



# IEEE Magnetics Society NEWSLETTER

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**Pallavi Dhagat, Albrecht Jander, Editors**

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## TABLE OF CONTENTS

|   |    |
|---|----|
| • Bits and Bytes from Carl Patton, Society President                | 1  |
| • Quantum Leaps and Barkhausen Jumps – Society News                 | 5  |
| • Chapters' Domain  | 6  |
| • Magnetics Society Distinguished Lecturers                         | 7  |
| • 10 <sup>th</sup> Joint MMM/Intermag Conference: A Great Success!! | 11 |
| • Conference Calendar   | 15 |
| • Conference Announcements  | 16 |
| • New Books on Magnetism  | 21 |
| • About the Newsletter  | 23 |

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## BITS AND BYTES FROM CARL PATTON

**Welcome.** As the incoming Society President for 2007-2008, I would like to welcome you to this first issue of the Newsletter for 2007. As we all know, magnetics continues to be a booming and exciting field. While it is hard to pick one new development out of many for mention, the recently reported use of the effective field associated with circularly polarized short laser pulses to switch magnetic bits on a femtosecond time scale is very exciting to me personally. One never knows what similar new development is just over the horizon. This Newsletter is the first issue prepared by our new co-editors, Albrecht Jander and Pallavi Dhagat, both of Oregon State University. I am especially excited to see Albrecht and Pallavi join our Publications operation and our team of Society volunteers. See their short article of introduction (made after some arm twisting) later in the newsletter. I would also like to thank the retiring Newsletter editor, Martha Pardavi-Horvath, for her energetic and dedicated work on the Newsletter for many years. Finally, let me say that my view of the President's position is that I am here to serve you. Feel free to contact me at any time ([patton@lamar.colostate.edu](mailto:patton@lamar.colostate.edu)) with any ideas (or concerns) for the continued betterment of the Society and the enhancement of its services to the membership.



**New Officers.** As the new year begins, one of the big changes for me is in “ascending” (I think that is the proper word) to the office of President of the Society. I have found out very quickly, perhaps much too quickly, all of the things the IEEE expects of the President, and all of the little details that need “hands on” attention to keep the affairs of the Society running smoothly. I would like to thank my predecessor, Kevin O’Grady of the University of York, for all of his work as president over the past two years. I would also like to thank Randy Victora of the University of Minnesota for his willingness to assume the duties of Vice President, and Takao Suzuki of the Toyota Technological Institute in Nagoya for “stepping up to the plate” as the new Secretary-Treasurer. Randy’s title will change from Vice President to President Elect as soon as the new revised Constitution and Bylaws are in place (see below). Randy is already at work making notes on all the things we forgot for the next round of Magnetics Society Bylaw changes, and Takao is busy checking budgets and approving expenditure requests.

**New Committee Chairs.** I would also like to welcome and thank the team of standing committee chairs, three new and seven continuing, for the current 2007-2008 term. Under the newly revised Constitution and Bylaws (pending IEEE approval), Bob McMichael of the National Institute of Standards and Technology (NIST) will join the Administrative Committee (AdCom) as new Chapters Chair and Richard Dee of Sun Microsystems will move from his previous position as Chapters and Membership Chair to Membership Chair. Doug Lavers of the University of Toronto is continuing as Chair of the Conference Executive Committee. J. W. Harrell is continuing as Education Committee Chair. Liesl Folks of Hitachi Global Storage (HGST) has taken over as Finance Committee Chair from Laura Henderson Lewis, now of Northeastern University. Bruce Gurney, also of HGST, is continuing as Chair of the new Honors and Awards Committee, renamed from Awards Committee. Our past Past President Ron Indeck (2003-2004) of Washington University will be taking over from Phil Wigen of The Ohio State University as the new Nominations Committee Chair. Ron Goldfarb of NIST is continuing as Publications Chair. Can Korman of the George Washington University is continuing as Publicity Committee Chair. Subject to AdCom approval, Axel Hoffmann of Argonne National Laboratory will be taking over the Technical Committee from Mel Gomez of the University of Maryland. I would also like to extend the deep appreciation of the entire AdCom and the Society to Phil, Laura, and Mel for their energetic service to the Society for a number of years. Without the hard work of these dedicated committee chairs and their committee members, as well as the entire AdCom, the vitality of the Society would not be what it is today.

**New and Departing AdCom Faces.** Space does not permit the listing of the full roster of elected AdCom members. Their names can be found on the Society Web site. These are the people who form the core decision making body of the Society. I would like to sincerely thank the previous AdCom members who have stood down after exemplary terms of service to the Society, Taek-Dong Lee of the Korean Advanced Institute of Science and Technology, Yoshimasa Miura of Shinshu University, and Kamel Ounadjela. I would also like to recognize the new AdCom members for the 2007-2009 term. The new members are Ching Ray Chang of the National Taiwan University and Bob Fontana of HGST. Ching Ray has been especially active with the Taiwan chapter and is joining the AdCom for the first time. Bob was Society President for 2001-2002. His vast experience in Society affairs and with the IEEE is especially welcome as he returns to the AdCom. Two additional new members, Michael Coey of Trinity College, Dublin, and Usha Varshney of the National Science Foundation (USA), advance to AdCom membership from the Fall 2006 Ballot as replacement elected members for Liesl Folks and Takao Suzuki. We are grateful to Michael and Usha for their willingness to serve the Society in this important capacity.

**Continuing AdCom Members.** Roy Chantrell of The University of York, our Distinguished Lecturer Coordinator has been on the AdCom as an ex-officio member and is returning for 2007-2009 as an elected member. Bernard Diency of SPINTEC, Rysuke Hasegawa of Metglas, Inc., David Jiles of Cardiff University, Jan-Ulrich Thiele of HGST, and Shoogo Ueno of Kyushu University are continuing members for the 2007-2009 term.

**Executive Director Diane Melton Reappointed.** Our long time Executive Director, Diane Melton of Courtesy Associates, has been reappointed for the 2007-2008 term and the contract with IEEE is in place. As many of you know, Diane has been working behind the scenes of the Society AdCom as well as the Intermag Conference for many years. In large part, she functions as our collective memory, as a sounding board, and as a coordinator of almost all of the member services that you receive. The revised Bylaws currently under review and pending approval at IEEE, now includes for the first time ever an extensive section that defines the job function and duties of the Executive Director. But Diane's services to and in support of the Society go well beyond any such formal statement of work. Thanks, Diane, from all of us.

**New Life For Magnetics Society Involvement in the IEEE Councils on Nanotechnology, Sensors, and Superconductivity.** Some of you know, but many of you do not, that the Society supports three of the IEEE Councils, Nanotechnology, Sensors, and Superconductivity. One of my aims as President is, with your help, to examine ways to invigorate our Council involvement and establish the Magnetics Society as a meaningful presence and voice on these bodies. For Nanotechnology, Bob Fontana and Randy Rannow of Hewlett Packard have agreed to continue as our representatives. For Sensors, Alan Edelstein of the Army Research Laboratory has agreed to serve as our representative. For the Superconductivity Council, Ron Goldfarb has agreed to continue as one of our representatives and Al Zeller of Michigan State University will be joining as our second representative. I would like to thank Bob, Randy, and Ron, Alan, and Al for their past, continuing, and future work on these councils, and welcome them to the fold of Magnetics Society volunteers. As our involvement in these important councils accelerates, you will be hearing more about their activities from our representatives.

