day, week-to-week, month-to-month, and year-to year operations. As close runner-ups, all of the AdCom committee chairs have done spectacular jobs during my tenure and they have made my work as a gentle manager much easier than I ever could have imagined. Liesl Folks (Hitachi Global Storage Technologies) stepped into the critical job of Finance Chair in January 2007. Her articulate and accurate management of Society funds and budget planning has been a godsend to the Society. Doug Lavers (University of Toronto), in his careful and balanced role as chair of the Conference Executive Committee, has guided the varied leaderships of the many conferences we sponsor to technical and financial success. Ron Goldfarb has continued to chair the Publications Committee with aplomb and grace. (I am also indebted to Ron for graciously editing and correcting bloopers in my Newsletter submissions these past two years!) David Jiles (Cardiff University) has also continued his excellent service as Editor-in-Chief of the *Transactions*. Under Publications, Pallavi Dhagat and Albrecht Jander (both at the University of Oregon) have done a spectacular job as Newsletter co-editors these past two years (and have always graciously accepted my late article every quarter). As called for in the new Constitution and By-Laws, the Chapters and Membership Committee under the long-time, able direction of Richard Dee (Sun Microsystems) was separated into a Chapters Committee, now chaired by Bob McMichael (National Institute of Standards and Technology) and a Membership Committee, now chaired by Souk Hasegawa (Metglas). Our chapter activities continue to flourish. Among other things, we have recent new chapters in Spain, Nagoya, Japan and Oakland, California. The Society currently has 27 active chapters around the world. The Membership Committee also now has a GOLD (Graduates of the Last Decade) representative, John Nibarger (Sun Microsystems). John interfaces with the larger GOLD organization within the IEEE Member and Geographic Activities Board to promote specific member benefits for "younger" members of the Society. Bruce Gurney (Hitachi Global Storage Technologies) continues to manage the extensive Honors and Awards Committee. His operation includes the Fellows Evaluation Subcommittee, the Magnetics Society Lifetime Achievement Award, IEEE Field Awards, and student travel awards, among others. Bruce has been an especially suave host of the annual awards ceremonies at our Intermag Conferences. Also under Honors and Awards, Roy Chantrell (University of York) has served as an able, very organized, and very effective coordinator of the Distinguished Lecture (DL) Program. Under Roy's guidance, the DL Program has expanded to four lecturers per year and a very substantial budget that allows the lecturers to serve the membership worldwide very effectively. The DLs have put in countless travel hours to provide this incredible service to the Society and the international magnetics

community as a whole. The Technical Committee transitioned from the able leadership of Mel Gomez (University of Maryland) in early 2007 to Axel Hoffmann (Argonne National Laboratory). One new initiative within the Technical Committee has been to establish a working group for liaison with the burgeoning field of spintronics, currently led by Bernard Dieny (Spintek). J. W. Harrell has continued to lead the Education Committee to develop strong tutorial lecture programs for our sponsored conferences and to initiate the new program of summer schools noted above. Last but not least, Can Korman (George Washington University) continues to manage the Publicity Department and maintain the excellent web page (http://www.ieeemagnetics.org/) of the Society for ready access by Society members and others. We also depend on Can for the rapid dissemination of e-mail announcements to the Society membership as needed. As noted above, Ron Indeck has ably served as the Nominations Committee Chair. His committee is in charge of establishing the ballot slate for the annual AdCom election and running the officer election every other year. This officer election is currently in progress.

Heartfelt thanks. All of the committee chair volunteers and others listed above are the real core of the Society that make us a critical element for service to scientists and engineers, students, and other workers in the field of basic and applied magnetics worldwide. Space is too short to list all of the AdCom members that have cycled through during my term and provided individual and collective counsel on many issues. Many individual members of the Society have also provided personal support and critical advice. I sincerely thank these people, one and all. Working for you and with you to the best of my ability has been a pleasure and an experience I will never forget. ❖

