

GMAG NEWSLETTER, February 2019

Note from the Chair

Dear GMAG Members:

In this Winter Newsletter recent GMAG activities and programs are highlighted. Foremost, you will find information about the 2019 March Meeting, which will be held in Boston, MA, from March 4 – 8. Our GMAG Program Chair, Eric Fullerton and his team, have put together a very exciting program, covering many important recent advances in magnetism.

Among the many activities at the March Meeting, I would like in particular to call your attention to the annual GMAG Business Meeting on Tuesday, March 5 (5:45 pm – 6:45 pm, Session J36, Room 205C at the Boston Convention and Exhibition Center). At this meeting we will welcome our newly elected GMAG-sponsored APS Fellows, newly elected GMAG officers, and honor the student dissertation and travel award winners. We very much hope to see you there!

Finally, please note the various deadlines listed towards the end of this newsletter. In particular, the deadline for Fellowship nominations sponsored by GMAG is Monday, June 3, 2019.

*Stephen Hill, Florida State University and National High Magnetic Field Laboratory
GMAG Chair*

Election of GMAG Officers for 2019-2020

The GMAG election ballot closed on December 17, 2018. Congratulations to our newly elected officers:

Vice-Chair:

Julie Borchers (National Institute of Standards and Technology)

Members-at-Large:

Yayoi Takamura (University of California-Davis)

Luc Thomas (TDK-Headway Technologies)

We are delighted to have these new Executive Committee members join us in serving the magnetism community. Their terms will start after the 2019 March Meeting. We thank the Nominating Committee – Kristen Buchanan, Peter Fischer (Chair), June Lau and Robert Stamps (APS Council Representative) – for putting together an excellent slate of candidates.

We would also like to thank outgoing Executive Committee members for their dedicated service: Past-Chair Chris Leighton, and Members-at-Large Christian Binek and Peter Fischer.

GMAG Sponsored APS Fellows

In 2018, from nominations by the magnetism community, GMAG recommended our full allotment of three outstanding APS members to be elected as Fellows. We were very pleased that all three

nominations were selected by the APS General Fellowship Committee. The new GMAG APS Fellows are listed below, along with their citations.

Adekunle Adeyeye, National University of Singapore, Singapore

Citation: *For contributions to synthesis and characterization of magnetic nanostructures and their applications in low power magnonic information processing.*

Hendrik Ohldag, SLAC National Accelerator Laboratory, USA

Citation: *For contributions to unique insight into complex magnetic materials with unprecedented spatial and temporal resolution using novel x-ray techniques.*

Chun-Yeol You, Daegu Gyeongbuk Institute of Science and Technology, Republic of Korea

Citation: *For experimental and theoretical contributions to emerging magnetic interfacial phenomena, including magnetization dynamics of spintronic heterostructures.*

GMAG Fellowship Selection in 2019

Please nominate deserving candidates for APS Fellowship. Send inquiries regarding nominations to Julie Borchers, our incoming Vice-Chair. The deadline for nominations through GMAG is **Monday, June 3, 2019**. Previous nominators should note that APS has revised the submission system. More detailed information and nomination instructions can be found at the links provided at the end of this newsletter.

GMAG Dissertation Awardee for 2019

In order to encourage students working in magnetism, every year GMAG sponsors Outstanding Dissertation in Magnetism awards. These awards recognize students who have conducted outstanding research leading to their dissertation. The award consists of an invited talk in an appropriate session at the APS March Meeting, a \$500 prize to the student, and up to \$250 toward his or her travel expenses to attend the APS March Meeting.

The 2019 recipient of the GMAG Outstanding Dissertation in Magnetism Award is:

Javier Pablo Navarro, Universidad de Zaragoza, Spain

Thesis title: *Development and optimization of advanced functional magnetic nanostructures grown by focused electron beam induced deposition.*

Invited talk: E39.00005

Three-Dimensional Magnetic Nanostructures Grown by Focused Electron Beam Induced Deposition (FEBID)

Congratulations!

The deadline for nominations for the 2020 Outstanding Dissertation in Magnetism Awards is **September 6, 2019**. See the GMAG website (<http://www.aps.org/units/gmag/awards/index.cfm>) and the August Newsletter for detailed instructions.

