



## From The President

By Randall Victora, Society President

One duty of the Magnetics Society President is to represent the society at the IEEE President's forum and the IEEE Technical Activities Board (TAB) meeting three times a year. Both of these bodies make decisions concerning IEEE technical activities: the difference is that TAB also includes the TAB President (Roger Pollard), plus the President Elect (Donna Hudson), the Past President (Hal Flescher), the heads of several TAB wide committees, and the Directors from Technical Divisions I-X (the Magnetics Society is part of Division IV.) The topics discussed range from interesting innovations (occasionally) to mind numbing detail (more common). I will list a few of those most likely to affect our members coming from the June meeting in Montreal...



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## 2010 Asia-Pacific Magnetic Recording Conference

By Wuzhong Lin, Conference Publications Chair

The Asia-Pacific Magnetic Recording Conference (APMRC) 2010 will be held in Singapore from Nov 10-12, 2010. The eighth of a successful series, the conference focuses on the manufacturing and mechanical aspects of hard disk drives. Among other things, APMRC 2010 will set the stage for in-depth discussion on green and ultra-high density magnetic recording in the terabits per square inch regime. The topics covered include:

- Actuator and Microactuator
- Airflow, Acoustics, Heat Transfer and Mechanics
- Future Hard Disk Drive Technologies
- Lube, Overcoat and Surface Protection
- Motor and Bearing

- Servo and Control
- Nanomechanics and Aerodynamics for Head-Disk Interface

Nomination of invited speakers and submission of digests are currently in progress, and members of the international scientific and hard disk drive communities are most welcome to participate in the conference. Please visit the conference website at <http://apmrc2010.dsi.a-star.edu.sg> or email the conference secretariat [apmrc2010@dsi.a-star.edu.sg](mailto:apmrc2010@dsi.a-star.edu.sg) for more details.

We look forward to receiving you at the APMRC 2010 in Singapore.

# Nominations for 2011 Distinguished Lecturers

By Roy Chantrell, Distinguished Lecturers Coordinator

Nominations for the 2011 IEEE Distinguished Lecturer [DL] Programme are due by July 30, 2010.

The aims of the IEEE Magnetics Society DL Programme are as follows:

- To celebrate achievements in magnetics and honour the finest researchers and communicators in the field.
- To provide outreach to the wider community and promote the trans-national aims of the Magnetic Society.
- To support Chapter activities by providing high profile speakers for local meetings.
- To inspire and enthuse, especially young researchers entering a career in magnetics.
- To advertise and promote the IEEE Magnetics Society as the society of choice for magnetics professionals.
- To act as an engine to recruit new members to the Magnetics Society.

Given the aims of the DL programme there are two principal criteria, based on awarding DL's to dynamic individuals with a

strong presence in their field. However, the outreach aims of the programme also suggest further secondary criteria.

Principal Criteria:

- Excellence in some field of magnetics. This is not limited to excellence in research, but should also recognise the important contributions of individuals in developing the applied/technical aspects of magnetics.
- Excellent communication skills.

Secondary Criteria

- Diversity
- Technical – coverage of as many aspects of magnetics as possible
- Geographical
- Gender and Ethnic

The DL should also be a member of the Magnetics Society. Under exceptional circumstances a non-member can be considered as long as he/she agrees to become a member.

For further details contact Margaret Clegg via email at [mc509@york.ac.uk](mailto:mc509@york.ac.uk).

