

2019 Joint MMM-Intermag Conference

Washington, DC • January 14-18, 2019 • www.magnetism.org

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CALL FOR PAPERS

Abstract Submission Site Opens: July 6, 2018
Abstract Submission Site Closes: July 27, 2018

The 2019 Joint MMM-Intermag Conference will be held at the Marriott Wardman Park in Washington, DC, from January 14 – 18, 2019. The Joint MMM-Intermag Conferences, convened every three years, are the combination of two annual premiere international conferences on magnetism: the IEEE International Magnetics Conference (Intermag) and the Conference on Magnetism and Magnetic Materials (MMM). Members of the international scientific and engineering communities interested in recent developments in fundamental and applied magnetism are cordially invited to attend the Conference and actively participate in its technical sessions. The Conference provides an opportunity to share your research and interact with a large and broad collection of magnetism researchers, and to learn about the most recent developments in the field. Up-to-date information on all aspects of the Conference can be found at www.magnetism.org. A compilation of this information is provided below. We look forward to seeing you in Washington DC, and to an exciting, enjoyable, and productive Conference.

Suzanne G.E. te Velthuis
General Chair

Laura H. Lewis
Program Co-Chair

Steven J. May
Program Co-Chair

IMPORTANT DATES

| | |
|---|----------------------|
| Invited Speakers and Symposia Nominations Deadline | May 25, 2018 |
| Abstract Submission Site Opens | July 6, 2018 |
| Abstract Submission Site Closes (deadline will be strictly observed) | July 27, 2018 |
| Best Student Oral Presentation Award Application Deadline | July 27, 2018 |
| Author Abstract Status Notification | September 14, 2018 |
| Conference Registration Opens | September 14, 2018 |
| Child Care Grant Application Deadline | October 1, 2018 |
| Student Travel Grant Application Deadline | October 1, 2018 |
| Manuscript Submission Site Opens | October 15, 2018 |
| Manuscript Submission Site Closes | November 5, 2018 |
| Magnetism as Art Showcase Submission Deadline | December 10, 2018 |
| Conference Registration Closes | December 21, 2018 |
| Hotel Reservations Deadline | December 21, 2018 |



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TECHNICAL SUBJECT CATEGORIES: This Conference will include basic and applied science and technology related to the field of magnetism and magnetic materials. The technical subject categories are as follows:

I. Fundamental Properties and Cooperative Phenomena

- a. Critical Phenomena
- b. Highly Frustrated Magnetism and Spin Glasses
- c. Quantum Spin Liquids
- d. Heavy Fermions and f-electron Magnetism
- e. Molecular and Organic Magnets

II. Magnetoelectronic Materials and Phenomena

- a. Multiferroics and Magnetoelectric Phenomena
- b. Complex Oxides
- c. Topological Insulators and Dirac Materials
- d. 2D and Layered van der Waals Materials
- e. Magnetic Semiconductors
- f. Heusler Alloys

III. Soft Magnetic Materials

- a. Ferrites and Garnets
- b. Crystalline Alloys
- c. Amorphous and Nanocrystalline Materials

IV. Hard Magnetic Materials

- a. Rare-Earth Compounds
- b. Intermetallic Alloys
- c. Nanostructured Hard Magnetic Materials
- d. Other Hard Magnetic Materials

V. Structured Materials

- a. Thin Films and Surface Effects
- b. Multi-Layered Films and Superlattices
- c. Patterned Films
- d. Exchange Bias
- e. Nanoparticle and Nanowire Arrays
- f. Individual Nanoparticle and Nanowire Behavior

VI. Materials with Coupled Magnetic Functionality

- a. Magneto-Optical Materials
- b. Magneto-Elastic Materials
- c. Magneto-Caloric Materials
- d. New Coupled Magnetic Phenomena

VII. Spintronics: Fundamentals and Devices

- a. Magnetoresistance and Hall Effect (homogenous materials)
- b. Magnetoresistance in Heterostructures (GMR, TMR, TAMR)
- c. Voltage-Controlled Magnetic Anisotropy and Switching
- d. MRAM, Magnetic Logic, and Related Devices
- e. Spin Injection and Spin Transfer Torques
- f. Spin Currents, Spin Pumping, Spin Hall, and Related Effects
- g. Antiferromagnetic Spintronics
- h. Skyrmionics and Noncollinear Spin Textures
- i. Spins in Graphene, Topological Insulators, and 2D Materials

