IMU News 120: July 2023

A Bimonthly Email Newsletter from the International Mathematical Union
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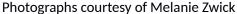
1. EDITORIAL: NEWS FROM THE ARCHIVE

In June I had the pleasure of visiting the IMU Archive in Berlin and spending time with the archivist, Birgit Seeliger, who guided me around. Birgit is currently in the process of cataloguing the many hundreds of items in the collection which relate to the history and the day-to-day business of the IMU since its original foundation in 1920. This includes material relating to the General Assemblies, the joint commissions (such as ICMI), and the various IMU committees, as well as documentation and correspondence relating to the ICMs. The Archive also contains collections of photographs and of ICM memorabilia. When the cataloguing is complete, the plan is to make it available on the IMU website together with digitised copies of items of special interest.

One of the highlights of my visit was the arrival of a lapel pin made for the 1928 Bologna ICM. It had been donated to the archive by Melanie Zwick who had found it amongst her late grandmother's possessions.

Photographs courtesy of Melanie Zwick

Since Ms Zwick had no idea how her grandmother had acquired the pin and was not aware of any mathematicians in the family, she also provided a family tree in case anyone at the Archive could identify a mathematician in it. However, despite scouring the [Bologna ICM Proceedings](#) and extensive Googling, we drew a blank. Perhaps the pin was a gift to her grandmother from someone outside the family or perhaps her grandmother had found it in a flea market!

The medal was designed by the Bolognese sculptor and medallist Alfonso Borghesani (several of whose works are in university buildings in Bologna). The obverse shows the seated figure of Libertas—the name is inscribed on her shield—with a lion at her feet, symbolising the city of Bologna (both Libertas and a lion feature on the city's coat of arms). To the left is a tower representing one of the city's famous Two Towers. The reverse is inscribed:

<div align="center">

CONGRESSO
INTERNAZIONALE
DEI MATEMATICI
BOLOGNA MCMXXVIII
ANNO VI

</div>

The 'ANNO VI' (which also appears in the Congress Proceedings as "(VI)"), refers to Year 6 of the Era Fascista (not, as is sometimes assumed, to the number of the Congress). Originally 1100 medals were cast but due to the increase in the number of participants during the Congress, a further 300 had to be ordered. This information is revealed in an article on the Congress in the Bolletino di Matematica in which an image of the pin is also reproduced.[1] I am very grateful to Erika Luciano of the University of Turin for drawing this article to my attention.

Bologna was not the only ICM to hand out something for delegates to wear on their lapels. Whether anything similar had been created for an ICM before Bologna is not known, but lapel badges certainly featured in the ICM in Oslo in 1936. An attendee at the Congress, G. Waldo Dunnington, an American professor of German known for his writings on Gauss, reported that: "Delegates to the Congress wore a badge in the form of an integral sign, which entitled them to ride free on the street cars and busses [*sic*] in Oslo and vicinity."[2] It seems that the organisers had chosen the integral sign as a logo for the Congress since it also appears on the title page of the [Proceedings](#). No example of the Oslo badge has yet come to light, but it lives on in the title of the recent book on the Oslo Congress by Christopher Hollings and Reinhard Siegmund-Schultze who take their title from Dunnington's article.[3]

The IMU Archive is always looking to add to their collection of documents and memorabilia associated with the history of the IMU and the history of the ICMs. Particularly welcome would be information concerning the 1912 ICM in Cambridge (UK) and the 1970 ICM in Nice, since the Archive contains little documentation on either of these two Congresses.

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[1] Conti, A., 1928. Il Congresso Internazionale matematico di Bologna, *Bolletino di Matematica* XXIV (4), pp. 142–160 (p. 158).

[2] Dunnington, G. W., 1936. Oslo under the Integral Sign, *National Mathematical Magazine* 11 (3), 85–94, p. 93.

[3] Hollings, C., Siegmund-Schultze, R., 2020. *Meeting Under the Integral Sign? The Oslo Congress of Mathematicians on the Eve of the Second World War*, The American Mathematical Society. Providence.

If you know of any item which you think might be of interest to the IMU Archive, please don't hesitate to get in touch with Birgit Seeliger and/or with me.

June Barrow-Green
Curator of the IMU Archive

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

The 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. We especially wish to draw the attention of our colleagues to the new format of the Volunteer Lecturer Program which allows now shorter courses devoted to Master students, PhD students and researchers.