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## Book Review: Spin Waves - Theory and Applications

By Mingzhong Wu, Education Committee Member

**Title: Spin Waves – Theory and Applications**

**Authors: Daniel D. Stancil and Anil Prabhakar**

**ISBN: 9780387778648**

**Publisher: Springer. Year: 2009**

Spin wave excitations in magnetic systems not only have potential applications in microwave signal processing, but also provide a powerful and versatile test bed for the study of fundamental dynamics of linear and nonlinear waves. In recent years, the spin wave phenomena are becoming increasingly important to understand the dynamics in thin-film magnetic recording heads and spin torque devices. The book by Dr. Stancil and Dr. Prabhakar provides an excellent introduction to spin waves and their applications. The book has three major parts. The first part consists of three chapters and provides a

basic understanding of the microscopic origins of magnetism and spin waves. The second part, Chapters 5-8, focuses on magnetostatic modes and dipolar spin waves, their properties, how to excite them, and how they interact with light. The last part, Chapters 9 and 10, treat nonlinear phenomena and advanced applications of spin waves. The book represents a major expansion of the classical treatment of spin waves in the earlier volume, "Theory of Magnetostatic Waves." Major additions include quantum mechanical treatments of angular momentum, exchange, and spin waves; nonlinear phenomena; and applications such as the generation of spin waves using current-induced spin torques. An interesting feature of the book is a comprehensive table in Appendix A listing almost all the properties of yttrium iron garnet (YIG), a material of particular importance for spin wave applications.

## Conference Calendar

Jul 12 - 16, 2010 International Symposium on Advanced Magnetic Materials & Applications  
Sendai, Japan  
Web site: [www.ecei.tohoku.ac.jp/isamma2010/](http://www.ecei.tohoku.ac.jp/isamma2010/)

Aug 8-13, 2010 Magnetic Nanostructures  
Lewiston, ME, USA  
Web site: [www.grc.org/programs.aspx?year=2010&program=magnano](http://www.grc.org/programs.aspx?year=2010&program=magnano)

Aug 16-18, 2010 The 21st Magnetic Recording Conference TRMC 2010  
San Diego, CA, USA  
Web site: [cmrr.ucsd.edu/TMRC2010.htm](http://cmrr.ucsd.edu/TMRC2010.htm)

Aug 29 - Sep 1, 2010 14th Brazilian Microwave & Optoelectronics Symposium and 9th Brazilian  
Conference on Electromagnetics MOMAG 2010  
Vila Velha - ES, Brazil  
Web site: [www.momag2010.org.br](http://www.momag2010.org.br)

Aug 29 - Sep 2, 2010 21st Workshop on Rare-Earth Permanent Magnets and their Applications  
Bled, Slovenia  
Web site: [nano.ijs.si/rep10.htm](http://nano.ijs.si/rep10.htm)

Sep 19 - 24, 2010 7th International Symposium on Metallic Multilayers MML2010  
Berkeley, CA, USA  
Web site: [mml2010.lbl.gov](http://mml2010.lbl.gov)

Sep 20-21, 2010 Developments in Electric Propulsion Technology  
Helsingborg, Sweden  
Web site: [www.ukmagsoc.org.uk](http://www.ukmagsoc.org.uk)

Nov 10-12, 2010 Asia-Pacific Magnetic Recording Conference 2010  
Singapore  
Web site: [apmrc2010.dsi.a-star.edu.sg](http://apmrc2010.dsi.a-star.edu.sg)

Nov 14-18, 2010 55th Annual Conference on Magnetism & Magnetic Materials MMM 2010  
Atlanta, GA, USA  
Web site: [www.magnetism.org](http://www.magnetism.org)

Nov 29 - Dec 3, 2010 MRS Symposium: Magneto Calorics and Magnetic Cooling  
Boston, MA, USA  
Web site: [www.mrs.org/fall2010](http://www.mrs.org/fall2010)

Apr 25-29, 2011 International Magnetics Conference INTERMAG 2011  
Taipei, Taiwan  
Web site: [www.intermagconference.com/intermag2011/](http://www.intermagconference.com/intermag2011/)

To list your conference in the Newsletter Conference Calendar, please contact the Editor