VIII. Magnetization Dynamics and Micromagnetics

- a. Magnetization Dynamics, Damping, and Ultrafast Switching
- b. Spin Waves
- c. Domain Wall Dynamics and Devices
- d. Micromagnetic and Hysteresis Modeling

IX. Magnetic Recording

- a. Recording Media
- b. Energy-Assisted and Optical Recording
- c. Recording Systems and Modeling

X. Sensors (not Magnetic Recording), High Frequency and Power Devices

- a. Sensors (non-recording)
- b. Microwave and Millimeter Wave Materials and Devices
- c. Power and Control Magnetics
- d. Transformers and Inductors
- e. Shielding and Levitation
- f. Motors: Control and Drives
- g. Motors: Modeling and Simulations
- h. Motors: Applications
- i. Motors: Actuators
- j. New Applications

XI. Magnetic Characterization

- a. Instrumentation and Measurement Techniques

XII. Interdisciplinary and Emerging Topics

- a. Bio-Magnetism and Biomedical Applications
- b. Magnetic Fluids and Separations
- c. Chemical Magnetism, Geomagnetism, and Emerging Topics



@MMMConf

PROGRAM: The program will consist of invited and contributed papers falling broadly within the scope of the categories listed above. There will also be a Tutorial Session on Monday afternoon, a Plenary Session on Wednesday afternoon, and Special Evening Sessions during the week.



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ABSTRACT CRITERIA: To maximize your chances of acceptance, keep in mind the following abstract criteria:

- The abstract must report a substantial advance in the science of magnetism or magnetic materials.
- The advance in knowledge must be both original and significant.
- The work reported must be complete, with specific reference to new results. Lack of sufficient context and details may result in abstract rejection.
- The Program Committee wishes to permit as many groups as possible to present their work. Groups or individuals considering the submission of several related abstracts should, wherever possible, combine them into a single submission.
- The abstract must be written in clear English. If necessary, please have a native English speaker edit your abstract before submission.

ABSTRACT SUBMISSION REQUIREMENTS: Complete details on formatting your abstract and the online submission process may be found at www.magnetism.org under “Authors, Abstract Submission”. Note that all abstracts must be submitted electronically and the presenting author must be a paid registrant at the Conference. The Conference does not provide financial support nor registration fee waivers for any presenters.

Important Deadlines:

- July 6, 2018: Abstract submission site opens.
- **July 27, 2018: Abstract submission site closes.** *This deadline will be strictly observed.*
- September 14, 2018: Authors notified regarding the status of their submission.

INVITED PAPERS: Individual invited presentations and symposia, consisting of up to 5 invited presentations, are an important aspect of the program. Invited speakers will be selected from the nominations received, and will be contacted by Program Co-Chairs at the end of June. The Program Committee may also select certain contributed abstracts on important late-breaking results for upgrade to invited status. Invited talks will be 30 minutes long, followed by a 6-minute discussion period. **Nominations for invited speakers and symposia will be accepted until May 25, 2018 at www.magnetism.org under “Authors, Nominations for Invited Speakers/Symposia”.** We are seeking nominations that represent the most exciting work and diversity of the international magnetism community.

PRESENTATION OF CONTRIBUTED PAPERS: Contributed papers accepted for the Conference will be presented either as oral or poster presentations. Both oral and poster presentations are vital to the success of the Conference and are expected to be of similarly high technical quality.

Oral Contributed Presentations:

- The contributed presentation format is a 10-minute talk by the registered author, followed by a 2-minute discussion period.
- Only LCD projectors will be provided.
- Authors are expected to bring their presentation on their own laptop computer along with a backup copy on a USB drive in case of technical issues.

Poster Presentations:

- Consist of well-prepared visual materials about the work posted on a designated board.
- A registered author must be present to provide details and answer questions during the first and last hour of the selected poster session times.
- Posting a copy of a paper is NOT appropriate and will be treated as a NO SHOW.
- Posters should be formatted in PORTRAIT/VERTICAL format to fit into presentation board dimensions of 116 cm (46 inches) wide by 238 cm (94 inches).
- The Conference provides a small sign designating the ID of the paper to be posted on each board and push pins for displaying the poster on the board.

No Show Policy: If any of the following applies, then the paper will be recorded as a NO SHOW and will not be published.

- Papers that are listed in the program but are NOT presented.
- Papers that are presented by an unregistered author or by a representative.
- Papers that are presented by an unknowledgeable author or representative.

Authors are requested to indicate their preference for oral or poster presentations on the abstract submission site; however, the Program Committee will make the final decision on the assignment of papers to specific sessions and the presentation format (oral or poster). Authors will be notified by email of their presentation format and specific session.