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 October 1, 2023, for conferences starting after February 1, 2024)

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 October 1, 2023, for visits starting between January 15, 2024, and January 15, 2025)

Graduate Scholarships

- IMU Breakout Graduate Fellowship Program (call for applications 2023 now closed)
- Graduate Research Assistantships in Developing Countries (GRAID) Program (call for applications 2023 now closed)

Ludovic Rifford
Secretary for Policy of the CDC

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

Women in Sage—Uganda, September 4–8, 2023. Since 2007, more than 100 Sage Days have been organized around the world. During these days, participants discover the SageMath software, develop their programming skills and contribute to the development of the software. Women in Sage Days have already been organized in seven different countries. The upcoming Women in Sage—Uganda will take place at Makerere University, Uganda, September 4–8, and is supported by CWM.

For more information, visit the Women in Sage—Uganda webpage.

Professor Caroline Series awarded a CBE for her services to mathematics. CWM congratulates its former vice-chair, Professor Caroline Series, for being awarded a CBE for her services to mathematics. Professor Series was the third female president of the London Mathematical Society (LMS), holding the post from 2017 to 2019. She was also a founding member of European Women in Mathematics, and was CWM's first vice-chair from 2015 to 2017.

Visit this LMS page for more information.

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

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

ICME-16. ICMI President, Fredrick Leung, Secretary-General Jean-Luc Dorier, Vice-President Merrilyn Goos and Administrative Manager Lena Koch recently completed site visits to cities bidding to host ICME-16 in 2028.

They prepared a report for the face-to-face EC meeting in February 2023, where a first discussion was held on the choice of the site for ICME-16. The final decision was taken during an online EC meeting in April. Thank you to both our Czech and Thai mathematics education colleagues and the wide range of their collaborators in Bangkok and Prague for their excellent bids. The EC's decision process was not easy given the high quality of both bids, but the EC decided that ICME-16 will be held in Prague, Czech Republic, in July 2028.

We are confident that we have made a good decision and we look forward to the introduction to ICME-16 in the closing ceremony of ICME-15 in Sydney in July 2024.

ICME-15 Progress update. Please access the ICME-15 website regularly and explore the updates.

The Topic Study Group (TSG) Description Papers were recently published on the Congress website, and the TSG Submission Portal is now open. Every delegate who attends ICME-15 can participate in, and make a submission to, two TSGs–one from Strand A, and one from Strand B. Explore the TSG Description Papers, and access the TSG Submission Portal, via the Congress website.

Several National Presentations were also recently announced via the website, with planning for several more on the way. Israel, Kenya, and the Realm of Aotearoa/New Zealand, including Niue and the Cook Islands, will be making National Presentations at ICME-15. The soon-to-be-published Second Announcement will provide you with all the information you need to plan your trip to ICME-15 next year, but if you have any questions, contact the Congress Secretariat via email.

News about ICMI Studies. Here are some updates on the ICMI Studies.

24th ICMI Study on "School Mathematics Curriculum Reforms: Challenges, Changes and Opportunities". The Study Volume has finally been published open access. Visit the volume's website here.

25th ICMI Study Volume on "Teachers of Mathematics Working and Learning in Collaborative Groups" should be published in the end of 2023.

26th ICMI Study on Advances in Geometry Education has been launched. The co-chairs are Angel Gutiérrez, University of Valencia, Spain, and Thomas Lowrie, University of Canberra, Australia. The first meeting of the International Program Committee (IPC) took place in Valencia at the end of February 2023. The *Discussion Document* (DD), which details the study and is a call for contributions, is accessible on the ICMI website and on the website of the study. The Study conference will be held in Reims (France), on April 23-26, 2024. The deadline for submitting an 8-page paper is September 15, 2023.

27th ICMI Study on "Mathematics Education and the Socio-Ecological" has been decided by the Executive Committee during its meeting on April 28, 2023. The two co-chairs have been appointed: Kate Le Roux (University of Cape Town, South Africa) and Alf Coles (university of Bristol, UK). The International Program Committee (IPC) will be nominated soon. Its first role will be to produce a Discussion Document that should be made public at the end of 2023 or early in 2024.

ICMI Awards. After consulting Alan Schoenfeld, chair of the Felix Klein and Hans Freudenthal Awards committee and Helen Forgasz, chair of the Emma Castelnuovo Award committee, the ICMI EC has made some decisions about the process of announcing winners of these awards. After a discussion in the EC meeting in February, it was decided that from now on the names of the recipients of the three awards, which are given every four years, will remain secret until presentation of the official medals at the opening ceremony of the following International Congress on Mathematical Education (ICME). This will be effective immediately and therefore the three winners of the 2024 ICMI Awards will be announced on July 7, 2024, in Sydney at the ICME-15 opening ceremony.