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1. There is recognition that IEEE sends a great deal of email, some of which could be called spam. Efforts are underway to be more selective in the addressing of such email, which would certainly be welcome.
2. Some societies are moving the production of their publications out of IEEE, owing to the expense and lack of associated quality. While most apparent for newsletters, where most societies (including ours) use volunteers or other non-IEEE resources, there are also Transactions and Magazines leaving. Currently, IEEE charges a 3 year penalty, which many presidents thought was unjustified, leading to a lively discussion.
3. A new IEEE service was proposed whereby about 20 articles each week are chosen from various IEEE Transactions to be condensed by a professional writer and then posted on a web site. It will encourage readers to access full length articles and is intended to be profitable owing to advertising also to be posted on the web site. A key issue is whether good condensations can be written by overseas technical writers at \$12.50 apiece, as contended by proponents of the idea. TAB voted to approve it, apparently with the expectation that it is worth a try and could be suspended if unsuccessful.
4. Each president was asked to develop a Society membership, with reduced benefits, that could be sold for \$10-15 a person to engineers in poor countries, where they presumably cannot afford a regular membership. The Magnetics Society will discuss this at our next ADCOM.
5. TAB narrowly voted to limit Society/Council Field of Interest statements to 75 words.
6. TAB authorized a position statement to guide IEEE's contributions to the dialog on open access. (Open access refers to the belief that the results of research funded by government should be freely available.)
7. In recent years, there has been increased emphasis on IEEE staff charging for each service rendered. The latest proposed charge is \$500 for technical cosponsorship of a conference unless IEEE publishes the conference proceedings, which can be profitable. This attracted intense debate ranging from questions about the cost to the fairness. It passed narrowly.
8. Finally, an example of a proposal that failed was an attempt to require all IEEE events where there were multiple technical talks to be labeled conferences, without the current \$25K minimum gross revenue requirement currently used. This would have increased paperwork and most of us were relieved when this proposal was soundly defeated.

Other events in the 1 1/2 day meeting included elections for IEEE Product and Services Committee Chair and IEEE Conference Committee Chair, plus discussions of organization charts and much other information not worth sharing in our newsletter.

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## Alabama Chapter News

By JW Harrell, Alabama Chapter Chair

The Alabama Chapter of the IEEE Magnetics Society was formed in July 2010. J.W. Harrell, Professor of Physics at the University of Alabama and a member of the Center for Materials for Information Technology (MINT), is the chapter chair.

The chapter will hold its inaugural meeting July 9 at the University of Alabama, where Robert McMichael from NIST and a former Chapters Chair for the IEEE Magnetics Society will give a talk on "Spin waves at work: Interacting with currents and probing the edges of patterned thin films." The chapter also plans to partially support a workshop on Nov. 11,

2010 in conjunction with the MINT review meeting on Nov. 10. The workshop will include talks by 2010 IEEE Magnetics Society Distinguished Lecturers Claudia Felzer, Kevin O'Grady, and Shoogo Ueno and by Mark Kryder from Carnegie Mellon University. A chapter web page is also being planned.

The formation of the new Alabama Chapter coincides with the appointment of Takao Suzuki as the new director of MINT in April, 2010. Takao is vice president and president elect of the Magnetics Society, and establishing a local chapter was one of his priorities when he arrived at Alabama.

# United Kingdom & Republic of Ireland Chapter News

By Dan Allwood, United Kingdom & Republic of Ireland Chapter Member

On Friday 7th May 2010, the UK & RI Chapter held a one day meeting on magnetic and spintronic materials at the University of York. Six invited speakers presented their work, including one of this year's IEEE Distinguished Lecturers, Professor Claudia Felser from Johannes Gutenberg University in Mainz, Germany.

The meeting started with a session on magnetic modelling. Dr Gino Hrkac (University of Sheffield) spoke on 'Current driven vortex oscillations/dynamics in nanopillars', describing how a finite element form of micromagnetic modelling is being used to simulate collective processes in patterned magnetic multilayers for potential use in communications technologies. Dr Richard Evans (University of York) then presented 'Multiscale magnetic modelling from ab initio to the mesoscale', in which he explained how quantum mechanical atomistic simulations are used to calculate extrinsic magnetic properties of materials that can be used in larger-scale models.

