

IMU News 119: May 2023

A Bimonthly Email Newsletter from the International Mathematical Union

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CONTENTS

1. News from the Commission for Developing Countries (CDC)
2. News from the Committee for Women in Mathematics (CWM)
3. IYBSSD 24-Hour Online Event around the World
4. News from the International Commission on Mathematical Instruction (ICMI)
5. Award Ceremony of the Abel Prize 2023
6. Wolf Prize in Mathematics 2023
7. Shaw Prize in Mathematical Sciences 2023
8. ICM 2022
9. 2023 Tate Medal
10. Subscribing to IMU News

1. NEWS FROM THE COMMISSION FOR DEVELOPING COUNTRIES (CDC)

The newly elected [Commission for Developing Countries](#) (CDC) is actively working to improve its funding opportunities. It strongly encourages mathematicians and students from developing countries to apply to the calls below and to contact the CDC for further details [via email](#).

Grants to Institutions

- [Volunteer Lecturer Program](#) (next deadline September 1, 2023)
- [Library Assistance Scheme](#) (no fixed deadline)

Grants for Conferences and Projects

- [Conference Support Program](#) (next deadline July 15, 2023, for conferences starting after November 15, 2023)

Grants to Individuals

- [Abel Visiting Scholar Program](#) (next deadline August 31, 2023, for visits between January 1 and April 30, 2024)
- [Individual Travel Support Program](#) (next deadline July 15, 2023, for visits starting between November 1, 2023, and November 1, 2024)

Graduate Scholarships

- [IMU Breakout Graduate Fellowship Program](#) (call for applications 2022/2023 now closed)

- [Graduate Research Assistantships in Developing Countries \(GRAID\) Program](#) (call for applications 2022/2023 now closed)

[Ludovic Rifford](#)

[Secretary for Policy of the CDC](#)

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

CWM Newsletter Issue 9, May 2023. The 9th issue of the CWM Newsletter was released on May 12, 2023, with the following content:

- Interview with the new vice-chair of CWM, H  l  ne Barcelo
- News from CWM: First Meeting of CWM 2023-2026, Marie-Fran  oise Roy's article about CWM and the $(WM)^2$ in the Notices of the AMS
- Other News and Announcements: May 12 Celebration, Wolf Prize, and other Prizes, Honors and Achievements
- Article by Bet  l Tanbay on the Themes of the International Day of Mathematics

[Click here](#) for the CWM Newsletter Issue 9 in PDF. To subscribe to CWM Newsletter, [click here](#).

Third Meeting of Latin American Women in Mathematics. The Meetings of Latin American Women in Mathematics aim to strengthen the Latin American network of women in mathematics. The first edition took place in Mexico in 2016, and the second edition took place in Chile in 2018. The third one will take place in Tunja, Colombia, on June 2-4, 2023, and is supported by CWM.

More information [can be found here](#).

Conference on 100 Years of Noetherian Rings. CWM is happy to advertise the conference "100 Years of Noetherian Rings", on June 19-23, 2023, at the Institute for Advanced Study, Princeton, USA. On the 100th anniversary of the fundamental concept of a Noetherian ring, this conference celebrates Emmy Noether's legacy.

More information [can be found here](#).

[Carolina Araujo and H  l  ne Barcelo](#)

Chair and Vice-Chair of the IMU [Committee for Women in Mathematics](#)

3. IYBSSD 24-HOUR ONLINE EVENT AROUND THE WORLD

On the occasion of the World Environment Day on 5 June 2023, the [International Year of Basic Sciences for Sustainable Development](#) is offering science enthusiasts a 24-hour live online broadcast, to share how scientific results, as well as ways of doing science, already contribute to building a better world for all.

Most talks and discussions will be in English. Some will be in Spanish, Arabic, Portuguese, and other languages.

Some of the questions include: How can we reduce pollution from plastics and electronic waste? What will be the effects of climate change on future plant-herbivore interactions or on extreme weather events? How does biophysics improve human health and agriculture? Why must we develop a more open approach to science? How are big science facilities already transitioning to sustainability? What can basic physics bring to environment research or cultural heritage preservation? What are the most efficient actions to reduce the gender gap in science?

More information is available at the [YBSSD website](#).

[Christiane Rousseau](#)

Chair of the [IDM Governing Board](#)

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

Report on the ICMI Symposium on Mathematics Education and the Socio-Ecological, by Kate Le Roux (University of Cape Town, ZA) and Alf Coles (University of Bristol, UK). What is and might be the role of mathematics and mathematics education in multiple, intersecting, social, political, and ecological issues of climate change, poverty, inequality, health crises, discrimination and marginalization, and totalitarianism? This is the concern that brought together 170 mathematics educators, mathematics teachers, mathematicians, and scientists whose work makes links to the sociopolitical and ecological in an online ICMI Symposium, Mathematics Education and the Socio-Ecological, on 20 March 2023.

We offered two prompts to contributors, by way of symposium aims. Firstly, we wanted to explore the different ways in which a theorization of the socio-ecological influences the focus and methodology of mathematics education research. We wanted to draw on work from diverse traditions, including: critical mathematics education; decoloniality; ethnomathematics; feminist perspectives; Indigenous ways of knowing; mathematical modelling. Secondly, we were interested in the implications of our research across a range of sites: school and university mathematics, in interdisciplinary relations with other subjects; classrooms; teacher education; research practice; community spaces; and policy.

