

GMAG NEWSLETTER – FEBRUARY, 2008

<http://units.aps.org/units/gmag/>

Notes From the Chair

This newsletter contains information about a number of upcoming GMAG events and activities. I hope that you will be able to participate.

At the March meeting on Wednesday evening, GMAG will sponsor a reception 5:30PM in the Marriot Hotel (555 Canal St.) to honor the 2007 Nobel Laureates in Physics. We are very pleased that both Peter Grünberg and Albert Fert will be able to attend. The reception will be followed by lectures by both Laureates beginning at 6:30PM (See details below). Thanks are due to Bill Butler for lots of hard work setting this up.

The election of new GMAG officers for 2008-2009 is underway. Please vote online at <http://apps.aps.org/cgi-bin/btquest?BTNO=3662&UID=AB040526> by Feb. 29. The list of candidates is given below.

For 2007, GMAG elected four of our members to fellowship in the APS. We congratulate Bogdan Dabrowski, Sara Majetich, Sadamichi Maekawa, and Jonathan Sun for achieving this distinction conferred to only 0.5% of the APS membership in any one year. Their citations appear later in this newsletter. The GMAG deadline for nominating APS fellows for next year is April 4, 2008. Nomination instructions are available at <http://www.aps.org/units/gmag/fellowship/index.cfm>.

GMAG continues to play an important role in organizing the March Meeting, with responsibility for Category 6 (Magnetism) abstracts. We sponsor 3 invited symposia, and sponsor or co-sponsor 7 Focus Topics. A timetable of these sessions is included on the last page of this newsletter. Limited copies will also be available at the meeting. We will also sponsor 3 “Student Lunches with the Experts” (see below).

As a reminder, the general business meeting of GMAG will be held at 5:45 on Tuesday, March 11 in Room 219 at the New Orleans Convention Center. This is an opportunity to meet other members of GMAG, share your thoughts on the GMAG part of the program for the next March meeting, and discuss new activities for GMAG in the coming year. The new GMAG-sponsored APS Fellows and student dissertation award winner will be recognized at the meeting. In addition to hearing reports on GMAG membership and its financial status, you can enjoy free soft drinks and snacks. We do hope you will attend this meeting and help shape the future of GMAG.

We always welcome suggestions for new activities and programs you would like to see GMAG initiate. Please send ideas to me or to one of the other GMAG officers. Lastly, please bring the Topical Group on Magnetism (GMAG) to the attention of your colleagues and urge them to join.

This will be my last newsletter as GMAG chair. I am pleased to leave the Unit in the capable hands of Bill Butler. I also want to thank Caroline Ross who will step down this year as Secretary-Treasurer. Caroline has done an exemplary job, and has played a crucial role in keeping GMAG functioning smoothly.

Dan Reich, GMAG Chair

The GMAG Executive Committee:

Chair: Daniel Reich (dmr@pha.jhu.edu)

Chair-Elect: William Butler (wbutler@mint.ua.edu)

Vice-Chair: Axel Hoffmann (hoffmann@anl.gov)

Past Chair: Jim Rhyne (rhyne@lanl.gov)

Secretary-Treasurer: Caroline Ross (caross@mit.edu)

Executive Committee Members-at-Large: Chris Leighton, Sara Majetich, David Lederman, Stephen Hill, Michael Pechan, and Michael Fitzsimmons.

Nobel Prize Reception

GMAG will sponsor a reception honoring Peter Grünberg and Albert Fert, 2007 Nobel Laureates in Physics. The reception will begin at 5:30PM in the Bissonet room at the Marriot Hotel, 555 Canal St. on Wednesday, March 12, 2008. Drinks and snacks will be served. The reception will be followed by lectures by Grünberg and Fert beginning at 6:30PM. The titles of their talks are

Interlayer exchange coupling: new results, unresolved questions

P. Grünberg

Spin transport between spin-polarized sources and drains:

Advantage of carbon nanotubes on semiconductors

A. Fert

Four GMAG members achieve APS Fellowship for 2007

We congratulate the three distinguished scientists for being nominated by GMAG and selected for APS Fellowship:

Bogdan Dabrowski, Northern Illinois University, DeKalb, IL

“For developing the design rules of synthesis and determination of the structure - properties relationships for a vast range of novel superconducting, magnetic, and magneto-resistive perovskites.”

Sadamichi Maekawa, Tohoku University, Sendai, Japan

“For seminal contributions to understanding spin-dependent transport, high-temperature superconductivity, transition metal oxides, and developing exact numerical many-body techniques to study strongly-correlated electronic systems.”

Sara Majetich, Carnegie-Mellon University, Pittsburgh, PA

“For innovative research on magnetic nanoparticles and their interactions, the development of novel self-assembly techniques to prepare ordered nanoparticle assemblies, and the design of plasmonic magnetic nanoparticles for biomedicine.”

Jonathan Sun, IBM Thomas J. Watson Research Center, Yorktown Height, NY

“For his many contributions to the understanding and application of magnetic and superconducting devices, including those based on spin-momentum transfer and high-temperature superconductivity.”

They will be honored at the GMAG business meeting on Tuesday evening at the March Meeting.

Election of GMAG officers for 2008-09

The election of new officers and members of the Executive Committee for GMAG is underway. Each year a GMAG nominating committee is formed whose chair is a member of the Executive Committee with two additional GMAG members, one of whom may not be a member of the Executive Committee. This year's committee was chaired by David Lederman with members Sara Majetich and Casey Miller. The committee presents nominations for a new Vice Chair (who succeeds to Chair-Elect, Chair, and Past Chair), a new Secretary-Treasurer, and two new at-large members of the Executive Committee who serve until 2011. The nominees are:

Vice Chair: Berry Jonker and Nitin Samarth.

