IMU News 125: May 2024

A Bimonthly Email Newsletter from the International Mathematical Union
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1. NEWS FROM THE COMMISSION FOR DEVELOPING COUNTRIES (CDC)

The Commission for Developing Countries (CDC) is actively working on improving its funding solutions and is proud to announce the new IMU-Simons Research Fellowship Program for Developing Countries, generously funded by the Simons Foundation. This new grant program supports mathematicians based in developing countries in undertaking collaborative research at mathematical institutions abroad. The CDC strongly encourages mathematicians and students from developing countries to apply to our calls and to contact us for further detail via email. We remind you that the list of countries eligible for our programs can be found here.

Grants to Institutions

- Volunteer Lecturer Program (next deadline September 5, 2024)
- Library Assistance Scheme (no fixed deadline)

Grants for Conferences and Projects

- Conference Support Program (next deadline July 15, 2024, for conferences starting after November 15, 2024)

Grants to Individuals

- Abel Visiting Scholar Program (next deadline August 31, 2024, for research visits between January 1 and April 30, 2025)
- IMU-Simons Research Fellowship Program for Developing Countries (next deadline July 15, 2024, for research visits starting between December 1, 2024, and December 1, 2025)

Graduate Scholarships

- [IMU Breakout Graduate Fellowship Program](#) (the 2024 call is now closed)
- [Graduate Research Assistantships in Developing Countries (GRAID) Program](#) (the 2024 call for applications is now closed)

[Ludovic Rifford](#)
[Secretary for Policy of the CDC](#)

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2. NEWS FROM THE COMMITTEE FOR WOMEN IN MATHEMATICS (CWM)

May 12 – Celebrating Women in Mathematics 2024. In 2024, "May 12 – Celebrating Women in Mathematics" was once again a lively celebration of women in mathematics all over the world, inspiring women, honouring their achievements in mathematics, and encouraging an open, welcoming and inclusive work environment for everybody. As of May 26, 2024, there were more than 180 events registered on the interactive [May 12 website](#) from 47 different countries: Argentina, Australia, Austria, Bangladesh, Barbados, Belgium, Bolivia, Brazil, Burundi, Canada, Chile, China, Colombia, Denmark, Ecuador, Egypt, France, Germany, Ghana, Greece, India, Iran, Ireland, Italy, Mexico, Nepal, Nigeria, Norway, Panama, Papua New Guinea, Peru, Poland, Romania, Russia, Senegal, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Tunisia, Turkey, United Arab Emirates, United Kingdom, United States of America. This does not give the final picture, and the numbers continue to grow, as the May 12 events can take place between May 1 and June 15 and more events are still being registered. This year, arrangements were made with "Les films d'ici" to allow free screenings of two short animated documentaries. Initially, the films existed in French and English only, with no subtitles. A team of volunteers produced subtitles in Arabic, English, Greek, Italian, Persian, Portuguese, Spanish and Turkish for the English version. More than 200 requests for collective or individual screenings of the films have been received, adding to the list of countries and regions celebrating May 12: Algeria, Burkina Faso, Cyprus, Czechia, Israel, Malaysia, Malta, Mongolia, Morocco, Netherland, Puerto Rico, Serbia and Uruguay.

CWM Newsletter Issue 11 – May 2024. The 11th issue of the CWM Newsletter is now available with the following content:

- Interview with CWM member Selma Negzaoui from Tunisia
- News from CWM: Results of the annual CWM Call, May 12 Campaign and more
- Other News and Announcements
- Article "Rare bugs: Gender and subjectivities in the field of mathematical research in Chile", by Andrea Vera-Gajardo

Click [here](#) for the CWM Newsletter Issue 11 and [subscribe to the CWM Newsletter](#).

In person meeting of CWM 2023–2026. The members of CWM will have their first in person meeting on June 3–4, 2024, hosted by the [Abdus Salam International Centre for Theoretical Physics](#) (ICTP) in Trieste,

Italy. We look forward to discussing new ideas for the CWM call 2025, the May 12 Initiative and the third World Meeting for Women in Mathematics, to take place in Philadelphia in 2026.