ICMI AMOR Updates. Latest news: Yves Chevallard's last Module and Ubiratan D'Ambrosio's module 0 are now accessible.

We remind you that the ICMI AMOR project aims at building online resources reflecting highly significant and influential research in mathematics education at an international level, which can serve as a reference not only for researchers in the field, but also for educators, teachers, curriculum developers and policy makers and other agents in the field. In order to build our resources ICMI has decided to focus on each Felix Klein, Hans Freudenthal and Emma Castelnuovo ICMI Awardee, through what we have called the Awardees Multimedia Online Resources Project (ICMI AMOR).

Each Awardee is represented in a unit consisting of a series of 8 to 12 modules comprising videos of 10 to 30 minutes up to a total of 120–180 minutes of video material.

So far 3 units are complete: Michèle Artigue's, Yves Chevallard's (the last module has been posted very recently) and Anna Sfard's. Guy Brousseau's and Celia Hoyles' units are already quite advanced and, thanks to the work of Milton Rosa and Daniel Clark Orey, Ubiratan D'Ambrosio's unit has now been launched.

You are welcome to visit the [AMOR website](#) and send your comments [via email](#).

Jean-Luc Dorier
ICMI Secretary General

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5. NEWS OF THE INTERNATIONAL DAY OF MATHEMATICS (IDM)

The 2024 IDM theme. The 2024 theme for the International Day of Mathematics (IDM 2024) is *Playing with Maths*. Countries are invited to adapt the spelling to their local tradition, for instance, *Playing with Math*. Depending of the language, the word "play" not only represents the action of playing a game but often conveys the meaning of fun, enjoyment and exploration in the realm of mathematics.

Here are some translations:

- Arabic: إلعب بواسطة الرياضيات
- Chinese Simplified: 游于数
- Chinese Traditional: 遊於數
- French: *Jouons avec les maths*
- German: *Spiele mit Mathematik*
- Korean: 수학이랑 놀자
- Portuguese: *Brincando com a matemática*
- Spanish: *Jugando con las matemáticas*
- Turkish: *Oyunla Matematik*

Highlights of IDM 2023. It is still possible to relive some of 2023 highlights on the IDM website:

- Explore the [gallery of comics](#) of the 2023 challenge or browse through them through the map.
- Watch the [Global Online Celebration](#) including the talks given by the 2022 Fields medallists and photos and reports from IDM celebrations from all over the world.

IDM Newsletter. If you have not yet done so, [register to the IDM Newsletter](#) on the [IDM website](#) to receive all announcements.

Christiane Rousseau
Chair of the [IDM Governing Board](#)

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6. ABEL PRIZE CELEBRATIONS 2023

The Abel Lectures of 2023 are now available on YouTube. The lectures, celebrating the 2023 Abel Prize Laureate Luis A. Caffarelli, were given by Alessio Figalli, _From elastic membranes to ice melting_, Sylvia Serfaty, _From diffusions to fluid equations: the question of regularity_, and Luis Silvestre, _Fully nonlinear elliptic equations and applications_. Also available are the short speeches entitled _Advice to Young Mathematicians_. Visit the Abel YouTube Channel for all of this.

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7. WOLF PRIZE AWARD CEREMONY 2023

Ingrid Daubechies, from Duke University, USA, and President of the IMU from 2011 to 2014, was awarded the 2023 Wolf Prize in Mathematics "for work in wavelet theory and applied harmonic analysis". The award ceremony, which took place on 15 June 2023 at the Knesset (Israel's Parliament), in Jerusalem, was streamed live on YouTube, and a recording is now available on the Wolf Foundation YouTube Channel.

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8. KYOTO PRIZE 2023

Elliott H. Lieb, Princeton's Eugene Higgins Professor of Physics, Emeritus, and Professor of Mathematical Physics, Emeritus, has been awarded the 2023 Kyoto Prize, for "Pioneering Mathematical Research in Physics, Chemistry, and Quantum Information Science Based on Many-Body Physics".

Lieb has been awarded numerous prizes in mathematics and physics, including the Carl Friedrich Gauss Prize in 2022, for his "deep mathematical contributions of exceptional breadth which have shaped the fields of quantum mechanics, statistical mechanics, computational chemistry, and quantum information theory". Also in 2022, Lieb was awarded the Medal for Exceptional Achievement in Research from the American Physical Society for "major contributions to theoretical physics through obtaining exact solutions to important physical problems, which have impacted condensed matter physics, quantum information, statistical mechanics, and atomic physics".

Lieb is a member of the U.S. National Academy of Sciences and a Foreign Member of the Royal Society.

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