



International Union of Pure and Applied Physics

To stimulate and facilitate international cooperation in physics and the worldwide development of science.

C9 Commission on Magnetism - Report September 2024

Officers 2021-2024

Chair: **Kai Liu**, U.S.A. (2014) (2017) (2021)
Vice Chair: **Elisabetta Agostinelli**, Italy (2017) (2021)
Secretary: **Shinji Yuasa**, Japan (2021)

Members 2021-2024

Jianhua Zhao, China (2017) (2021)
Oksana Zaharko, Switzerland (2017) (2021)
Nikolay Mushnikov, Russia (2017) (2021)
Robert Stamps, Canada (2021)
Olivier Fruchart, France (2021)
Michael Farle, Germany (2021)
Anil Prabhakar, India (2021)
Jozef Spalek, Poland (2021)
Maria Luisa Fernandez-Gubieda Ruiz, Spain (2021)
Najeh Thabet Mliki, Tunisia (2021)
Liam O'Brien, UK (2021)

Associate Members

The C9 Commission on Magnetism proposed and received approval from IUPAP EC&CC and General Assembly in July 2022 for the following Associate Members to enhance interactions with major sister magnetism societies:

- IEEE Magnetics Society (MagSoc): The Past President will serve as Associate Member of C9 (usually it's a 2-year term). The 2022 Past President was Pallavi Dhagat (Oregon State University, USA, Female), whose term ended at the end of 2022. Masahiro Yamaguchi (Tohoku Univ. Japan) has been serving in this role for 2023-2024.
- American Physical Society (APS) Topical Group on Magnetism (GMAG): The Chair of GMAG will serve as Associate Member (one year term). The Chair was Marcelo Jaime (Los Alamos National Lab, USA) for 2022-2023, and Clarina Reloj Dela Cruz (Oak Ridge National Lab, USA, Female) for 2023-2024.

- European Magnetism Association (EMA): The President will fill this role. We have a unique situation here. One of our C9 members, Olivier Fruchart (Univ. Grenoble Alpes G-INP/CNRS/CEA, France) was elected President of EMA in August 2022 for a 3-year term. Since EMA will already be fully informed of IUPAP C9 activities through his role on C9, there was no need to appoint another person presently as Associate Member. When Olivier's service on C9 or EMA presidency ends, whichever happens sooner, then C9 will appoint a new Associate Member accordingly.
- Asian Union of Magnetism Societies (AUMS): The AUMS President, Shao-Xiong Zhou (China) filled this role during 2022-2023.

Another request was submitted in July 2024 to IUPAP for the appointment of the following Associate Members:

- Atsufumi Hirohata (as Past President of IEEE-MagSoc) during 2025-2026;
- Cristian Batista (as Chair of APS-GMAG) for 2024-2025, and William Ratcliff (as Chair of APS-GMAG) for 2025-2026;
- Young Keun Kim (as President of AUMS) for 2024-2025.

Future Chair

In April 2023, C9 nominated Dr. Shinji Yuasa as the next chair of the C9 Commission for the 2024-2027 term. Dr. Yuasa has been serving as Secretary of the C9 Commission since 1/2022. In this capacity he has been deeply involved with commission matters.

Conferences

1. Due to the COVID-19 pandemic, the main conference event sponsored by C9, the 2021 International Conference on Magnetism (ICM) in Shanghai, was initially postponed to 2022 and subsequently cancelled.

2. Always associated with the ICM is the satellite conference "International Colloquium on Magnetic Films and Surfaces (ICMFS)". This conference, planned in Okinawa, Japan, was held during July 10-15, 2022 in a hybrid format. The total number of registrants was about 300, out of which 215 people including 66 from overseas attended ICMFS in person. The C9 Commission moved several major ICM events to ICMFS, including:

- the Awards ceremony;
- the two plenary lectures at the award ceremony (winners of the 2021 Magnetism Award and Néel Medal, i.e. Agnès Barthélémy and Nicola Spaldin);
- the four invited lectures by recipients of the IUPAP Young Scientist Prize in the Field of Magnetism: Julia Mundy (2019), Jiadong Zang (2020), Can Onur Avci (2021), and the

2022 Early Career Scientist Prize in Magnetism recipient, Chunhui Du;

- the business meeting of the C9 Commission.