Professor Felser gave her IEEE Distinguished Lecturer talk of 'Heusler compounds: multifunctional materials for spintronics', describing her work in identifying and characterising novel Heusler alloy compositions. Using electron energy structure calculations, Professor Felser explained how alloys could be selected to be semiconductors, half-metals, or even high TC superconductors. This exciting class of materials promises to

find application in hard-drive read-head sensors and high speed spin valves.

Professor Thomas Thomson (University of Manchester) used his talk on 'Nanomagnetism for data storage beyond one Tbit/in<sup>2</sup>' to describe a range of approaches being developed to increase the data storage density of magnetic hard drive technology, focussing on his work on exchange spring media.

The meeting finished with a session on patterned magnetic nanowires. Dr Del Atkinson (Durham University) presented 'Domain walls in nanowires: structure, pinning and chirality dependent behaviour' on his recent research, in which he explained how knowledge of the detailed structure of domain walls can be exploited to control their position in Permalloy nanowires. Dr Chris Marrows (University of Leeds) then completed the programme with his talk on 'Domain wall spintronics'. Dr Marrows presented work from his group on the efficiency of the spin-torque effect observed in experiments on domain walls in patterned Permalloy and Co/Pt multilayer nanowires.

The event was organised by Dr Dan Allwood (University of Sheffield) and Dr Yvette Hancock (University of York), and was attended by 68 delegates, including 35 non-IEEE guests.

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## France Chapter News

By Bernard Dieny, French Chapter Chair

The French Chapter of the IEEE Magnetic Society was strongly involved in the organization of the 13th Louis Neel Colloquium this year.

Since 1990, Louis Néel Colloquia "Magnetic Thin Films and Nanostructures" have been organized every 18 months in France. These francophone colloquia typically gather 200 researchers (mainly French) working in the field of nanomagnetism and spintronics. They attract both young and senior researchers but the presentations are mainly given by the young researchers (PhD students, Post Docs or recent permanent researchers). For PhD students, these colloquia are often the first opportunity for presenting their work.

Each edition of the meeting is organized in a different place by one of the major laboratory represented in the scientific community. For example, in 1996, the 4th meeting took place at the Mont Sainte Odile with 110 attendees and was organized by the Institute of Physics and Chemistry of Materials based in Strasbourg; the other editions were organized afterwards by the laboratories based in Toulouse, Rouen, Paris, Nancy, Grenoble, Paris, Lyon and Toulouse.

In spring 2010, the 13th edition has been again organized by the Strasbourg laboratory with more than 260 attendees. As for the previous editions, the aim of the organizing and scientific communities has been to attract most of the young French

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## France Chapter News *continued from page 5*



researchers in magnetism thanks to a great scientific program and low registration fees in a nice place (the Belambra vacations resort of Albéville located 40 km from Strasbourg in the Val de Villé).

During the two and half days of the meeting, there were 40 oral contributions (given mainly by PhD students) in 7 sessions devoted to “Spectroscopy, imagery and probes”, “New materials and new properties”, “Dynamics”, “Spintronics” and “Nanoparticles, nanowires, nanostructures” and more than 150 poster presentations in 3 poster sessions.

During the second day afternoon, a free time period allowed the attendees to visit remarkable local places like Colmar, the Haut-

Koenigsbourg Castle or the Mont Sainte Odile Monastery. Before the Gala dinner, 9 presented posters were awarded (see photo below). After the dinner, an improvised party with music and beer took place thanks to the participants from Grenoble.

The quality of the scientific program combined with the convivial atmosphere and enough free time for discussions contribute to the emergence of new ideas and to the strengthening of relationships within the French community of magnetism.

The colloquium has been financially supported by various local organizations and the IEEE Magnetic Society (French Chapter).