**Volunteers Make It Happen.** I am taking the space in the Newsletter to introduce these individuals to you, the membership, so you can be aware of some of the volunteers who are doing the real work of the Society. There are many more. Each committee chair is backed up by a committee, and in some cases additional subcommittees, of volunteers. Some of these units are small and some are substantial. Shortly, you will be able to peruse the entire roster of volunteers on the Society Web site. You are all encouraged to review this roster, contact any of the people you know (or contact me) and find out how YOU can also become involved in YOUR society.

**Photo Gallery.** I have also included a photo gallery of current officers and committee chairs. If you pass these people in the corridors at Intermag or other conferences, please take the time to say "hello." Even better, if you have an interest, say "hello" and offer to help in some way with their operations. It is our dedicated volunteers who give our society its unique position in the IEEE as a medium size but extremely active and productive Society. There is a lot of work involved to put us in this position, and more member involvement is always welcome.

Best wishes,

*Carl Patton, IEEE Magnetics Society President*  
[patton@lamar.colostate.edu](mailto:patton@lamar.colostate.edu)



Randy Victora  
Vice President



Takao Suzuki  
Secretary-Treasurer



Diane Melton  
Executive Director



Richard Dee  
Membership



Liesl Folks  
Finance



Axel Hoffmann  
Technical Committee Chair



Bruce Gurney  
Honors and Awards



J.W. Harell  
Education



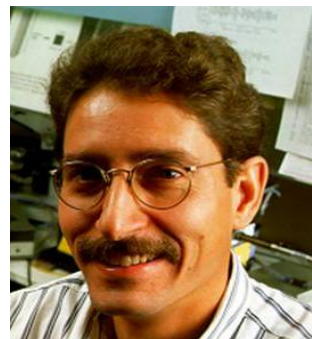
Can Korman  
Publicity



Doug Lavers  
CEC



Bob McMichael  
Chapters



Ron Indeck  
Nominations

## QUANTUM LEAPS AND BARKHAUSEN JUMPS – SOCIETY NEWS

**Our Own Ed Della Torre is Division IV Director.** Ed Della Torre of George Washington University in Washington DC was recently elected as Division IV Director for 2007-2008. In case you did not know, the Societies and Councils are divided into divisions. Division IV is comprised of the Antennas and Propagation Society, the Broadcast Technology Society, the Consumer Electronics Society, the Electromagnetic Compatibility Society, the Magnetics Society, the Microwave Theory and Techniques Society, the Nuclear and Plasma Sciences Society, and the Superconductivity Council. Many of you know Ed from his work on many aspects of magnetism for many years, as well as his time on AdCom and as an officer of the Society. Ed was President of the Society in 1999-2000.



Ed Della Torre  
Division IV Director

**Society-Wide AdCom Elections.** At its recent meeting in Baltimore, the AdCom approved a revised Constitution and accompanying Bylaws that, among other things, will move the Society to a process in which the election of new AdCom members is done through a vote of the entire membership. In the late spring, all members should receive a request from the Nominations Committee for the nomination of candidates to be considered for the ballot. Any member can also be placed on the ballot by petition. Once the candidates for the eight open seats on the AdCom for the upcoming three year term are determined, the ballot will be sent out in mid-August with a 15 September deadline for the return of the ballots. The logistics of the election, likely through an e-mail or Web-based ballot managed through the offices of the IEEE, are under development. Stay tuned for the next issue and further details from the Nominations Committee Chair, Ron Indeck. This move to a Society-wide election of the AdCom has been in the discussion and planning stages for some time. This major change in our operational procedures will better involve the full membership in the affairs of the Society. **MAKE SURE TO VOTE.** IEEE statistics indicate that on the order of 15 - 20% of the membership in a society generally vote in such elections. Hopefully, we can show the IEEE (and ourselves) that we are a much more proactive membership.

**New Honors and Awards Fellows Nominations Subcommittee to Identify Potential Nominees for IEEE Fellow Grade and Promote Member Advancements to Senior Member Grade.** Bruce Gurney, Awards Committee (soon to be renamed as the Honors and Awards Committee) Chair is working to establish a new and important subcommittee dedicated to two tasks. The first is the identification of qualified members of the IEEE and the Magnetics Society at the Senior Grade level that should be considered for nomination as IEEE Fellows. The second is to encourage and promote qualified regular members to seek advancement to Senior Grade. Membership at the Senior Grade is a requirement for nomination to Fellow Grade. Even apart from the formation of this subcommittee, if you are an established Society member with ten or more years of professional experience, you should probably seek advancement to Senior Grade. Who knows? Someone may want to nominate you for Fellow Grade, and you will be ready! The official IEEE statement on Senior Grade is "... a candidate shall be an engineer, scientist, educator, technical executive or originator in IEEE-designated fields. The candidate shall have been in professional practice for at least ten years and shall have shown significant performance over a period of at least five of those years." The official IEEE link is:

[http://www.ieee.org/web/membership/Admission-Advancement/Senior\\_Member\\_Requirements.html](http://www.ieee.org/web/membership/Admission-Advancement/Senior_Member_Requirements.html)

**Society Membership Breaks 3000!** As of January 2007, IEEE data show membership in the Magnetics Society to now be 3343. This is the first time the membership has gone above the 3000 mark since 2000. There are about 1500 US based members and 1550 non US members. Our Society is truly international. Thanks to the efforts of Richard Dee and many other volunteers, membership desks at recent conferences have netted a sizeable number of new student as well as regular members. In 1996, the Society membership peaked at slightly over 3500 members. Let us continue the current upward trend of new members and international expansion to serve the needs of the magnetics community. Please help! You, the “member on the street,” are our best messenger.

**Conference Registration Subsidy to Society Members at the Madrid Intermag.** The next Intermag Conference will be held in Madrid, Spain, 4 - 8 May, 2008. This promises to be an exciting venue for our Intermag meeting that occurs outside of North America every three years. At its Baltimore meeting, the AdCom also approved a proposal to use Society funds to provide a substantial member subsidy to reduce the Madrid Intermag registration fee for regular members, affiliates, and student members of the Society. Further details will be forthcoming.

**Education Committee Contemplates the Organization of Summer Schools.** The members of the Education Committee are in the very early discussion stage of exploring options for possible future small meetings in the form of “Summer Schools” in the European tradition. These schools would be funded in whole or in part by the Society. Such schools could occur in North America or other locations world wide, according to interest and demand. These schools would be aimed mainly at the level of graduate students and postdoctoral fellows, with a program of invited lectures by experts in selected topics. The Education Committee Chair, J. W. Harrell, would welcome your comments, ideas, and suggestions.