These aims were amply met, by over 50 symposium presentations from 18 countries, including 11 plenary contributions.

Plenary speakers: Willy Alanguí (The Philippines) and Armando Solares-Rojas (Mexico), in discussion with Rochelle Gutiérrez (United States of America).

Plenary panellists: Omar Arellano (Mexico); Elizabeth de Freitas (United States of America); Jodie Hunter (New Zealand); Berinderjeet Kaur (Singapore); Lara Lalemi (United Kingdom); Mariam Makramalla (Egypt); Jeff Murugan (South Africa); Mogens Niss (Denmark).

A striking characteristic to emerge from the symposium contributions is the relational nature of the reported mathematics education research. It involves on-going, interdisciplinary and transdisciplinary relations with other knowledges, practices, languages, and values. It involves on-going collaborative relations between researchers, teachers, students, communities, activist movements, government and non-government institutions, natural scientists and social scientists. It involves moving between context and materiality, and abstraction. A coherent thread is researchers' attention in these relations to notions of power, responsibility, answerability, activism, care, agency, and democracy. At the same time, this work is strengthened by the diversity of theoretical perspectives (and interpretations thereof), being brought to and given meaning in local experiences of mathematics education in the socio-ecological, all of which are manifestations of global sustainability concerns.

Symposium participants stressed the urgency and uncertainty of acting in response to ecosystemic crises and the need to recognize the roles mathematics, and mathematics education, does and could play. The Symposium contributions demonstrated recent generative work and the energy to build on these foundations. There was a strong sense of this Symposium being the start of new conversations, collaborations, and scholarship.

This ICMI symposium was a collaborative initiative – generously enabled by conceptual and logistical support from ICMI – involving Alf Coles, Kate le Roux, Richard Barwell, Marcelo Borba, Anna Chronaki, Lauren Hennessy, Rochelle Gutiérrez, Aldo Parra, Armando Solares, Mariam Makramalla, Milton Rosa, and Jayasree Subramanian.

The program and proceedings of the symposium can be downloaded from [this page](#).

[*Jean-Luc Dorier*](#)
[*ICMI Secretary General*](#)

5. AWARD CEREMONY OF THE ABEL PRIZE 2023

In a [memorable event](#), His Majesty King Harald V of Norway presented the Abel Prize to the 2023 laureate Luis Caffarelli in the University Aula, Oslo, on 23 May 2023. Also took part in the celebration the Chair of the Norwegian Academy of Science and Letters, Lise Øvreås, and the Head of the Abel Committee, Helge Holden. Readers are invited to watch the [beautiful ceremony](#) on the [Abel YouTube channel](#).

6. WOLF PRIZE IN MATHEMATICS 2023

Ingrid Daubechies, Duke University, USA, [has been awarded the 2023 Wolf Prize in Mathematics](#) “for her work in the creation and development of wavelet theory and modern time-frequency analysis. Her discovery of smooth, compactly supported wavelets, and the development of biorthogonal wavelets transformed image and signal processing and filtering. Her work is of tremendous importance in image compression, medical imaging, remote sensing, and digital photography. Daubechies has also made

unparalleled contributions to developing real-world applications of harmonic analysis, introducing sophisticated image-processing techniques to fields ranging from art to evolutionary biology and beyond.”

Daubechies was the President of the IMU from 2011 to 2014. She has received numerous awards, including the ICIAM Pioneer Prize (2007), the Steele Prize for Seminal Contribution to Research (2011), the William Benter Prize in Applied Mathematics (2018), the Fudan-Zhongzhi Science Award (2018), the L'Oréal—UNESCO International Award For Women in Science (2019), and the Princess of Asturias Prize for Technical and Scientific Research (2020). She is a member of the American Academy of Arts and Sciences, the US National Academy of Engineering and the US National Academy of Sciences.

7. SHAW PRIZE IN MATHEMATICAL SCIENCES 2023

The [2023 Shaw Prize in Mathematical Sciences](#) has been awarded to Vladimir Drinfeld, University of Chicago, USA, and Shing-Tung Yau, Tsinghua University, PRC, “for their contributions related to mathematical physics, to arithmetic geometry, to differential geometry and to Kähler geometry.”

Vladimir Drinfeld is currently the Harry Pratt Judson Distinguished Service Professor of Mathematics at the University of Chicago, USA. He was awarded the Fields Medal in 1990 and the Wolf Prize in Mathematics in 2018. He is a member of the US National Academy of Sciences, the American Academy of Arts and Sciences and the Academy of Sciences of Ukraine. Shing-Tung Yau is currently the Director of Yau Mathematical Sciences Center at Tsinghua University, PRC. He was awarded the Fields Medal in 1982 and the Wolf Prize in Mathematics in 2010. He is a member of the Chinese Academy of Sciences, the US National Academy of Sciences and the American Academy of Arts and Sciences. For further information, [see the press release](#).

8. ICM 2022

For an engaging account on the ICM 2022, the first ever virtual ICM, readers are invited to Helge Holden's [background and reflections article](#) (PDF) in the [March issue of the EMS Magazine](#).

9. 2023 TATE MEDAL

Mathematical Physicist and [IMU CDC](#) Member Mahouton Norbert Hounkonnou has been selected as the winner of the [2023 Tate Medal for International Leadership in Physics](#) by the American Institute of Physics (AIP), “for his efforts to build and maintain an enduring transnational African mathematical physics research and education community.”

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