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

New Book



Introduction to Magnetic Materials

2nd Edition

B. D. Cullity
C. D. Graham

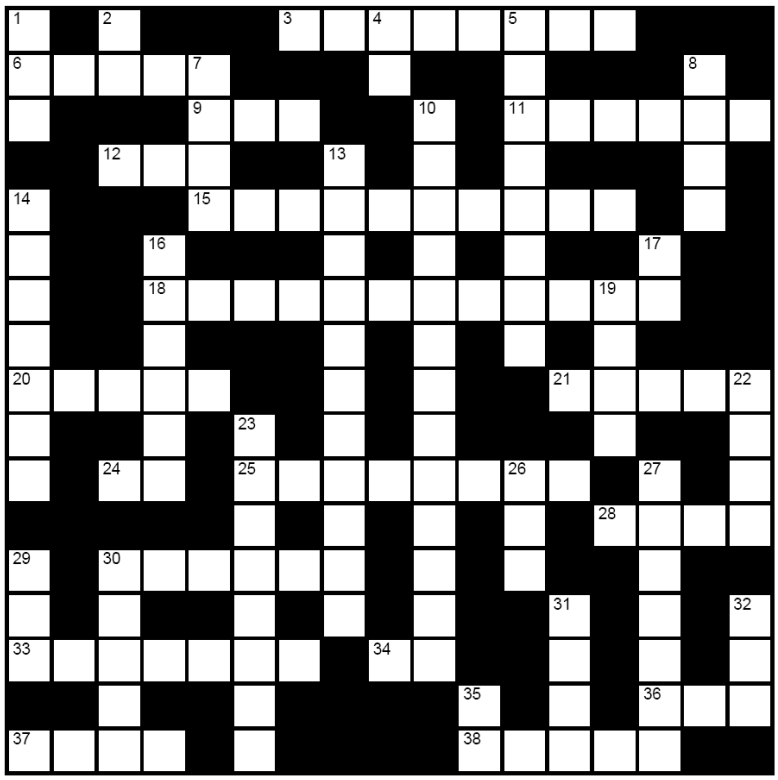
ISBN: 978-0-471-47741-9
Hardcover 544 pages

December 2008
Wiley-IEEE Press

From the Publisher: Introduction to Magnetic Materials, 2nd Edition covers the basics of magnetic quantities, magnetic devices, and materials used in practice. While retaining much of the original, this revision now covers SQUID and alternating gradient magnetometers, magnetic force microscope, Kerr effect, amorphous alloys, rare-earth magnets, SI Units alongside cgs units, and other up-to-date topics. In addition, the authors have added an entirely new chapter on information materials. The text presents materials at the practical rather than theoretical level, allowing for a physical, quantitative, measurement-based understanding of magnetism among readers, be they professional engineers or graduate-level students. ❖

KIDS CORNER

by Albrecht Jander



This month's kids corner is for the "older" kids.

Across

3 never been found (8)
6 end of a magnet (5)
9 magnetic metal resistance (3)
11 north and south together (6)
12 spins precessing together (3)
15 __ of B is always zero (10)
18 electric and magnetic hysteresis (12)
20 field unit (5)
21 opposite of 6 across (5)
24 short for 30 down (2)
25 coupling between atoms (8)
28 Bloch or Neél (4)
30 ferromagnetic element (6)
33 field unit (7)
34 makes GaAs magnetic (2)

Down

1 built by Foner (3)
2 anisotropy constant (2)
4 don't __ and dime me (2)
5 first magnetoresistance (8)
7 large coercivity (4)
8 amount passing through (4)
10 dipoles per volume (13)
13 same forwards and backwards (11)
14 pathfinder (7)
16 moment unit (6)
17 switching field (2)
19 ferromagnetic element (4)
22 determines carrier polarity (4)
23 left over (8)
26 multilayer magnetoresistance (3)
36 used for medical imaging (3)
37 orange peel (4)
38 factors adding to one (5)
27 loss of energy (7)
29 good tunnel barrier (3)
30 disordering temperature (5)
31 nonvolatile data storage device (4)
32 normal metal resistance change (3)
35 barely ferromagnetic element (2)

ACROSS: 3 MONOPOLE 6 SOUTH 9 AMR 11 DIPOLE
12 FMR 15 DIVERGENCE 18 MULTIFERROIC 20 AMP/M
21 NORTH 24 TC 25 EXCHANGE 28 WALL 30 COBALT
33 OERSTED 34 MN 36 NMR 37 NEEL 38 DEMAG
DOWN: 1 VSM 2 KU 4 NI 5 ORDINARY 7 HARD 8 FLUX
10 MAGNETIZATION 13 RECIPROCITY 14 COMPASS
16 EMU/CC 17 HC 19 IRON 22 HALL 23 REMANENT 26 GMR
27 DAMPING 29 MGO 30 CURIE 31 MRAM 32 OMR 35 GD

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:

Pallavi Dhagat or Albrecht Jander
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