**Society Annual Meeting.** It is important to remind all members that, starting with the Intermag Conference in Nagoya in 2005, the Society has been holding an Annual Meeting, generally at the Intermag Conference. At this meeting, the general membership is encouraged to attend, meet the officers and members of the AdCom who are present, and ask questions, voice opinions, and generally give needed feedback for the further vitality and benefit of the Society. About 50 members attended the most recent Annual Meeting in Baltimore. We hope to see the attendance and participation grow as the word spreads about this unique annual gathering of Society members each year.

## CHAPTERS' DOMAIN

**Chapters are Expanding.** One key factor in membership growth and Society activity is in the work of our local chapters. Presently we have 24 local chapters, with 13 in North America and 11 outside of North America. New chapters are in the process of being formed in Colorado Springs, Colorado (Radek Lopusnik, University of Colorado), Australia (Bob Stamps, University of Western Australia), and Oregon. Bob McMichael (NIST) will soon take over as Chapters Chair from Richard Dee. Please contact Bob for up-to-date information on chapter contacts in your area and starting new chapters.

If you are the local chapter chairman reading this, please share with us all that is happening in your chapter and local area (e.g. talks, people activity, magnetics news, company or university news etc.). Forward a paragraph (or two), a picture, a reference to an interesting article or something inventive or newsworthy (in your opinion) to Bob McMichael so we can include in the next MagSoc newsletter.

***Dr. Bob McMichael, Magnetics Society Chapters Chair***

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## MAGNETICS SOCIETY DISTINGUISHED LECTURERS

On an annual basis, Distinguished Lecturers are nominated and funded by the Magnetism Society to deliver a lecture by invitation of individual institutions or chapters. The program is being expanded from three to FOUR lecturers for 2007. Further details of their talks in addition to brief biographies can be found in the following section. Their schedules are filling up fast! Interested chapters and individuals associated with other centers are urged to contact the lecturers as soon as possible. General information about the program can be obtained from Roy Chantrell. As the Distinguished Lecturer Program Coordinator, Roy has done a stupendous job in expanding the selection process and raising the entire program to a new level of excellence.

*Roy Chantrell, Coordinator, IEEE Distinguished Lecturer Program*  
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## Magnetic Nanoparticles: Self-Assembly and Nanoscale Behavior

### Sara A. Majetich

Carnegie Mellon University

The magnetic behavior of a monodomain nanoparticle was first described by Stoner and Wohlfarth nearly sixty years ago, yet this simple system is frequently invoked in discussions of high-density magnetic recording media, magnetic refrigeration materials, and a host of biomagnetic applications. Here we will examine two cross-cutting themes of current research on magnetic nanoparticles: self-assembly and nanoscale magnetic behavior.

Different types of superstructure can be self-assembled from the same type of particles. In organic solvents, two-dimensional arrays with long-range order can be formed using Langmuir layer techniques. These monolayers are also used as nanomasks for crystallographically oriented thin films, which provide an alternative approach to preparing nanoparticle arrays for data storage media. Faceted three-dimensional single "grain" nanoparticle crystals are formed by colloidal crystallization methods. Magnetic field gradients can also be used to guide self-assembly. For example, gold-coated iron oxide particles can be used to image self assembly dynamics in aqueous media, in response to patterned magnetic elements, using plasmon scattering and dark-field optical microscopy to track single particles.

The ability to make magnetic nanostructures creates a need for new tools that enable us to visualize their magnetization patterns. Small-angle neutron scattering provides average magnetic correlation lengths within three-dimensional assemblies, where correlations of hundreds of nanometers may be present at low temperature. Electron holography shows real-space magnetization patterns of magnetic monolayers, where vortices and transverse domain walls are present as low energy excitations. Scanning probe techniques have the potential for single-particle-per-bit magnetic information storage.



**Sara Majetich** received the A.B. degree in chemistry at Princeton University and the M.S. degree in physical chemistry at Columbia University. Her Ph.D. was in solid state physics from the University of Georgia. She did postdoctoral work at Cornell University. Since 1990 she has been a faculty member, and now full professor, in the Physics Department at Carnegie Mellon University. Her awards include the Ashkin Award for excellence in teaching, the Carnegie Mellon University Undergraduate Advising Award, and a National Young Investigator Award from the National Science Foundation. She has three patents and over 100 publications. Her research interests focus on magnetic nanoparticles and nanocomposites and their applications.

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## Imaging Magnetic Surfaces with Atomic Resolution

### Matthias Bode

University of Hamburg

Fueled by the ever increasing data density in magnetic storage technology and the need for a better understanding of the physical properties of magnetic nanostructures, there exists a strong demand for high resolution, magnetically sensitive microscopy techniques. The technique with the highest available resolution is spin-polarized scanning tunneling microscopy (SP-STM) which combines the atomic resolution capability of conventional STMs with spin sensitivity by making use of the tunneling magnetoresistance effect between a magnetic tip and a magnetic sample surface. Beyond the investigation of ferromagnetic surfaces, thin films, and epitaxial nanostructures with unforeseen precision, it also allows the achievement of a long-standing dream: the real space imaging of atomic spins in antiferromagnetic surfaces.

The lecture addresses a wide variety of phenomena in surface magnetism which in most cases could not be imaged directly before the advent of SP-STM. After starting with a brief introduction of the basics of the contrast mechanism, recent major achievements will be presented, like the direct observation of the atomic spin structure of domain walls in antiferromagnets and the visualization of thermally driven switching events in superparamagnetic particles consisting of a few hundreds atoms only. To conclude the lecture, recently observed complex spin structures containing 15 or more atoms will be presented.



**Matthias Bode** received the diploma in physics from the Free University of Berlin, Germany, in 1993, and the Ph.D. degree in physics from the University of Hamburg, Germany, in 1996. Based on his works on spin-polarized scanning tunneling microscopy he received the habilitation in experimental physics from the University of Hamburg in 2003.

Since 1996 he is a Research Staff Member at the Institute of Applied Physics at the University of Hamburg. In the past 10 years Dr. Bode developed spin-polarized scanning tunneling microscopy, a magnetic imaging technique with a resolution down to the atomic limit. His research explores correlations between structural, electronic, and magnetic properties of epitaxial nanostructures with a special interest in frustrated antiferromagnetic surfaces, superparamagnetism, and new magnetic phenomena.

Dr. Bode has published more than 80 peer-reviewed papers, three review articles, and three book chapters. In 2003 he was awarded the Philip-Morris Award for research.

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## Ferrite Nanoparticles, Films, Single Crystals, and Metamaterials: High Frequency Applications

### Vincent G. Harris

Northeastern University

Ferrite materials have long played an important role in power conditioning, conversion, and generation across a wide spectrum of frequencies (up to 10 decades). They remain the preferred magnetic materials, having suitably low losses, for most applications above 1 MHz, and are the only viable materials for nonreciprocal magnetic microwave and millimeter wave devices (including tunable filters, isolators, phase shifters, and circulators). Recently, novel processing techniques have led to a resurgence of research interest in the design and processing of ferrite materials as nanoparticles, films, single crystals, and metamaterials. These latest developments have set the stage for their use in emerging technologies that include cancer remediation therapies such as magneto-hyperthermia, magnetic targeted drug delivery, and magneto-rheological fluids, as well as enhanced magnetic resonance imaging.