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PUBLICATION: Conference-related manuscripts will be published online in May 2019 in special issues of *AIP Advances* or *IEEE Transactions on Magnetics*. Manuscripts from entire sessions will be assigned to one of these publications by the publication co-chairs. All previously published MMM articles can be viewed at <http://mmm.aip.org>. All accepted papers are identified by presentation IDs. **All *AIP Advances* papers will be open access at no additional cost to the authors.**

Detailed instructions on the preparation of manuscripts for both submission sites will be available on the Conference website on October 15, 2018 for authors whose abstracts are accepted for presentation at the Conference.

- Paper length recommendations are as follows:
 - *AIP Advances*: 6,000 words for invited papers and 3,500 words for contributed papers.
 - *IEEE Transactions on Magnetics*: Contributed papers should not be less than four journal pages; invited papers should not be less than seven pages. Neither should be longer than the IEEE-mandated manuscript length of fifteen pages.
 - The length of the paper should be dictated by good use of journal space.
- All manuscripts must be received by November 5, 2018. This deadline will be strictly observed.
- Post-deadline manuscripts will not be accepted and not forwarded for review.
- Papers must be presented at the Conference by an author registered at the Conference AND knowledgeable about the work in order to be published in *AIP Advances* or *IEEE Transactions on Magnetics*.
- All manuscripts assigned to *AIP Advances* must be submitted through the AIP Publishing online submission site, PeerX-Press (PXP). All manuscripts assigned to the *IEEE Transactions on Magnetics* will be submitted to the IEEE web submission site, ScholarOne-Manuscript Central.
- Instructions for submission and accepted formats will be available at www.magnetism.org.
- Reviewing and revisions will be handled through the online system. Review standards are the same as those used for regular articles submitted to *AIP Advances* and to *IEEE Transactions on Magnetics*. Due to time constraints, a second review may not be possible for resubmitted papers that were originally rejected.

EXHIBITS: An exhibition of related services, equipment, materials, software, and technical journals and books will be held as a part of the 2019 Joint MMM-Intermag Conference. Individuals and organizations interested in purchasing booth space or supporting Conference events should contact Jennifer Fiske, Exhibits Manager, at jennifer@MMMConference.com. The Exhibitor Prospectus is available at www.magnetism.org under “Supporters.”

HOTEL: The 2019 Joint MMM-Intermag Conference has negotiated special discounted rates for Conference attendees at the Marriott Wardman Park Hotel. The special group rate is **\$169 USD/single or double plus tax**. There are a limited number of student rate rooms available for **\$109 USD/single or double plus tax**. Hotel reservation links are available at www.magnetism.org under “Travel Guide, Hotel Information.”

REGISTRATION: Conference registration fees and an online registration link will be available on the Conference website in August 2018. Please note that Conference registration fees do not include any meals.

VISA REQUIREMENTS FOR ENTRY INTO THE USA: Obtaining your visa to enter the USA for the 2019 Joint MMM-Intermag Conference may take 3-6 months for processing of your application and receipt of your visa. **For details that apply specifically to your country, go immediately to the nearest U.S. Consulate or Embassy.** Review your visa status now to determine if you need a U.S. visa or visa renewal and to find out how to schedule an interview appointment, pay fees, and other vital instructions. To request a letter of invitation from the Conference, complete the online form at www.magnetism.org under “Travel Guide, Visa Info.”

All nationals and citizens of **Visa Waiver Program (VWP)** countries who plan to travel to the U.S. for temporary business or pleasure for 90 days or less are required by law to obtain travel authorization prior to travel to the U.S. This authorization can be obtained online through the Electronic System for Travel Authorization (ESTA).

SPECIAL VISA NOTICE: *If you plan to attend the 2019 Joint MMM-Intermag Conference, please make an appointment NOW to apply for your visa to visit the U.S. This application process may take 3–6 months, so we urge you to submit your application as soon as possible. To request a letter of invitation from the Conference, complete the online form at www.magnetism.org under “Travel Guide, Visa Info”.*



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BEST STUDENT PRESENTATION AWARD: This \$1,000 USD one-time fellowship, sponsored by the IEEE Magnetics Society, recognizes and encourages excellence in graduate studies in the field of magnetism. Finalists will receive a \$250 USD one-year fellowship. For additional details on the nature of the award and the selection process go to www.magnetism.org under “Students.”