Secretary-Treasurer: Peter Fischer and Maria Varela

At-large Members of the Executive Committee: John Freeland, Ale Lukaszew, Seung-Hun Lee, and Evgeny Tsymbal

Brief biographies and statements from the candidates are available at the voting website. **Please vote for your choice of candidates for Vice Chair, Secretary-Treasurer, and for the at-large members of the Executive Committee before the deadline of February 29, 2008.** The election is conducted on the web at <http://apps.aps.org/cgi-bin/btquest?BTNO=3662&UID=AB040526>.

GMAG Dissertation Award Winner

Each year GMAG holds a competition for a Ph.D. dissertation award. This year the GMAG Executive Committee selected one winner who will receive a \$500 check and a maximum of an additional \$250 that may be used for travel expenses to the March meeting. The winner will present an invited talk in a Focus Session and his award will be presented during the session. Congratulations to:

Keith Gilmore, NIST/Montana State University (Mark Stiles, advisor) – *Spin-orbit damping in transition metals*, Focus Session: Damping and Spin Relaxation, Room 225, Tuesday, March 11, 11:15. Information on the 2008 GMAG Dissertation Award competition can be found on the GMAG website.

2008 March Meeting magnetism sessions

The 2008 APS March Meeting will be held March 10-14 at the New Orleans Convention Center. For more details see the web site announcement <http://www.aps.org/meetings/march/index.cfm>.

GMAG is sponsoring or co-sponsoring seven Focus Topics and sponsoring three invited symposia at the New Orleans Meeting.

GMAG invited symposia:

Magnetism in Semiconductors: New Frontiers – organized by D. Basov

Artificial and tunable realisations of spin systems – organized by R. Moessner

Tunnel Magnetoresistance: Yesterday, Today, and Tomorrow – organized by I. Zutic

Focus Topics (sponsoring organizations are in parenthesis):

Theory and Simulation of Spin-Dependent Effects and Properties (DCOMP/DMP/GMAG) – organized by Thomas Schulthess and Oleg Tchernyshyov

Magnetic Nanostructures: Materials and Phenomena (DMP/GMAG) – organized by Dan Ralph and Sergei Urazhdin

Complex Oxides (DMP/GMAG) – organized by Ramamoorthy Ramesh , David J. Singh, Arunava Gupta and Stephan Rosenkranz

Spin Transport and Magnetization Dynamics in Metal-Based Systems (GMAG/DMP/FIAP) – organized by Stefan Maat and Maxim Tsoi

Spin-Dependent Phenomena in Semiconductors (GMAG/DMP/FIAP) – organized by David Awschalom, Stuart Wolf, and Mark van Schilfhaarde.

Nanomagnetic Particles and Structures for Information Storage Applications (GMAG/FIAP) – organized by J. W. Harrell and Brad Engel

Frustrated and Low Dimensional Magnetism (GMAG) – organized by Jason S. Gardner and Jian Shen

A time-table of all these sessions is included at the end of this newsletter.

Student Lunch with the Experts:

GMAG will sponsor three topics at the *Students' Lunch With the Experts* on Wednesday at the March meeting:

- What's Cool About Neutron Scattering, Jim Rhyne, *LANL*
- Anisotropy in Magnetic Nanostructures, Michael Pechan, *Miami University*
- Molecular Magnets, Stephen Hill, *University of Florida*

Sign-up will be on Monday at the conference registration desk.

Sunday Afternoon Tutorials:

Three tutorial sessions of interest to GMAG members are being given on Sunday afternoon in the Marriott Hotel:

T2 Spintronics, 8:30 – 12:30, La Galerie 3

T4 Advances in Neutron Scattering, 8:30 – 12:30, La Galerie 1

T6 Nanomagnetism: Manufacture, Physics, Devices, Modeling, 1:30- 5:30, La Galerie 6

Advanced registration is required

Briefly Noted:

In this space, we will try to list new books or other publications outside the usual journals that may be of interest to the GMAG membership. This is for information purposes only. No endorsement is expressed or implied. If you have something that you would like listed here, contact Bill Butler.

Simple Models of Magnetism Ralph Skomski, *Oxford* (2008). This is a new graduate level general textbook on magnetism . For more information, see

<http://www.oup.com/uk/catalogue/?ci=9780198570752>

Upcoming magnetism conferences and workshops

Intermag 2008, May 4-8, 2008, Madrid, Spain

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

American Conference on Neutron Scattering, Santa Fe NM May 11-15, 2008.

<http://lansce.lanl.gov/ACNS2008/>

7th International Conference on the Scientific and Clinical Applications of Magnetic Carriers, May 21-24, 2008, Vancouver, Canada <http://www.magneticmicrosphere.com/meetings/meet2008>

53rd MMM Conference, November 10-14, 2008, Austin, TX. <http://www.magnetism.org>

Fall 2008 Materials Research Society Conference, December 1-5, 2008, Boston, MA

<http://www.mrs.org>, Note especially symposia on “Magnetic Nanostructures by Design,” and “New Materials with High Spin Polarization and their Applications.”

A more detailed list of magnetism related conferences can be found on the GMAG website:

<http://www.aps.org/units/gmag/meetings/index.cfm>