With reduced dimensionality of nanoparticles and films, and the inherent nonequilibrium nature of many processing schemes, changes in local chemistry and structure have profound effects on the functional properties and performance of ferrites. In this lecture, we will explore these effects upon the fundamental magnetic and electronic properties of ferrites. Density functional theory will be applied to predict the properties of these ferrites, with synchrotron radiation techniques used to elucidate the chemical and structural short-range order. This approach will be extended to study the atomic design of ferrites by alternating target laser-ablation deposition. Recently, this approach has been shown to produce ferrites that offer attractive properties not found in conventionally grown ferrites. We will explore the latest research developments involving ferrites as related to microwave and millimeter wave applications and the attempt to integrate these materials with semiconductor materials platforms.



**Vincent G. Harris** received the B.Sc., M.Sc., and Ph.D. (1990) degrees in engineering from Northeastern University. He has also received the M.Sc. degree in engineering management from the University of Maryland (1995), and the M.Sc. degree in executive technology management from the Wharton School at University of Pennsylvania (2003). He is presently the William Lincoln Smith Chair Professor in the Electrical and Computer Engineering Department at Northeastern University.

Dr. Harris was a member of the technical staff at the Naval Research Laboratory (1990-2003). During his time at NRL he served as the head of the Complex Materials Section and the head of the Materials Physics Branch. In 2001 he established and assumed the position of director of the NRL Synchrotron Radiation Consortium (2001-2003). In 2004 he established the Center for Microwave and Magnetic Materials and Integrated Circuits, and continues to serve as its first director. The mission of this center is to develop high frequency materials and device solutions for next-generation radar and wireless communication electronics.

His research interests include materials design and the study of processing, structure, and magnetism in a wide range of materials. He has pioneered the use of synchrotron radiation techniques to relate the short range chemical and structural properties of materials to magnetism. He has published more than 170 technical articles, including book chapters and review articles on the topical areas of nanotechnology, magnetism, and magnetic materials. In addition, he holds nine patents and patent applications, and has presented more than 150 papers at national and international meetings. Dr. Harris is a Fellow of the American Physical Society and Senior Member of the IEEE.

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## High Magnetic Anisotropy Materials: From Bulk, Through Multilayers, to Nanoscale Particles

### Takao Suzuki

Toyota Technological Institute

Magnetic anisotropy is one of the basic properties of magnetic substances. In particular, magneto-crystalline anisotropy is thought to be intrinsic for bulk materials, but the theoretical understanding is not satisfactory, as is often demonstrated. In multilayers and nanoparticles where surface or interfacial magnetic anisotropy plays a key role, magnetic behavior is significantly influenced by extrinsic or induced magnetic anisotropy. Among many alloy systems, ordered alloys are known to exhibit high magnetic anisotropy; in particular the  $L1_0$  ordered phase is of great interest because of applications in bit-patterned magnetic data storage.

Nanocomposite particles with a high magnetic anisotropy phase, together with other magnetic anisotropies, are the subject of intensive research since they offer potential for various applications such as hybrid data storage, sensors, and bio-devices.

This tutorial lecture addresses the magnetism and structure of thin films and nanocomposite particles with a high magnetic anisotropy ordered phase. An in-depth review of magnetic anisotropy in representative materials is given. Recent developments in high magnetic anisotropy of novel materials, multilayers, and nanocomposites will be presented. Emphasis is placed on quasi- $L1_2$  structured alloy films with very high magnetic anisotropy and on FePt/FeRh nanocomposites of the first-order transition type, in conjunction with possible applications.



**Takao Suzuki** received the B.S. and M.S. from Waseda University, Tokyo, in 1962 and 1964, respectively, and the Ph.D. from California Institute of Technology in 1969. He was a postdoctoral fellow at Max-Planck Institute in Stuttgart from 1969 through 1972, and was an associate professor at Tohoku University from 1972 through 1988, where his research interests included magnetic multilayers with high magnetic anisotropy for magneto-optical recording, and magnetic recording applications.

From 1988 through 1995 he worked as a research staff member at IBM Almaden Research Center in San Jose, California, and was involved with high density magneto-optical and magnetic recording materials developments. In 1995 he joined Toyota Technological Institute in Nagoya, Japan, as a principal professor. Dr. Suzuki is now a vice president and a principal professor of the Institute, and also director of the Academic Frontier Center sponsored by the Japanese Ministry of Education, Science, Sports and Culture. His current research interests include the magnetic anisotropy and structure of ordered alloy thin films and nanoparticles, and high density perpendicular magnetic recording media applications. He has published more than 260 scientific papers, has written four books, and has 17 patents.

Professor Suzuki is Fellow of the IEEE. He has been active in many Intermag and Magnetism and Magnetic Materials conferences, including serving as program co-chair of MMM in 1995, and as treasurer co-chair of Intermag in 2005. He has served as a member of the Administrative Committee of the IEEE Magnetics Society for several terms. He is on the Editorial Board of IEEE TRANSACTIONS ON MAGNETICS and is an advisory editor of the Journal of Magnetism and Magnetic Materials.

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## 10<sup>TH</sup> JOINT MMM/INTERMAG CONFERENCE: A GREAT SUCCESS!

Preliminary data are in and it is clear to all that the 10th Joint MMM/Intermag Conference, held 7 - 11 January 2007 in Baltimore, Maryland, was a grand success. At last count, there were more than 1400 registrants. The conference featured, for the first time, a Web cafe at which registrants could have wireless access to the Internet. Julie Borchers, Conference General Chair, the Program Co-Chairs, Olle Heinonen and Peter Schiffer, and the entire conference team of volunteers are to be complimented on a very successful conference.



Student travel award winners.



Best student paper finalists with Conference General Chair, Julie Borchers.

### Notes from students' conference diaries

**Sheetal Shetye, University of Florida:** Being at the 10<sup>th</sup> Joint MMM/INTERMAG conference was a wonderful experience. It gave me a chance to meet with a lot of people from all over the world working in the field of magnetics. Poster sessions were a good way of sharing information.

**Donald Scherer II, University of New Orleans:** In my case, coming to this conference reinvigorated me. Seeing so many different technologies, listening to so many speakers exude enthusiasm towards their particular fields of study, and interacting with other students, has opened my mind more than I had thought possible. I now have some new ideas of my own, and I can foresee myself branching into new areas of study that I had not even considered before. The bierstube events were very entertaining for me. I've never seen so many smart people drinking in one place before.

**Laura Giudici, Istituto Nazionale di Ricerca Metrologica, Italy:** This was the first conference I have attended and I appreciated it very much. The topic of my studies is magnetocaloric effect at room temperature. During the conference, I had the opportunity to meet other researchers. My discussion with them about our work was really useful, and may eventually result in some collaborations.

**Wonsuk Ko, University of Central Florida:** The complimentary coffee every morning woke me up to a brand new day of oral and poster sessions. From talking to people, I got information on job positions, trends in research, contacts and ideas for my study. The Internet and Networking Lounge provided me with a good opportunity to converse with other participants at the conference. The use of internet was free!