3. 2024 International Conference on Magnetism (ICM2024), Bologna, Italy, June 30-July 5, 2024. The ICM2024 conference welcomed over 2,000 registered participants, and there were 1937 presentations scheduled for the conference. In addition to the technical sessions, the following special events were held: Tutorials, Nobel Lectures, Women in Magnetism, Students in Magnetism, Artificial Intelligence in scientific writing. The proceedings would be published in Journal of Physics: Conference Series, and a Special Issue of the Journal of Magnetism and Magnetic Materials. A selection of papers on a specific topic (Magnetism at interfaces and 2D systems) will appear in a special issue of Advanced Physical Research- Wiley.

The C9 Commission hosted several events there, including:

- The Awards ceremony on July 1, 2024;
- A plenary lecture at the Awards Ceremony (by Winner of the 2024 Magnetism Award and Néel Medal, Masato Sagawa);
- Invited lectures by recipients of the 2023 and 2024 Early Career Scientist Prize in Magnetism, Alannah Hallas and Lucas Caretta;
- Business meeting of the C9 Commission, on July 2, 2024;
- Awards Dinner with recent C9 award winners on July 2, 2024.

4. 25th International Colloquium on Magnetic Films and Surfaces (ICMFS2024). This satellite meeting of ICM2024 was held in Perugia, Italy during July 7-12, 2024.

Conference Sponsorships

The C9 Commission has supported the proposals for several conferences, including the “Trends in Magnetism” series, held in Venice and Rome in 2022 and 2023, respectively. It has also supported the proposal for the 2024 ICM and 2024 ICMFS, both received IUPAP support as Type A and B conference, respectively.

Business Meeting

2022-2023

The C9 Commission on Magnetism held its business meeting during the conference "International Colloquium on Magnetic Films and Surfaces (ICMFS)" on July 13, 2022 in virtual format. The agenda is listed below.

- Introduction (10 min)
- Approval of Minutes from C9 Business Meeting at ICM 2018 (4 min)
- Approval of Agenda (1 min)
- Update from Executive Council and Commission Chair (EC & CC) Meeting (10 min)
 - New Central Office in Trieste
 - Communications
 - Associate members and interactions with other magnetics societies

- Centennial celebration & Special General Assembly
- New budget model
- Other matters
- Conferences (50 min)
 - IUPAP supported Conferences & Workshops (5 min)
 - Report from ICMFS 2022 (Shinji Yuasa, Teruo Ono) (10 min)
 - Report from ICM 2018 (Allan Macdonald, Mark Stiles, Liesl Folks) (10 min)
 - Report from ICM 2024 (Valentin (Alek) Dediu, Ilaria Bergenti) (10 min)
 - Preliminary discussions on future site selection for ICM 2027 (15 min)
- Awards (10 min)
- Other business (5 min)

2024

An in-person C9 business meeting was held during ICM2024 in Bologna, Italy on July 2, 2024, with the following agenda:

- Introduction
- Approval of Minutes from C9 Business Meeting at ICMFS-2022
- Approval of Agenda
- Update from General Assembly and Executive Council and Commission Chair (EC & CC) Meetings (Kai Liu)
 - C9 Members for the next term (2025-2027)
 - Associate Member updates
- Reports on Conferences
 - IUPAP supported Conferences & Workshops
 - Report from ICMFS 2022 (Shinji Yuasa)
 - Report from ICM 2024 (Valentin (Alek) Dediu, Ilaria Bergenti)
 - Future site selection for ICM 2027 (Axel Hoffmann)
- Awards
- Other business

Magnetism Awards

1. The **IUPAP Magnetism Award and Néel Medal** is the highest award bestowed by the C9 Commission on Magnetism. Established in 1991, the IUPAP Magnetism Award is made in recognition of outstanding contributions to fundamental and applied magnetism. It is usually presented every three years at the International Conference on Magnetism (ICM). The Néel Medal is awarded together with the Magnetism Award, since 2003, sponsored by CNRS and Institut Néel. A monetary award of \$6,000 for the winner(s) is generously sponsored by Elsevier. C9 signed an Award Agreement with Elsevier in December 2023 to formalize the sponsorship (see Appendix).

The award committee consists of members of the IUPAP Commission on Magnetism, together with past recipients of the Magnetism Award and Néel Medal. In late 2023 a call for the IUPAP Magnetism Award and Néel Medal was issued. All members of the magnetism community were invited to make nominations.

In 2024, the award committee selected the following winner:

Dr. Masato Sagawa, Daido Steel Co. Ltd, Japan

“For pioneering contributions to the invention and development of rare-earth-iron-boron high-performance permanent magnets”.