**Congratulations to the winner and the finalists
at the 2017 MMM Conference:**

2017 APS-GMAG Best Student Presentation Award
Winner: Jiamin Chen, University of Tsukuba (BE-02)
Finalists: Mukund Bapna, Bryan Esser, Hwaider Lin,
and Naveen Sisodia

Eligibility:

- The nominee must be a full-time graduate student expecting to graduate within one year of the Conference. Postdoctoral fellows, undergraduates or non-students are not eligible.
- The student’s area of research may either be theoretical or experimental in any of the general technical and scientific areas normally presented as part of the Conference.
- The student’s regularly submitted abstract must have been accepted for presentation through the normal abstract review process by the Conference Program Committee as an oral presentation, and the student must present the work at the Conference.

Student Award Application Procedure:

1. Students must submit an abstract to the Conference according to the standard submission guidelines and deadlines as outlined on the Conference website. DO NOT identify the abstract as part of the student award competition in the text of the abstract. The Conference **abstract submission deadline is July 27, 2018.**

2. Students must also submit **an extended 2-page abstract of their presentation**, including the already submitted abstract number, **plus a short (300 words or less) explanation of their contribution to the work described and its significance**, by the **submission deadline of July 27, 2018.**
3. Applications MUST be submitted to StudentPresentationAwards@MMMConference.com as PDF attachments. The email containing the student award application must have a subject line that reads “STUDENT AWARD.”

STUDENT TRAVEL GRANTS: The 2019 Joint MMM-Intermag Conference and the IEEE Magnetics Society will both offer travel grants to a limited number of qualified students who wish to attend the Conference. The grants are intended to partially offset travel costs. Applicants may apply for a grant from the Conference **or** the IEEE Magnetics Society **but not both**. The Conference grants will be in the amount of \$750 USD, and the Magnetics Society grants will be in the amount of \$1,000 USD.

The deadline for submitting applications and letters of endorsement is October 1, 2018. For additional details on eligibility requirements and the application process, go to www.magnetism.org under “Students.”

CHILD CARE GRANTS: There are a limited number of child care grants, up to \$400 USD each, for 2019 Joint MMM-Intermag Conference participants who are bringing small children to the meeting or who incur extra expenses in leaving their children at home (i.e., extra daycare or babysitting services). Details about allowable expenses and an application form are available at www.magnetism.org under “Travel Guide”. After acceptance of your presentation, applications for child care support may be submitted to ChildCareSupport@MMMConference.com. **The deadline for submitting applications is October 1, 2018.** Recipients will be notified upon approval of their application in early November 2018.

FUTURE CONFERENCES

21st International Conference on Magnetism (ICM 2018)

July 16-20, 2018, San Francisco, California

2019 Conference on Magnetism and Magnetic Materials

November 4-8, 2019, Las Vegas, Nevada

2020 Intermag Conference

May 4-8, 2020, Montreal, Canada

2020 Conference on Magnetism and Magnetic Materials

November 16-20, 2020, Fort Lauderdale, Florida

2021 Intermag Conference

April 26-30, Lyon, France

2022 Joint MMM-Intermag Conference

January 10-14, 2022, New Orleans, Louisiana

2022 Conference on Magnetism and Magnetic Materials

October 31 - November 4, 2022, Minneapolis, Minnesota

2023 Conference on Magnetism and Magnetic Materials

October 30 - November 3, 2023, Dallas, Texas



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BEST POSTER AWARDS

Eligibility: All posters will be eligible for nomination for this award provided they meet the requirements and guidelines detailed on the Conference website.

- The presentations should consist of well-prepared visual materials about the work, posted on a designated board.
- It is required that an author be registered for the Conference and in attendance to present details and answer questions during the first two hours of the designated session time.

Nature of the Award:

- This award consists of a \$50 USD cash award, a certificate, and a Best Poster ribbon.
- The awards will be given during the last hour of each poster session.
- Winning posters will be prominently displayed through the remainder of the Conference.