**Cosmin Radu, University of New Orleans:** I met students from different universities and from different countries. I noticed the ever growing presence of the work being done outside the US, especially in Japan, China and Korea. Another important point of interest for me was the equipment manufacturers' exhibition – the presentation by Quantum Design was impressive. The trip to Baltimore was fun and I enjoyed every moment. I visited the aquarium and admired the view for the Inner Harbor.

**Giancarlo Consolo, University of Messina, Italy:** I found it exciting and rewarding to receive comments during my poster presentation from several well-known scientists and researchers from all over the world. It is

indeed a privilege for a student to attend such an international conference. All-in-all I found this conference a very enjoyable and useful experience, actually the best conference I have attended so far.

**Xiaosong Ji, University of Washington:** The meeting included diverse research areas in magnetism such as exchange bias, multilayers and superlattices, perpendicular recording, magnetic semiconductors, patterned structures, and nanoparticle synthesis and applications. Several talks were related to my research on exchange bias. I really learned a lot from them and got many ideas to pursue in my own work.

## Plenary Session



Welcome address by Conference General Chair, Dr. Julie Borchers.



Keynote speaker, Dr. Samuel Bader of Argonne National Laboratory, presenting "Opportunities in Nanomagnetism".

### The Magnetics Society honors Dr. Mason Williams with the IEEE Reynold B. Johnson Data Storage Device Technology Award for contributions to the modeling and design of high density magnetic recording.

**Biography:** Mason Lamar Williams was born in 1943 in San Mateo, California. He received a B.S. in Engineering in 1964 from the California Institute of Technology, and the M.S.E.E. degree in 1966 and a PhD in Electrical Engineering with Physics minor in 1970 from the University of Southern California where he studied under Professor Jan Smit.

In 1970, Dr. Williams joined IBM in San Jose, California, initially in a Manufacturing Research department. In his first year he was assigned to work with R. Larry Comstock on characterization and testing of experimental magnetite film media. That collaboration led to the so-called "Williams-Comstock" analytical model of digital magnetic recording. In 1982, he joined the Magnetic Recording Institute and managed an investigation of perpendicular magnetic recording briefly. In 1985 he became manager of Advanced Recording Heads at the IBM Almaden Research Center in San Jose. In that role he managed the development of micromagnetic modeling for magneto-resistive head elements and the first building of spin-valve head test structures to verify biasing techniques. In 1992, Dr. Williams became the IBM representative to the Ultra-



Dr. Mason Williams (right) receives the IEEE Reynold B. Johnson Award.

High Density Magnetic Recording Head project of the National Storage Industry Consortium, aimed at 10 Gb/sq in technology. In 1996, he became part of the Extremely High Density Recording Strategy Team at INSIC. In 1999, he was elected to the IEEE grade of Fellow. In 2001, he was selected as an IBM Master Inventor, and holds several recording head patents. At the end of 2002, Dr. Williams retired from IBM and joined Hitachi Global Storage Technologies. He worked on novel perpendicular head approaches and then focused again on recording physics and integration modeling until retiring from Hitachi in 2005. In 2006, Dr. Williams was a Magnetics Society Distinguished Lecturer and presented 18 talks at locations in Europe, Asia and the US.

**Dr. John Mallinson is recognized with the 2007 Magnetics Society Achievement Award for contributions to the theory, practice and teaching of magnetic recording.**

**Biography:** Dr. John C. Mallinson was born in Bradford, UK in 1932. He received all his degrees from the University of Oxford. After serving as a jet pilot in the Royal Air Force, he emigrated to the USA. From 1957-62 he worked in the Research Department of Amp Incorporated, Harrisburg, Pa., on the design of multi-aperture ferrite logic systems. In 1962 he joined the Ampex Corporation, Redwood City, Ca., initially in the Magnetic Tape Division, where he studied the properties of iron particles suitable for high density magnetic recording tape. In the 1966, he moved to the Ampex Research Department and began a lifelong interest in the origins of noise in magnetic recording systems. From 1976-78, he led an advanced Ampex engineering team in the development of a prototype 1,000 Megabit/second digital tape recorder. In 1978, he returned to the

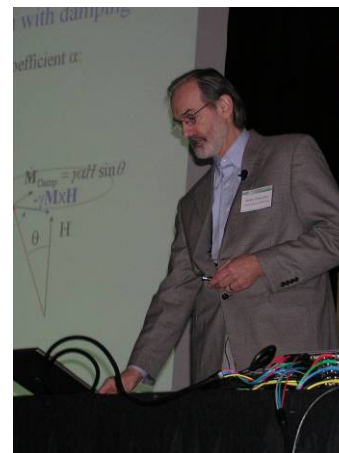


Dr. John Mallinson

Ampex Research Division as Manager of the Recording Technology Department, directing several activities in high bandwidth and data rate recording on both tape and hard disc. In 1984, he was invited to be the first permanent Director of the Center for Magnetic Recording Research at the University of California, San Diego, Ca., where he was responsible for the selection and appointment of the professorial staff. After building up a solid portfolio of 18 industrial sponsors, he left academia in order to pursue his interests in research and teaching. Over the period 1990-2005, he visited research labs and universities worldwide presenting over 100 classes on the foundation of magnetic recording and magneto-resistive heads. He is the author of 4 textbooks, "The Foundation of Magnetic Recording" (1987 and 1994), "Magneto-Resistive Heads, Fundamentals and Applications" (1996) and "Spin Valves and Magneto-Resistive Heads" (2002). They were printed in English by Academic Press and in Japanese by Maruzen Publishing. He has published over 80 peer reviewed papers, 4 review articles and 6 contributed book chapters. Dr. Mallinson is a Fellow (1984) and Life Fellow (2004) of the IEEE. He was awarded the Alex M. Poniatoff Golden Achievement Award in 1984. He is presently a Visiting Professor at Plymouth University, UK.

Dr. Mallinson's contributions to the Magnetics Society include having been a Distinguished Lecturer, Program Chair, Publications Chair, Editor of the IEEE Japanese Translation Journal on Magnetics and Chair of the San Diego Chapter. He is presently a member of the editorial board of the IEEE Transactions on Magnetics.

## Snippets and Snap-its from the Conference



Speakers at the tutorial session on “Spin Torque” (L to R): Tom Silva, Andrei Slavin and Pieter Visscher



Baltimore, Maryland

January 7 – 11



John Moreland at the Bierstube

“Magnetic memories, past and present” with Dr. Doyle and Dr. Fontana.



Women in Magnetism took the opportunity to enjoy a dinner together.



The Conference Reception featuring Mediterranean appetizers.