2. The **IUPAP Early Career Scientist Prize in the field of Magnetism** is awarded every year to a young scientist for theoretical or experimental work in fields of fundamental or applied magnetism. This award was initially established in 2006 to separately recognize theoretical/computational work and experimental work in magnetism, and awarded every three years at the International Conference on Magnetism (ICM). In 2016 it was converted to an annual competition to recognize a single winner for either theoretical or experimental work in magnetism. In 2021 the IUPAP renamed the Young Scientist Prizes across all commissions to Early Career Scientist Prizes, as the prizes are intended for “young” scientists in terms of their career stage.

The award committee consists of members of the IUPAP Commission on Magnetism, together with past recipients of the Magnetism Award and Néel Medal. All members of the magnetism community were invited to make nominations.

Recipients of the award include:

Dr. Chunhui Du, University of California – San Diego (UCSD), 2022

“For fundamental contributions to the understanding, detection and control of spin dynamics and spin currents in magnetic oxides”.

Dr. Alannah Hallas, University of British Columbia, 2023

“For outstanding contributions to the discovery of magnetic quantum materials through advanced synthesis methods.”

Dr. Lucas Caretta, Brown University, 2024

“For outstanding contributions to the understanding of ultrafast, current-driven magnetic domain wall motion and relativistic magnetization dynamics.”

All awards are listed on the Commission’s website:

<https://iupap.org/who-we-are/internal-organization/commissions/c9-magnetism/c9-awards/>

Appendix: C9 Agreement with Elsevier on Sponsorship for the IUPAP Magnetism Award and Neel Medal

Article 1 Award Agreement

Party A: Elsevier BV (“Elsevier”) with its registered address at Radarweg 29, Amsterdam 1043 NX, the Netherlands.

Party B: IUPAP Commission on Magnetism (C9), with offices at 37th and O Streets, NW, Georgetown University, Washington, DC 20057, USA.

PARTY A would like to act as a sponsor for the IUPAP Magnetism Award and Néel Medal (the “Award”) which is awarded by Party B. Party A wishes to support Party B by paying the sum of USD 6000 (exclusive of taxes) (the “Sponsorship”) in sponsorship of the Award mentioned above (the “Purpose”).

PARTY B agrees to use the Sponsorship for the Purpose mentioned above. Party B will select the Award recipient and Party A will pay the Sponsorship sum directly to the recipient(s) as selected and advised by Party B.

Article 2 Grant of Rights

Party A shall own all rights in and to any materials supplied by Party A in connection with the Award whether print or electronic. Party A grants to Party B the non-exclusive right to use Party A’s trade name, seal and trademarks, as designated by Party A, solely for the purpose of recognition as a sponsor in promotional materials whether print or electronic, or via broadcast media, press releases or any other items related to the Award, subject to Party A’s prior written approval. Party A’s name and role as a sponsor shall be prominently disclosed and displayed in the said promotional materials. Party B shall obtain prior written permission from Party A for any use of Party A’s seals or other trademarks, as well as trade name and description of Party A for any purpose other than the Award and Purpose contemplated in this Agreement. The trade name, seal and other identifying trademarks of Party A will continue to be owned by Party A.

Party B grants to Party A the right to indicate that Party A and Party B are associated in connection with the Purpose. Party B grants Party A the non-exclusive right to use Party B’s trade name, seal, and trademarks and a profile of the Purpose on Party A’s website and in promotional materials whether print or electronic or via broadcast media, press releases or any other items related to the Purpose. Party A may use the name and description of Party B and may also mention its Award or collaboration with Party B in connection with its promotion and advertising of the Purpose. The trade name, seal and other identifying trademarks of Party B will continue to be owned by Party B.

Article 3 Representations & Warranties

Party B represents and warrants that Party B’s acceptance of the Award and performance under this Agreement does not contravene any applicable policies, rules, laws and regulations, including those pertaining to anti-bribery, gifting, conflicts of interests and outside compensation, and that acceptance of the Award will not influence any decisions that Party B might make with respect to awarding business to Party A. For the avoidance of doubt, this offer is void where prohibited by law or Party B’s employer and is not available to any elected or appointed official or employees of any government entity.

Party B represents and warrants that any use of its trade name, seal, and trademarks hereunder will not infringe any copyright, trademark, moral or other right of any third party.

Article 4 Compliance with Laws.