# Romanian Chapter News

By Alexandru Stancu, Romanian Chapter Chair



The Electrical Engineering Faculty of the “Politehnica” University of Bucharest, the Faculty of Physics of the “Alexandru Ioan Cuza” University of Iasi and the Institute of Advanced Research in Electrical Engineering (ICPE-CA) of Bucharest recently organized the Joint Mmde-IEEE ROMSC International Conference – Iasi 2010 bringing together the 7th edition of Mmde Conference and the 7th edition of IEEE-ROMSC Conference. This followed the success of the previous editions of the International Conference “Materials for Electrical Engineering”, Mmde (since 1997) and of the IEEE Romanian Magnetic Society Chapter Conference, IEEE-ROMSC (since 2004),

The conference was held on 7 - 8 June 2010 at “Alexandru Ioan Cuza” University of Iasi, with the support of the Romanian Ministry of Education and Research and IEEE Magnetics Society.

We mention that this Joint conference was organized in Iasi in the 150th year since the University was founded as the first

Romanian modern University by the first King of united Romania, Alexandru Ioan Cuza.

The conference was really successful this year as the Organizing Committee of the conference approved more than 100 papers for presentation. A special poster session was organized by the IEEE Student Branch for the young master and doctoral students.

The Keynote Speaker of the Conference was Professor Josef Fidler from Vienna University of Technology who presented a plenary lecture on Material and Nanosensor design by finite element Micromagnetic Modeling.

Taking into account that the conference was attended by about 100 participants from Romania, USA, France, Poland and other countries, we appreciate that the main objective to make the IEEE ROMSC the most important regional conference in magnetism is realistic and can be achieved.

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## Taiwan Chapter News

By Jen-Hwa Hsu, Taiwan Chapter Chair

The general meeting of IEEE Magnetic Society Taiwan Chapter was held at the Forest Resort of National Chung Hsing University, Nantou, Taiwan on 23th June 2010.

This meeting was presided by Taiwan Chapter Chair Jen-Hwa Hsu, who is currently the Professor of Physics at National Taiwan University. Approximately 80 persons from various parts of Taiwan attended this meeting.

During the meeting, Chair Hsu emphasized the purpose and benefits to join the Society. Besides, he reported the activities of Taiwan Chapter for the current year. He also announced in the meeting that the Chapter is actively taking part in the organization of Intermag 2011. It will be held at Taipei next April 25-29.

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## New Senior Members

The following members of the IEEE Magnetics Society were recently elevated to the grade of Senior Member. Congratulations!

April 2010: Tow Chong, Michael Parker, Leonard Spinu & Tetsuya Ueda

May 2010: Sami Barmada, Michael Forman, Fred Hansen, Antonios Kladas, Bradley Lindseth & Stan Zurek

Senior Member is the highest grade for which IEEE members can apply. For further information, visit the IEEE Web site at:

[http://www.ieee.org/membership\\_services/membership/grade\\_elevation.html](http://www.ieee.org/membership_services/membership/grade_elevation.html)

## Taiwan Chapter News *continued from page 7*

President-elect Takao Suzuki also attended this meeting along with Hong Kong Chapter Chair Pong.

Before Jen-Hwa presented his report, President-elect Takao Suzuki was invited to give his opening speech. He praised the strong leadership in Taiwan Chapter and great contribution to the Magnetic Society from this Chapter. Soon after, Prof. Shoogo Ueno of Teikyo University gave his distinguished lecture as the plenary talk in the General Meeting. Prof. Ueno also gave another DL at National Taiwan University on June 25 before he went back to Kyushu, Japan.

Now, Taiwan Chapter is looking forward to hosting Prof. Kevin O'Grady to give his distinguished lectures in early July.



## 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's members and other technical people in the general area of applied magnetics. Manuscripts are solicited from Magnetics Society members, conference organizers, Society Officers & other volunteers, local chapters, and other individuals with relevant material.

The Newsletter is published in January, April, July and October electronically on the Magnetics Society webpage at [www.ieeemagnetics.org](http://www.ieeemagnetics.org). Submission deadlines are January 1, April 1, July 1, and October 1 respectively.

Please send articles, letters & other contributions to the Newsletter Editor:

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