## CONFERENCE CALENDAR

### March

- **Nano and Giga Challenges in Electronics and Photonics**  
March 12-16, 2007, Phoenix, AZ, USA; <http://www.AtomicScaleDesign.Net/ngc2007>

### April

- **2007 Magnetism Conference**  
April 4-5, 2007, Chicago, IL, USA; [http://www.magnetismmagazine.com/mag\\_conf\\_index.htm](http://www.magnetismmagazine.com/mag_conf_index.htm)
- **2007 MRS Spring Meeting**  
April 9-13, 2007, San Francisco, CA, USA; [http://www.mrs.org/s\\_mrs/index.asp](http://www.mrs.org/s_mrs/index.asp)
- **2<sup>nd</sup> Internat. Conference of the IIR on Magnetic Refrigeration at Room Temperature**  
April 11-13 2007, Portoroz, Slovenia; <http://www.thermag2007.si/>

### May

- **The 18th Magnetic Recording Conference (TMRC 2007)**  
May 21-23, 2007, Minneapolis, MN, USA, <http://www.ece.umn.edu/~MINT/TMRC2007/>
- **Intern. Symposium on Advanced Magnetic Materials and Applications (ISMMA)**  
May 28-June 1, 2007, Jeju island, Korea; <http://www.isamma2007.net/>

### June

- **6<sup>th</sup> Intern. Symposium on Hysteresis Modeling and Micromagnetics (HMM-2007)**  
June 4-6, 2007, Naples, Italy, <http://www.hmm-07.unisannio.it/>
- **The Sixth International Storage Technology Symposium, (ISTS '07)**  
June 17-22, 2007, Kalamata, Greece
- **International Conference on Nanoscale Magnetism (ICNM-2007)**  
June 25-29, 2007, Istanbul, Turkey; <http://web.gyte.edu.tr/ICNM/2007/>

### August

- **8th Latin American Workshop on Magnetism, Magnetic Materials & Applications**  
August 12-16, 2007, Rio de Janeiro, Brazil; <http://www.law3m.org>
- **2007 Specialty Group Meeting of the Military Sensing Symposia (MSS)**  
August 21-23, Laurel, MD, USA; [www.sensiac.gatech.edu](http://www.sensiac.gatech.edu)
- **Third Seeheim Conference on Magnetism**  
August 27-30, Frankfurt, Germany; <http://www.tu-darmstadt.de/magnetism/>

### October

- **The 8<sup>th</sup> Perpendicular Magnetic Recording Conference (PMRC 2007)**  
October 15-17 2007, Tokyo, Japan; <http://www.spin.pe.titech.ac.jp/pmrc2007/>

### November

- **52nd Conference on Magnetism and Magnetic Materials**  
November 5-9, 2007; Tampa, FL, USA; <http://www.magnetism.org>

### May, 2008

- **Intermag 2008**  
May 5-8, 2008, Madrid, Spain; <http://www.intermagconference.com/intermag2008/index.htm>

### November, 2008

- **53rd Conference on Magnetism and Magnetic Materials**  
November 10-14, 2008; Austin, TX, USA; <http://www.magnetism.org>

## CONFERENCE ANNOUNCEMENTS

### **Nano and Giga Challenges in Electronics and Photonics From Atoms to Materials to Devices to System Architecture**

Symposium and Spring School (Tutorial Lectures)

**Phoenix, Arizona, March 12-16, 2007**

### **Conference Overview**

Microelectronics technologies have reached a new stage in their development: the latest miniaturization of electronic devices is approaching atomic dimensions, interconnect bottlenecks are limiting circuit speeds, new materials are being introduced into microelectronics manufacturing at an unprecedented rate, and alternative technologies to mainstream CMOS are being considered. As a marriage of today's micro-, tomorrow's nano- and future molecular electronics this series of conferences on Nano and Giga Challenges in Microelectronics (NGCM) is being launched. Following the first successful forums in Moscow, Russia (NGCM2002) and in Krakow, Poland (NGCM2004) the third meeting will be held in Phoenix, Arizona in 2007 hosted by Arizona State University in cooperation with Nano & Giga Solutions and other local, national and international organizations, Universities, research centers, companies and governmental agencies.

GIGAntic challenges for the continuing growth of information technologies beyond the fundamental physical limits in scaling electronic devices to NANO dimension has sparked an unprecedented level of interdisciplinary and international cooperation between industrial and academic researchers, companies - IT market rivals, and countries, including former political and military rivals. The next forum in Phoenix, Arizona, invites academic and industrial researchers to present tutorial, expository and original research papers dedicated to the scientific and advanced technologically problems related to the ultimate merger of micro- and nanoelectronics and photonics in specific areas, such as atomic scale materials design: theory and experiment; bio- and molecular electronics and photonics; high frequency electronics; fabrication of nanodevices; magnetic materials and spintronics; materials and processes for integrated and sub-wave optoelectronics; nanoCMOS: new materials for FETs and other devices; nanoelectronics system architecture; nano optics and lasers; non-silicon materials and devices; quantum effects in devices.

### **Co-Chairmen**

[Herb Goronkin](#) (Advisory Board), Technology Acceleration Associates, Phoenix, AZ, USA

[Stephen Goodnick](#) (Program Committee), Arizona State University, Tempe, AZ, USA

[Anatoli Korkin](#) (Organizing and Program Committee), Nano&Giga Solutions, Gilbert, AZ, USA

<http://www.AtomicScaleDesign.Net/ngc2007>

<http://ngc2007.asu.edu>



# INTERNATIONAL CONFERENCE ON MAGNETIC RECORDING HEADS AND SYSTEMS

*The 18th Magnetic Recording Conference (TMRC 2007)*

*will be held May 21-23, 2007 at the*

*University of Minnesota, Minneapolis, Minnesota, USA*

**TMRC 2007** will focus on **MAGNETIC RECORDING HEADS and RECORDING SYSTEMS**. Approximately 30 invited papers of the highest quality will be presented orally at the conference and will later be published in the IEEE Transaction on Magnetics. The topics to be presented include:

- Read and write head design and development
- Advanced reader, assisted write technologies and write head dynamics
- Head / media interface and reliability
- Head testing, methods and apparatus
- High data rate effects and advanced electrical interconnects
- Recording systems and integration
- Advanced recording channels and detection algorithms
- Advanced coding and error-correction technologies
- System reliability and mechanics

**Nominations for speakers should be made to the Program Chairs: [Dr. Klaas Klaassen](#) and [Dr. Dean Palmer](#) via e-mail by January 19, 2007. Please include a brief description or abstract to support your nomination and help the selection.**

Poster sessions feature contributed posters in addition to invited speaker posters. Poster contributors must send a [one-page abstract via online submission](#) to the Poster Chairman by April 9, 2007. Poster abstracts received and approved by February 25 will be included in the Digest Book. The IEEE Magnetics Society will award partial travel funding to assist some students to attend TMRC 2007 in order to present papers or posters. The conference program and invited paper digests will be available on-line by early March 2007.