GMAG Student Travel Awardees

To increase student participation and involvement in activities essential to GMAG, and the APS as a whole, GMAG will sponsor 12 Student Travel Awards for the 2019 March Meeting. The awards will consist of \$250 in travel assistance to attend the meeting. The selected students will be expected to attend the GMAG Business Meeting, and also help at the GMAG membership table and/or serve one shift at the “Contact Congress” booth as part of APS outreach for congressional support for scientific research. This year’s (March Meeting 2019) award winners are:

Ankita Anirban, University of Cambridge
Vipul Chaturvedi, University of Minnesota
Samiran Choudhury, S. N. Bose National Centre For Basic Sciences
Sayak Dasgupta, Johns Hopkins University
Kai-Isaak Ellers, Amherst College
David Harrison, University of Minnesota
Hengzhou Liu, University of South Florida-Tampa
Victor Ortiz, University of California Riverside
Lauren Riddiford, Stanford University
Paul Sass, Rutgers University
Meiying Xing, University of Texas at Arlington
Tiancong Zhu, The Ohio State University

March Meeting 2019 GMAG Program

GMAG is the primary sponsor for 69 scientific sessions at the March meeting, including 4 Symposia and 65 Focus Sessions.

The GMAG sponsored Symposia are:

B36. Exotic Dynamics of Pyrochlore Magnets (GMAG)

F36. In-vivo Magnetic Measurements for Medical Diagnosis, Therapy and Discovery (GMAG/GMED)

R36. New Examples of Quantum Spin Liquid (GMAG)

S36. Quantum Molecular Nanomagnets (GMAG)

The 65 Focus Sessions were generated primarily from abstracts submitted to the 10.X.X sorting categories; Focus Topic organizers are acknowledged below. In addition, GMAG is co-sponsoring several sessions that were organized by other APS units. These sessions are easily identified in the March meeting Epitome (http://meetings.aps.org/Meeting/MAR19/APS_epitome).

GMAG Business Meeting

The GMAG annual Business Meeting (Session J36 in the program) will be held on Tuesday March 5, 2019, 5:45pm - 6:45pm, in Room 205C of the Boston Convention and Exhibition Center. Please

join us for the introduction of new GMAG-sponsored APS fellows, newly-elected GMAG officers, and to honor student travel award and dissertation award winners! Food and drink refreshments will be served at the meeting.

Thanks to GMAG Focus Topic Organizers

We thank all of the focus topic organizers who contributed to the success of the March Meeting Program:

10.1.1 *Magnetic Nanostructures: Materials and Phenomena*

Stéphane Mangin*, Université de Lorraine
Dustin Gilbert, University of Tennessee - Knoxville
Justin Shaw, NIST

10.1.2 *Emergent Properties of Bulk Complex Oxides*

Nandini Trivedi*, The Ohio State University
Vesna Mitrovic, Brown University
Gregory Fiete, University of Texas

10.1.3 *Magnetic Oxide Thin Films and Heterostructures*

James Rondinelli*, Northwestern University
Roopali Kukreja, University of California – Davis
Tiffany Kaspar, Pacific Northwest National Laboratory

10.1.4 *Spin Transport and Magnetization Dynamics in Metals-Based Systems*

Fengyuan Yang*, The Ohio State University
Joo-Von Kim, Université Paris Saclay
Luqiao Liu, MIT

10.1.5 *Spin-Dependent Phenomena in Semiconductors*

Chris Palmstrom*, University of California – Santa Barbara
Gregory Fuchs, Cornell University
Shufeng Zhang, University of Arizona

10.1.6 *Frustrated Magnetism*

Marcelo Jaime*, Los Alamos National Laboratory
Philippe Corboz, Universiteit van Amsterdam
Adam Aczel, Oak Ridge National Laboratory

10.1.7 *Chiral Spin Textures and Dynamics, Including Skyrmions*

Olle Heinonen*, Argonne National Laboratory
Claudia Mewes, The University of Alabama
Karin Everschor-Sitte, Johannes Gutenberg-Universität Mainz

10.1.8 *Low-Dimensional and Molecular Magnetism*

Jonathan Friedman*, Amherst College

Vivian Zapf, Los Alamos National Laboratory
Cristian Batista, University of Tennessee, Knoxville

Sorting of the GMAG March Meeting Program

As many of you may have realized, the process for submitting and sorting abstracts for the March meeting has been handled very differently for the past two years. In particular, the sorting of abstracts into sessions was handled entirely online using the ScholarOne system. This resulted in a significant workload for the Focus Topic organizing teams right around the Thanksgiving break. These teams performed a tremendous service to GMAG, particularly the eight Focus Topic Leads (indicated by * in the above list), who essentially completed the work that had previously been undertaken by more than double the number of people during the one-day December sorters meeting.

Nominations for APS Prizes and Awards

APS prize descriptions and nomination deadlines appear at <http://www.aps.org/programs/honors/index.cfm>. Several prizes of potential interest to the GMAG membership and their corresponding deadlines are:

APS Fellowship (GMAG Deadline is June 3, 2019)

For more details and instructions see <http://www.aps.org/units/gmag/fellowship/index.cfm> and <http://www.aps.org/programs/honors/fellowships/nominations.cfm>. If the nominee is a member of the GMAG Executive Committee, please make the nomination to another Unit of the APS or defer the nomination until his or her term has finished.