Each party agrees to comply with all applicable laws, ordinances, codes, regulations, standards and judicial and administrative orders (collectively, "Applicable Laws") relating to its duties, obligations and performance under this Agreement and Applicable Laws prohibiting bribery and fostering transparency, including, without limitation the US Foreign Corrupt Practices Act, the UK Bribery Act and the US Physician Payment Sunshine Act and those other laws enforced in the country where

business is being conducted and/or the party's place of business or residency. Each party agrees to engage only in legitimate business and ethical practices in commercial operations and in relation to its dealings with any employee or official of a government agency or any other government owned, operated or controlled entity (including, without limitation, state run universities, hospitals and libraries), or political parties or candidates (jointly "Government Official"). Neither party nor any of its officers, directors, employees or agents shall pay, offer, give, promise or authorize the payment, directly or indirectly, of any monies, gifts or anything of value to any commercial contact or Government Official for the purpose or intent to induce such person to use his/her authority to help the other party or any affiliate of the other party for personal gain (any such act, a "Prohibited Payment"). A Prohibited Payment does not include a payment of reasonable and bona fide expenditures, such as travel or lodging expenses, which are directly related to the promotion, demonstration or explanation of products or services or the execution or performance of a contract provided that such payments are permissible under the Applicable Laws.

Article 5 Indemnity

Party B acknowledges that Party A is only a sponsor of the Award and agrees to hold harmless and indemnify Party A, its affiliates, and their directors, officers, employees and agents (each an "Indemnified Party"), from and against any and all costs, claims, losses, damages, and expenses incurred by an Indemnified Party arising out of or associated with the Award.

Article 6 Relationship

Nothing in this Agreement shall be deemed to create any employer/employee, agency, fiduciary, joint venture or other similar relationship between the parties.

Article 7 Confidentiality

Party A and Party B shall each maintain all of the other party's Confidential Information (as defined herein) in strict confidence, will not disclose any Confidential Information to any third party other than as necessary to perform the obligations set forth in this Agreement, and will protect such information with the same degree of care that such party exercises with its own Confidential Information, but in no event less than a reasonable degree of care. For the purposes of this Agreement, "*Confidential Information*" means any business, financial, operational, customer, vendor and other information disclosed by one party to the other and not generally known by or disclosed to the public or known to the receiving party solely by reason of the negotiation or performance of this Agreement, and shall include, without limitation, the terms of this Agreement.

Article 8 Term

This Agreement shall come into effect on the date of signing of this Agreement and shall automatically renew annually, unless either party gives notice to the other party two (2) months before the expiry of any renewal period of its intention not to further renew the agreement at the expiry of that renewal period.

Article 9 Termination

- (a) Except as otherwise provided in this Agreement, either party may terminate this Agreement prior to the expiration of its Term if the other party fails to perform any of its material obligations hereunder or is in material breach of any of its representations, warranties or covenants contained herein, provided that the non-breaching party has provided written notice of such breach and the breach is not then cured within thirty (30) days.
- (b) Either party may terminate this Agreement upon written notice in the event the other is insolvent, files a petition in bankruptcy, or makes an assignment for the benefit of creditors.
- (c) If the Purpose of the Award is not carried forward by Party B for any reason, or is cancelled before completion, the parties shall not be obligated to any further performance under this Agreement and their rights and obligations granted hereunder shall terminate with effect from the date on which Party



B officially announces that the Purpose will not continue or is cancelled before completion. In such event, Party A shall not be required to make any further payments to Award recipients.


(d) Party A may terminate this Agreement on written notice in the event Party B commits a criminal actor otherwise acts in a manner likely to bring Party A into disrepute. In such event, Party A shall not be required to make any further payments to Award recipients.

(e) Party A expects that Party B will treat Party A's employees and all other stakeholders who work on the Purpose with respect and professionalism. Accordingly, if Party A learns that Party B has engaged in conduct with regards to any employee of Party A or other stakeholders of Party A, in its sole discretion, considers to be bullying, disrespectful, inappropriate or unprofessional (including, but not limited to, by using language or behaving in a way that is discriminatory or abusive), Party A will notify Party B as having engaged in such conduct of the situation. If, in its sole discretion, Party A determines that immediate and sustained improvement is not seen or the behaviour is so egregious that it would be unreasonable to subject any of the Party A's employees or other stakeholders to any further interaction with the Party B, Party A shall be entitled to terminate this Agreement with respect to Party B on written notice. For the purposes of this section "Party A's employees" include employees of Party A's affiliates.

Article 10 ACCEPTED AND AGREED:

Party A: Elsevier BV

Legal Representative

DocuSigned by:

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08 December 2023

Article 11 Signature

Date

Xavier Carette, Associate Publisher, *Journal of Magnetism and Magnetic Materials*

Print Name

Article 12 Party B: IUPAP C9 Commission on Magnetism



Legal Representative

DocuSigned by:

Kai Liu

11 December 2023

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Article 13 Signature

Date

Kai Liu, IUPAP C9 Commission on Magnetism chair

Print Name