For contact and submission information see: <http://www.ece.umn.edu/~MINT/TMRC2007/>

Sponsored by the IEEE Magnetics Society



# INTERMAG 2008

## Municipal Conference Center of Madrid

### May 4-8, 2008

**INTERMAG - Europe 2008**  
 Madrid, Spain  
 May 4 - 8, 2008

**IEEE**  
 Magnetics  
 Society

**Conference Chairmen:**  
 Manuel Vázquez (CSIC, Madrid)  
 Ronald S. Indeck (Washington University, St Louis)

Contact address: INTERMAG2008@icmm.csic.es  
 www.intermagconference.com/intermag2008

www.ieeemagnetics.org

INTERMAG 08

All members of the international scientific community interested in new developments in magnetism and associated technologies are invited to attend. More information can be found in the conference website:

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

#### Organizers:

Manuel Vazquez and Ronald Indeck (Conference Chairmen)  
 Josef Fidler, Bruce Terris and Kevin O'Grady (Program Co-Chairs)  
 Jaques Miltat and Sara Majetich (Editors in-chief)  
 Puerto Morales (Local Chair)  
 Jan-Ulrich Thiele and Oksana Chubykalo-Fesenko (Treasurers)  
 Marta San Roman (Exhibits)  
 Luis Lopez Diaz and Petru Andrei (Website, Printing and Publicity)

# Third Seeheim Conference on Magnetism

August 26th - August 30th, 2007

Frankfurt, Germany

The 3<sup>rd</sup> Seeheim Conference on Magnetism (SCM2007) will be focused on the magnetism of nanostructured materials, interfaces, multilayers and nanoparticles. The most recent results will be presented in the form of plenary lectures, invited and contributed talks and posters.

Please submit your abstract as a Word-Document attached to an eMail to [ghafari@int.fzk.de](mailto:ghafari@int.fzk.de)

- the maximal abstract size is 3000 characters or two pages
- the abstract submission deadline is June 30, 2007
- notification of the presenting authors on the acceptance and session assignment of their abstracts will be sent out by eMail before July 2nd, 2007
- please review your abstract carefully before submitting it.

If your digest is accepted for presentation at the conference, you may contribute a paper for consideration for publication in the Journal "PHYSICA STATUS SOLIDI", 2008". The maximum paper length is 4 journal pages for contributed papers and 6 journal pages for invited papers.

Latest developments in the field of magnetism of magnetic materials are correlated with nanostructures in the form of particles, surfaces, multilayers, interfaces and interface dominated materials. These novel materials enter into many aspects of magnetism such as:

- |   |  |
|---|--|
| <p>1. HARD AND SOFT MAGNETIC MATERIALS</p> <ul style="list-style-type: none"> <li>- Permanent Magnets and Ferrites</li> <li>- Amorphous Alloys</li> <li>- Nanocrystalline Materials</li> <li>- Domain Walls, Modeling and Hysteresis</li> </ul>                         | <ul style="list-style-type: none"> <li>- Ultrafine Particles</li> <li>- Dots</li> <li>- Current induced magnetization, Spin Torque, Injection and accumulation</li> <li>- Surface and Interfaces</li> <li>- Magnetic fluids and Nanoparticles</li> </ul>         |
| <p>2. MAGNETIC MEMORIES</p> <ul style="list-style-type: none"> <li>- MRAM</li> <li>- TMR, GMR</li> <li>- CPP- GMR</li> </ul>  | <p>6. MAGNETIC INTERACTIONS</p> <ul style="list-style-type: none"> <li>- Exchange Interactions ( Multilayers, Transition Metals and compounds, Rare earth and Compounds)</li> <li>- Crystal field anisotropy</li> <li>- Magneto- elastic interactions</li> </ul> |
| <p>3. DOMAIN WALLS, MODELLING &amp; HYSTERESIS</p>  | <p>7. MAGNETIZATION PROCESS</p> <ul style="list-style-type: none"> <li>- Dynamic Effects in nanomaterials</li> <li>- Relaxation, Spin Waves and Solitons</li> </ul>  |
| <p>4. SPIN DEPENDENT TRANSPORT PROPERTIES</p> <ul style="list-style-type: none"> <li>- Magneto-resistance</li> <li>- Magneto-impedance</li> <li>- Giant-magneto-resistance</li> <li>- Magneto-Optics</li> <li>- Magnetoresistance in transition metal oxides</li> </ul> | <p>8. APPLICATIONS</p> <ul style="list-style-type: none"> <li>- Recording Media &amp; Devices</li> <li>- Magnetic Sensors and memory</li> <li>- Magneto- optics</li> <li>- Measurement Techniques</li> </ul>   |
| <p>5. THIN FILMS AND PARTICLES</p> <ul style="list-style-type: none"> <li>- Superlattice</li> <li>- Ultrathin Films</li> <li>- Multilayers</li> </ul>   |  |

**For more information, visit:**

<http://www.tu-darmstadt.de/magnetism/index.htm>

This conference is supported by  
**Forschungszentrum Karlsruhe**  
**Technische Universität Darmstadt**  
**Deutsche Forschungsgemeinschaft**



**Magnetics 2007** will focus on the latest advancements in magnetic applications, technology and materials. Serving OEM developers of products that utilize magnets and magnet systems, design engineers, OEM developers involved in EMC technology and magnetic effects, magnetics manufacturers and integrators, and material suppliers in the magnetics market.

Magnetics 2007 is an opportunity to learn from technical experts and network with peers, professionals and potential business partners involved in a variety of applications.

Key Subject Areas Will Include:

- Testing & Instrumentation
- Magnetic Materials
- Power Electronics
- EMI / EMC / Shielding
- Magnetic Assembly & Mfg
- Brakes
- Motors
- Data Storage
- Nano Magnetics
- Sensors & Motion Control
- Testing & Instrumentation
- Magnetic Materials
- Metrology
- Electro-Magnetic Software
- Magnetic Components
- Magnetic Equipment
- Specialized Coatings & Adhesives
- Pricing & Economics

**Web Site:** [www.magneticsmagazine.com/mag\\_conf\\_index.htm](http://www.magneticsmagazine.com/mag_conf_index.htm)

# MSS

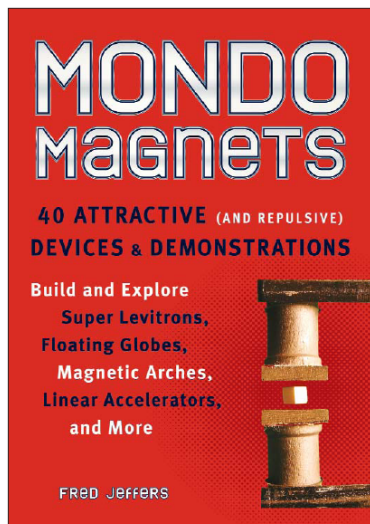
Military Sensing Symposia

**Military Sensing Symposium  
August 21-23, 2007  
Laurel, Maryland**

This year's Military Sensing Symposia (MSS) Specialty Group on Battlespace Acoustic & Seismic Sensing, **Magnetic** and Electric Field Sensors will be August 21 to 23, 2007 in Laurel, Maryland. There will be an emphasis on magnetic sensing as applied to ground based, water based, and airborne systems. Topics include MEMS type magnetic sensors and other advances in magnetic sensors, reducing magnetic noise from moving platforms and urban backgrounds, fusing magnetic sensor data with data from other sensor modalities, and magnetic sensor algorithms. The majority of the conference is devoted to acoustic, seismic, electric field sessions, and the fusion of the data with other modalities.