Carolina Araujo and *Hélène Barcelo*
Chair and Vice-Chair of the IMU Committee for Women in Mathematics

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3. NEWS FROM THE COMMITTEE ON ELECTRONIC INFORMATION AND COMMUNICATION (CEIC)

Citation cartels, extended plagiarism, and predatory journals are recurring problems in all sciences. Earlier this year, the situation in Mathematics has led to the exclusion of the entire field of Mathematics from the Clarivate list of Highly Cited Researchers. While most mathematicians do not care too much about these listings, they are important for funding agencies, university rankings, and also for the external view of mathematics. We recommend the article *Citation cartels help some mathematicians—and their universities—climb the rankings*, published by Michele Catanzaro in Science, vol. 383, no. 6682, 2 February 2024.

As a follow-up, the CEIC is currently collecting the most blatant cases of unethical behavior / offers in math publishing, in order to get a clearer picture of the situation and discuss possible countermeasures of the scientific community. We are dependent on your help here! We all receive many emails with invitations (for a high fee) to speak at irrelevant or purely virtual conferences, or to act as guest editors for special volumes of dubious journals, or to publish in predatory journals. What we are looking for are:

- Cases that go well beyond this, such as the offer to cite a specific (!) list of real articles for a "thank you fee" of for example $10, including a number of desired citations for each article.
- Situations in which external circumstances make ethical behavior almost impossible for those affected, for example: the need to increase one's h-index by a number *N* for tenure within a time limit of a few years.

Please, if you know of such instances, contact me at *ceic.chair@mathunion.org*. We guarantee full anonymity if desired.

Ilka Agricola
CEIC Chair

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4. NEWS FROM THE INTERNATIONAL COMMISSION ON MATHEMATICAL INSTRUCTION (ICMI)

ICMI Study 26 – Advances in Geometry Education. A major ICMI program is the series of ICMI Studies. This set of activities was launched in the mid-80s and has acquired growing importance and influence on the field.   It contributes to a better understanding and resolution of the challenges that face multidisciplinary and culturally diverse research and development in mathematics education.

Each Study focuses on a topic or issue of prominent current interest in mathematics education. Built around an international conference, it is directed towards the preparation of a published volume intended to promote and assist discussion and action at the international, regional or institutional level.

The volume of ICMI Study 25 on Teachers of Mathematics Working and Learning in Collaborative Groups is about to be published open access by Springer. Visit the ICMI Studies Activities page for more details.

The most recent ICMI Study 27 on Mathematics Education and the Socioecological will have its conference in the Philippines in late January 2025. Visit the conference website for further information.

ICMI Study 26 Conference on Advances in Geometry Education took place in April in Reims, France. All information on the conference, including the pre-proceedings is accessible on this webpage. Nearly 80 participants from 27 different countries were divided into 5 thematic working groups, which had five 1h30 sessions to exchange and start the writing process of their part of the final volume.

The plenary activities included 2 conferences:
- "Research on teaching knowledge in geometry: the case of proof in the United States" by Patricio Herbst (University of Michigan)
- "Teaching and learning geometry in early grades with technology" by Nathalie Sinclair (Simon Fraser University)

And two panels:
- "Framing geometric representations and practices in culturally diverse settings", with speakers Zhara Gooya (Iran), Lisnet Mwadzaangati (Malawi), Milton Rosa (Brazil), Natalia Sgreccia (Argentina)
- "Teaching geometry in France", with speakers Isabelle Audra, Mélanie Binet, Bernadette Da Motta, Marie-Paul Foy, Aurélie Marche, Christine Trouillet

The next step is to write the volume that will appear in the New ICMI Study Series published open access by Springer. This Volume should appear in the beginning of 2026.