David Adler Lectureship Award in the Field of Materials Physics (June 3, 2019)

To recognize an outstanding contributor to the field of materials physics, noted for the quality of their research, review articles, and lecturing.

Distinguished Lectureship Award on the Applications of Physics (June 3, 2019)

To recognize and honor physicists in industrial and other non-academic careers for their significant contributions to the advancement of physics of a technical, industrial, or entrepreneurial nature.

Frank Isakson Prize for Optical Effects in Solids (June 3, 2020)

To recognize outstanding optical research that leads to breakthroughs in the condensed matter sciences.

George E. Valley Jr. Prize (July 3, 2019)

To recognize one individual in the early stages of his or her career for an outstanding scientific contribution to physics that is deemed to have significant potential for a dramatic impact on the field.

James C. McGroddy Prize for New Materials (June 3, 2019)

To recognize and encourage outstanding achievement in the science and application of new materials. This shall include the discovery of new classes of materials, the observation of novel

phenomena in known materials leading to both fundamentally new applications and scientific insights, and shall also include theoretical and experimental work contributing significantly to the understanding of such phenomena.

Lars Onsager Prize (June 3, 2019)

To recognize outstanding research in theoretical statistical physics, including the quantum fluids.

Oliver E. Buckley Condensed Matter Prize (June 3, 2019)

To recognize and encourage outstanding theoretical or experimental contributions to condensed matter physics.

Prize for a Faculty Member for Research in an Undergraduate Institution (June 3, 2019)

To honor a physicist whose research in an undergraduate setting has achieved wide recognition and contributed significantly to physics and who has contributed substantially to the professional development of undergraduate physics students.

Request for Magnetism Outreach Proposals

GMAG invites proposals directed towards educating non-scientists and the general public about the role of magnetism. Funds up to \$5000 per project (larger proposals may be considered) are available to cover supplies and expenses. These grants should foster new activities, and are not meant to support ongoing programs. Examples of outreach activities include (but are not limited to) the development of magnetism kits that may be used at elementary schools and/or at museums and other public places, the development of high school labs on magnetism, and the production of videos on magnetism that would appeal to the general public. Preference will be given to innovative activities that are properly documented, so that they can be reproduced elsewhere. GMAG will disseminate the outcome of the activities to the GMAG membership through the GMAG Newsletter and to the broader magnetism community through the GMAG website. For these purposes, proposers will be required to provide GMAG with appropriate material when requested. Proposers are also encouraged to consider alternate avenues for dissemination; this could include presentation of the results at an APS meeting. The GMAG Executive Committee will review proposals on an ongoing basis. Although partnership with a GMAG member is encouraged, all applications for projects related to outreach in magnetism will be considered. The GMAG Executive Committee can assist in identifying potential partners for outreach proposals submitted by non-members.

Application Process

To apply for these funds, please submit the following information as one PDF file to the incoming GMAG Chair (efullerton@ucsd.edu):

- Cover sheet clearly stating the name, address, phone number, and email of the main contact person for your application. Include the name of your program, and, if affiliated with an institution, the department and institution you represent.
- One-page CV for main contact person.
- Narrative description (no more than two pages) of your program. Include a description of the proposed activity or activities, the anticipated impact and the process of documentation

to enable reproduction of the activity, details of other financial support (if any), and description of personnel working on the program (instructional lab technicians, students, professors, etc.).

- Rough budget detailing your plans for utilizing the funds.
- Letter of support from your department chair or similar administrative official (this can be sent separately, as long as it clearly identifies the main contact person and institution).
- Tax ID number or Employee ID number if part of an organization, Social Security Number if an individual. For universities, the organizational tax ID number can be obtained from the grants and contracts department.

Important Information

These funds cannot be used for salaries, stipends, etc., of the main participants, but can be used to hire a student, an intern, or professional services if essential for the project. An APS statement on indirect costs is available at (<http://www.aps.org/programs/outreach/upload/rfp-indirectcosts15.pdf>)

Example of a recently funded proposal (2017):

- *Physics Youth Scholastic and Instructing Camp for Orlando Scientists*, Dr. Enrique Del Barco, Department of Physics, University of Central Florida. A week-long camp offered to high school students in June 2017. The camp continued in 2018 through local matching support.

A summary of this camp is available on the GMAG website:

(<https://www.aps.org/units/gmag/outreach/index.cfm>).

Ask Your Colleagues to Join GMAG

For only \$10 additional dues, APS members can become GMAG Members with the following benefits (students join for free!):

- The opportunity to help shape the voice and future of the magnetism community (your community) in the US.
- Receipt of the GMAG newsletter.
- Eligibility for GMAG graduate student awards and Fellowship sponsorship.
- The potential to increase the number of invited talks on magnetism at the March Meeting.
- The potential to increase the number of APS Fellows sponsored by GMAG.