Selection Process:

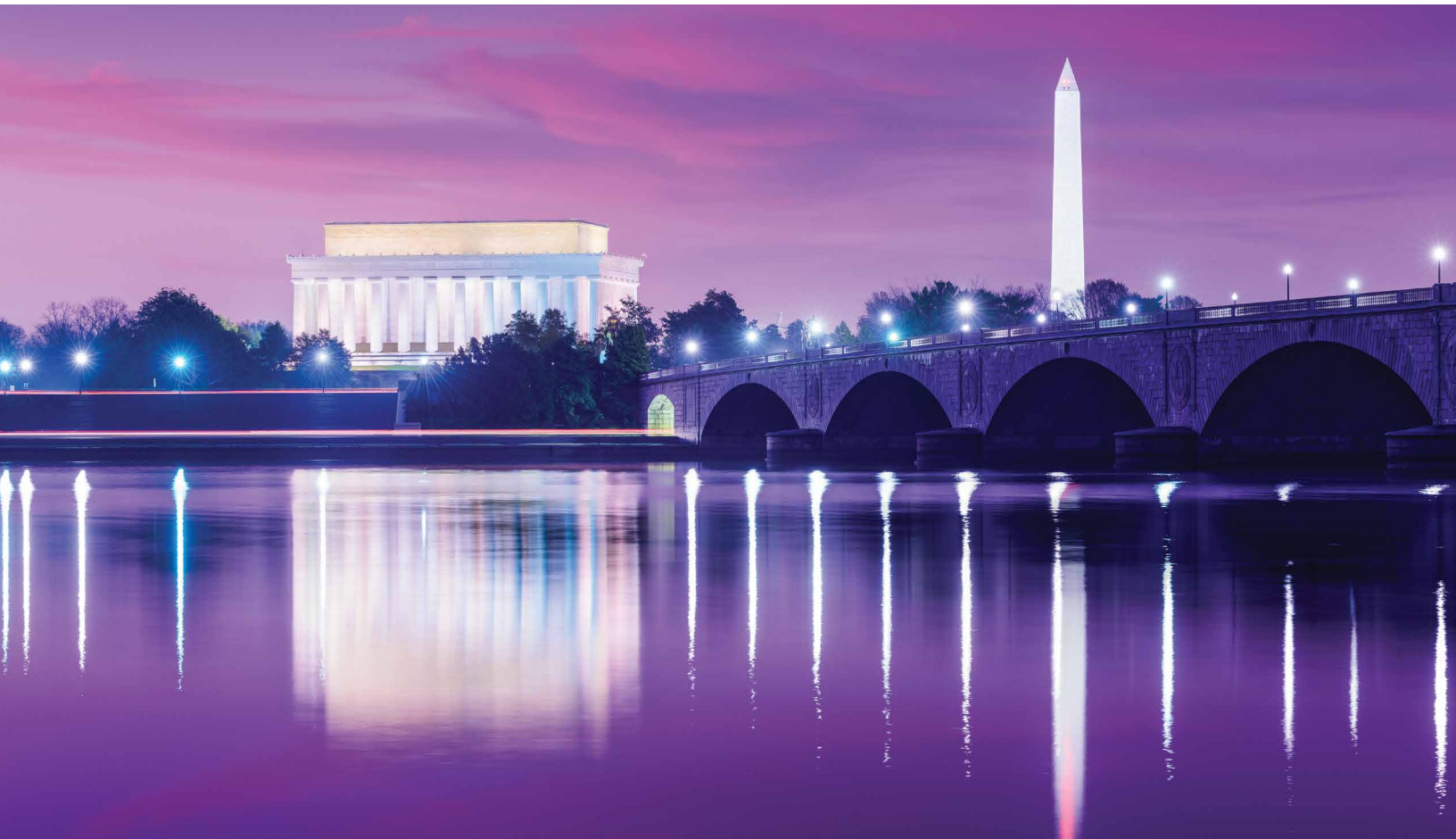
- Selections, made by Poster Session Chairs, will be based on the level of the research, quality of the poster, and clarity of the presentation.

MAGNETISM AS ART SHOWCASE

The 2019 Joint MMM-Intermag Conference will host a Magnetism as Art Showcase to highlight the beauty of magnetism and magnetic materials. Selected submissions will be displayed at the Conference, and all submissions will be posted to the [Conference Facebook page](#). Prizes will be awarded by a panel of judges as well as by popular vote.

Detailed information on the Showcase rules and submission requirements are available at www.magnetism.org under “Info, Magnetism as Art Showcase”. **The submission site will close on December 10, 2018.** A submitter must be a registered attendee at the Conference in order to participate. If a submission is selected for display at the Conference, the submitter will be responsible for printing and transporting the entry to the Conference venue.

ADDITIONAL INFORMATION: To receive additional information about the 2019 Joint MMM-Intermag Conference, to be added to the Conference mailing list, or to update your mailing address, please contact info@MMMConference.com. The latest information on the 2019 Joint MMM-Intermag Conference can be found at www.magnetism.org.



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