Jean-Luc Dorier
ICMI Secretary General

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5. AWARD CEREMONY OF THE ABEL PRIZE 2024

His Royal Highness Crown Prince Haakon presented the 2024 Abel Prize to Michel Talagrand (CNRS) in the University Aula in Oslo, on 21 May 2024. This was one of the highlights of the Abel Week, which took place from 20 to 24 May 2024, in Oslo, Norway. The Abel Lectures were delivered by the laureate Michel Talagrand and Sara van de Geer (ETH Zurich), Assaf Naor (Princeton) and Sourav Chatterjee (Stanford).

Readers are invited to visit the Abel Prize homepage, where, among others, photographs of the Abel Week are available. Visit also the Abel Prize YouTube channel for related videos.

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6. SHAW PRIZE IN MATHEMATICAL SCIENCES 2024

The 2024 Shaw Prize in Mathematical Sciences has been awarded to Peter Sarnak, Gopal Prasad Professor, School of Mathematics, Institute for Advanced Study (IAS) and Eugene Higgins Professor of Mathematics, Princeton University, USA, "*for his development of the arithmetic theory of thin groups and the affine sieve, by bringing together number theory, analysis, combinatorics, dynamics, geometry and spectral theory*".

Peter Sarnak was born on 18 December 1953 in Johannesburg, South Africa. He received his Bachelor's degree in Mathematics from the University of Witwatersrand, South Africa, in 1975 and his PhD in Mathematics from Stanford University, USA, in 1980. Prior to his current positions at the IAS and Princeton, Sarnak held appointments at New York University, Stanford University, Princeton University and the IAS. Sarnak has received numerous honours, including the Wolf Prize (2014) and the Sylvester Medal (2019). He is a member of the US National Academy of Sciences and a Fellow of the Royal Society. For further information, see the press release.

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7. SIMONS FOUNDATION

The IMU is saddened to learn of the passing of Jim Simons, co-founder and chair emeritus of the Simons Foundation. The IMU is very grateful for the continuing support received from the Simons Foundation, especially for the IMU's activities in developing countries. Since 2013, the IMU has received very generous funding from the Simons Foundation for several travel research programs, crucial for our colleagues from developing countries, including the current IMU-Simons Research Fellowship Program.

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8. NEWS FROM zbMATH Open AND RECENT DEVELOPMENTS

zbMATH Open (formerly known as Zentralblatt MATH) is the world's most comprehensive and longest-running abstracting and reviewing service in mathematics. Since January 2021, zbMATH Open has been available as an open access service to the whole world at https://zbmath.org.

New Editor-in-Chief. Since January 2024 Christian Bär, Professor at the University of Potsdam, is the new Editor-in-Chief of zbMATH Open. His research focuses on global analysis, differential geometry and applications in mathematical physics.

arXiv preprints in zbMATH Open. Relevant preprints from a specified set of subcategories in the math category posted on arXiv are now displayed in the zbMATH Open interface.

The subcategories are chosen by analyzing how many preprints in them have actually been published within the zbMATH Open scope in the past. If a preprint gets published, it is merged with the published version. The zbMATH Open entry for a merged preprint disappears and the arXiv version will just appear as an additional link. Preprints from arXiv are clearly distinguishable from published work: there is a new database type "arXiv" as well as an additional document-type "arXiv Preprints". Moreover, these preprints are not sent out for reviewing. The arXiv integration ensures the earlier appearance of mathematical work

and therefore the open availability of a significant share of mathematics research in the zbMATH Open database.

zbMATH Open API. zbMATH Open's staff developed Application Programming Interface (API) solutions to facilitate and optimize the open access to mathematical research data. A new zbMATH Open REST API is now available through this page.

Complete integration of swMATH on the zbMATH Open Interface. zbMATH Software Search is based on results of the swMATH Project, conducted by FIZ Karlsruhe and Zuse Institute Berlin (ZIB) as part of Forschungscampus Modal funded by the BMBF. The Software Package Profiles are now displayed in the current zbMATH Open format.

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