See the GMAG website: <http://www.aps.org/units/gmag>. TO JOIN: Go to the APS page for “Membership Units” (<http://www.aps.org/membership/units/join-unit.cfm>) and follow the instructions for adding a unit to your membership. Or call the APS at 301-209-3280 and tell a membership representative that you want to join GMAG.

Recent Magnetism-related News

GMAG was proud to sponsor three Student Travel Awards to attend the 2019 Joint MMM-INTERMAG Conference in January, in Washington, DC. The winners each received \$750 towards their travel costs. The three recipients were:

Yuanwu Jiang, Pusan National University, Korea
Avirup De, Indian Institute of Science Education and Research, Pune, India
Sandoko Kosen, University of Oxford, United Kingdom

2019 Magnetism-related APS Prize & Award Winners

George E. Valley, Jr. Prize

Julia Mundy, Harvard University

Citation: For the pico-engineering and synthesis of the first room-temperature magnetoelectric multi-ferroic material.

James C. McGroddy Prize for New Materials

Bogdan Andrei Bernevig, Max Planck Institute, Freie University
Claudia Felser, Max Planck Institute for Chemical Physics of Solids
Xi Dai, Honk Kong University of Science and Technology

Citation: For the theoretical prediction, design and realization of non-magnetic and magnetic topological semi-metals and new types of topological insulators.

Important Deadlines

Date	Reason	Contact
June 3, 2019	GMAG Fellowship Nominations	Julie Borchers julie.borchers@nist.gov
August 2019	Invited speaker and symposium nominations for 2020 March Meeting	Geoff Beach gbeach@mit.edu
September 6, 2019	GMAG Dissertation Award Nominations	Eric Fullerton efullerton@ucsd.edu
November 27, 2019	Student Travel Grants for 2020 March Meeting	Julie Borchers julie.borchers@nist.gov
Ongoing	Outreach Proposals	Eric Fullerton efullerton@ucsd.edu

Thanks for your interest in GMAG and please do not hesitate to get actively involved in any of the many activities described above.

The GMAG Executive Committee

Chair: Stephen Hill (shill@magnet.fsu.edu)
Chair-Elect: Eric Fullerton (efullerton@ucsd.edu)

Vice-Chair: Geoff Beach (gbeach@mit.edu)
Past-Chair: Chris Leighton (leighton@umn.edu)
Secretary-Treasurer: Yumi Ijiri (yijiri@oberlin.edu)
Members-at-Large: Sara Haravifard, *Duke University*
Vanessa Sih, *University of Michigan*
Elke Arenholz, *Lawrence Berkeley National Laboratory*
June Lau, *National Institute of Standards and Technology*
Christian Binek, *University of Nebraska, Lincoln*
Peter Fischer, *Lawrence Berkeley National Laboratory, University of California, Santa Cruz*

Upcoming Conferences

5th International Workshop on Topological Structures in Ferroic Materials
June 16-20, 2019
Prague, Czech Republic
<http://palata.fzu.cz/topo2019/>

10th International Symposium on Metallic Multilayers (MML2019)
Jun 17-21, 2019
Madrid, Spain
<http://nanociencia.imdea.org/mml2019/>

Magnetics and Optics Research International Symposium (MORIS 2019)
June 23-26, 2019
Prague, Czech Republic
<https://moris2019.org>

Nanomagnetism and Spintronics (Sol-SkyMag 2019)
June 24-28, 2019
San Sebastian Spain
<http://www.solskymag.es>

Gordon Research Conference on Spin Transport and Dynamics in New Geometries, Materials and Nanostructures
July 7-12, 2019
Les Diablerets, Switzerland
<https://www.grc.org/spin-dynamics-in-nanostructures-conference/2019/>

International Conference on Magnetic Fluids
July 8-12, 2019
Paris, France
<https://premc.org/conferences/icmf-magnetic-fluids/>

Magnonics 2019

July 28-August 1, 2019

Carovigno, Italy

<http://magnonics2019.poliba.it/wordpress/>

Joint European Magnetic Symposia (JEMS 2019)

August 26-30, 2019

Uppsala, Sweden

<https://jems2019.se>

7th European Conference on Molecular Magnetism

September 15-18, 2019

Florence, Italy

www.ECMM2019.org

2019 Conference on Magnetism and Magnetic Materials (MMM 2019)

November 4-8, 2019

Las Vegas, NV

<http://www.magnetism.org>

A list of APS and GMAG related conferences can be found on the GMAG website:

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

Additional lists of magnetism-related meetings can be found here:

http://magnetism.eu/TPL_CODE/TPL_AGENDALISTE/6-agenda.htm

<https://www.conference-service.com/conferences/magnetism.html>

<http://obelix.physik.uni-bielefeld.de/~schnack/molmag/conferences.html>