Abstracts are due by March 9 2007, and can be submitted on line by visiting the website [www.sensiac.gatech.edu](http://www.sensiac.gatech.edu). For more information contact the SENSIAC office at 404-407-7367 or email [mss@gtri.gatech.edu](mailto:mss@gtri.gatech.edu). All attendees must have US citizenship. The first two days of the conference are unclassified, but a SECRET clearance is required for attending on the third day.

## NEW BOOKS ON MAGNETISM



### **MONDO Magnets: 40 Attractive (And Repulsive) Devices & Demonstrations** - by Fred Jeffers

- Review by **R.D. Mel Gomez**,  
Prof. of Electrical and Computer Engineering  
University of Maryland, College Park

When they say cereals are iron-fortified, I never expected that my breakfast flakes could be attracted by magnets! Fred Jeffers, in his new book *Mondo Magnets*, describes procedures for finding magnetism in objects we do not normally regard as magnetic. He continues with thirty nine more experiments that exhibit some fascinating and often counter-intuitive properties of magnetism. In one other experiment, he shows how a material that is magnetized by a permanent magnet can actually be more attractive than the magnet itself. In yet another segment, he shows the principle of gears with magnetic rather than mechanical teeth.

Working in the product research industry for nearly 40 years has given Fred a deep intuitive feel for magnetism which he shares to the laymen and experts alike. He gives simplified explanations on many experiments in sections called the “science behind it”. As a result, the book is a valuable resource for those who build demonstrations for education and entertainment. With the exception of magnetotactic bacteria, most of the materials are readily available from a hardware or grocery store, and a few specialized items are conveniently provided with their sources. The experiments all work, which undoubtedly were tested several times over when Fred took them on the road as an IEEE Distinguished Lecturer in 1999.

For those who know magnetism well enough, this book provides a plethora of activities that illustrate the concepts of magnetostatics, magnetic propulsion, levitation, magnetic permeability and image charges, Curie temperature, anisotropy, diamagnetism, magnetostriction, magnetic recording and many more. Indeed, I found myself scribbling calculations to quantify the reasoning behind Fred’s qualitative explanations. It was fun.

#### **Book Details:**

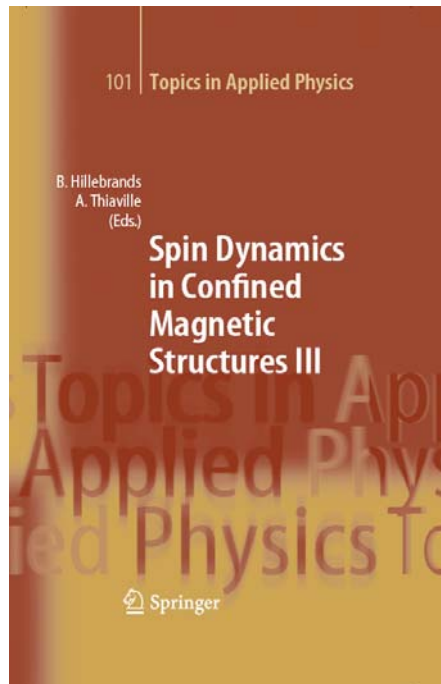
Title: *Mondo Magnets: 40 Attractive (And Repulsive) Devices & Demonstrations*

Author: Fred Jeffers

Publisher: Chicago Review Press, Distributed by Independent Publishers Group

Publication: March 2007, \$16.95 (CAN \$22.95), paper, ISBN: 155652530X

Science, 160 pages, 7 x 10, 110 B&W photos, 20 B&W diagrams



## Spin Dynamics in Confined Magnetic Structures III

Editors:

Burkard Hillebrands,  
Technische Universität Kaiserslautern, Germany;

André Thiaville,  
Université Paris XI Orsay, France

This third volume of Spin Dynamics in Confined Magnetic Structures addresses central aspects of spin-dynamic phenomena on a tutorial level. Researchers will find a comprehensive compilation of the current work in the field. Introductory chapters help newcomers to understand the basic concepts. The more advanced chapters give the current state-of-the-art of spin dynamic issues ranging from the femtosecond to the microsecond regime. This volume concentrates on new experimental techniques such as ferromagnetic-resonance-force microscopy and two-photon photoemission, as well as on

aspects of precessional switching, spin-wave excitation, vortex dynamics, spin relaxation, domain-wall dynamics in nanowires and their applications to magnetic logic devices. One chapter is devoted to the very hot subject of spin-transfer torque, combining electronic transport and micromagnetics. The comprehensive presentation makes it a very timely and valuable resource for every researcher working in the field of magnetism.

**Contents:** Precessional Switching of Thin Nanomagnets with Uniaxial Anisotropy. ▪ Spin-Wave Excitations in Finite Rectangular Elements. ▪ Ferromagnetic Resonance Force Microscopy. ▪ Vortex Dynamics. ▪ Domain-Wall Dynamics in Nanowires and Nanostrips. ▪ Domain-Wall Dynamics in Magnetic Logic Devices. ▪ Spin Transfer Torque and Dynamics. ▪ Spin and Energy Relaxation of Hot Electrons at GaAs Surfaces.

### Book Details:

Title: Spin Dynamics in Confined Magnetic Structures III

Editors: Burkard Hillebrands, André Thiaville

Publisher: Springer Verlag, Berlin, Heidelberg

2006, XIV, 345 p., 164 illus., 42 in colour, Hardcover

ISBN-10: 3-540-20108-4

ISBN-13: 978-3-540-20108-3

<http://www.springer.com/dal/home/generic/search/results?SGWID=1-40109-22-52088687-0>

## ABOUT THE NEWSLETTER

Dear readers, we are honored that Carl Patton and Ron Goldfarb asked us to serve as the Society's new Newsletter editors. We both became involved in the "Magnetics" community while studying for our Ph. D. in Ron Indeck's lab at Washington University in St. Louis. Since then, Pallavi has worked in "Advanced Concepts" at Seagate, Minneapolis while Albrecht did a Post-doc at NIST in Boulder and worked for some years on magnetic sensors and spintronics with NVE Corp. in Minneapolis. We are now establishing a new magnetics research program at Oregon State University. If you are in the area, please visit us and see what magnetic poles look like in Oregon.

We take over this editorship from Martha Pardavi-Horvath, who has done a fantastic job for many years. We look forward to providing you with your quarterly dose of Magnetics Society News and hope to hear from many of you with news or comments on the Newsletter. Please send articles, letters, other contributions or request as to what you would like to see in your Newsletter to us at the address below.

The objective of the **IEEE Magnetics Society Newsletter** is to publicize activities, conferences, workshops and other information of interest to the Society membership and technical people in the general area of applied magnetics. Manuscripts are solicited from the members and officers of the Magnetics Society, organizers of conferences, local chapters, and other individuals with relevant material. Please send us your articles, letters and requests as to what you would like to see in your Newsletter at the address provided below.

The Magnetics Society Newsletter is published electronically at the IEEE Magnetics Society webpage, <http://www.ieemagnetics.org/>

The Newsletter is published in January, April, July and October. Submission deadlines are January 1, April 1, July 1, and October 1 respectively.



### **Pallavi Dhagat and Albrecht Jander, Editors**

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