

IMU-Net 98: November 2019

A Bimonthly Email Newsletter from the International Mathematical Union

Editor: Martin Raussen, Aalborg University, Denmark

CONTENTS

1. Editorial: New institutes in Australia
2. UNESCO proclaims March 14 as International Day of Mathematics
3. News from the CWM
4. News from the CDC
5. Inside the IMU
6. Heidelberg Laureate Forum: Call for Applications
7. Gruber Cosmology Prize: Call for Nominations
8. Subscribing to IMU-Net

1. EDITORIAL: NEW INSTITUTES IN AUSTRALIA

I am delighted to take this opportunity to inform our international colleagues about some exciting recent developments in Australian mathematics.

Australia has long enjoyed a reputation for producing more than its share of great mathematicians, but the research infrastructure within the country has not always matched these individual talents. In particular, there has been a long-standing lack of research institutes in Australia fulfilling a similar function to well-known international institutes like the MSRI, Isaac Newton Institute, MPI, RIMS, Fields Institute, IMPA, etc. Over the last decade, both the Australian Mathematical Sciences Institute (AMSI) and the Australian Academy of Science have stressed the importance for Australian mathematics of addressing this lack of research infrastructure.

Two recently established research institutes aim, in complementary ways, to connect Australia with the international mathematical circuit. The first, MATRIX, was established in 2015 and is a joint partnership between The University of Melbourne and Monash University (with other university partners likely to follow), with support from the Australian Research Council Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS). It offers a dedicated venue in Creswick in regional Victoria, about an hour's drive from Melbourne, where Australian and international researchers (and some kangaroos!) can come together for focused invitation-only workshops and other research-intensive activities. The closest international comparison would be with an institute such as Oberwolfach, and the eventual goal is to have a similarly full schedule of programs throughout the year. The deadlines for proposals for programs to be hosted at MATRIX are in May and November each year. Prospective organisers can find full guidelines and the application form at the website <https://www.matrix-inst.org.au>.

Most recently, the Sydney Mathematical Research Institute opened in May 2019 in the historic main quadrangle of the University of Sydney, supported by generous philanthropic funding. SMRI aims to provide a hub for visiting international researchers, where they can have time and space to think within a stimulating mathematical environment, and from which they can travel to other Australian universities to collaborate on research projects or to attend conferences and workshops (including those at MATRIX). Our main model has been the Max Planck Institute for Mathematics in Bonn. The

SMRI International Visitor Program provides funding for travel and local costs of researchers who wish to make such a visit to Australia. Currently we can fund 30-40 visitors per year, with each visitor spending on average two months in Australia. The application deadlines for prospective visitors are in January and July each year. Full terms and conditions, and the application form, can be found at the website <https://sydney.edu.au/smri>.

The Australian Mathematical Sciences Institute will continue to offer its research and higher education programs at locations across Australia, supported by an Australian Government grant and its members. For details see <https://amsi.org.au/>.

With these new institutes established and seeking to grow, there are increasing opportunities for mathematicians from around the world to visit Australia for research.

We look forward to welcoming you in Australia some time soon!

Geordie Williamson (University of Sydney and Sydney Mathematical Research Institute)

2. UNESCO PROCLAIMS MARCH 14 AS INTERNATIONAL DAY OF MATHEMATICS

The 40-th General Conference of the UNESCO has adopted the proclamation of March 14 as the International Day of Mathematics (IDM) on November 25, 2019; the official launch and first celebration will take place in 2020. Considering that March 14 2020 is a Saturday, the official launch at the UNESCO Headquarters in Paris will take place on Friday March 13, 2020. A simultaneous launch will be held at the Next Einstein Forum (March 10-13 2020) in Nairobi, Kenya, on March 13, 2020.

A map of worldwide events and gatherings is online at <https://www.idm314.org/>. At this stage, it only contains pre-announcements of events and details about celebrations will appear later. You are invited to pre-announce your celebrations either directly on the website or by filling the form <https://docs.google.com/forms/d/e/1FAIpQLSch0M-3WcSPQgsj4lLyt9cTHn9uQT85dfvmGSRwjaBq9N00Pg/viewform>.

The theme of the 2020 IDM is "**Mathematics is everywhere**".

On the media page of the IDM webpage (to be online very soon) you will find:

- The logo in different languages
- Invitations to celebrate in different languages
- Instructions on how to organize an event

You are invited to subscribe to the IDM Newsletter on the [IDM website](#). Please circulate the information to all people or organizations that could be interested in the IDM and invite them to subscribe to the IDM Newsletter. For this purpose you can use the invitations to celebrate that can be found in different languages on the media page.

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

CWM Funding Call for 2020

CWM invites proposals for funding of up to €3000 for activities or initiatives taking place in 2020, with deadline 15 January, 2020. Applications should be sent to

applications-for-cwm@mathunion.org and aimed at either:

- Establishing or supporting networks for women in mathematics preferably at the continental or regional level,
- Organizing a mathematical school open to all with all women speakers and mainly women organizers,
- Organizing research workshops geared towards establishing research networks for women by fostering research collaborations during the event,
- Other ideas for researching and/or addressing issues encountered by women in mathematics.

Note that:

- There will be only one call for applications regarding activities in 2020,
- Priority will be given to events taking place in developing or emerging countries,
- Funding for individual research projects is not available.

For further details, please check the CWM web page at

<https://www.mathunion.org/fileadmin/CWM/Initiatives/CWMCall2020.pdf>

CWM Newsletter Issue 2

The CWM newsletter can be found at

<https://www.mathunion.org/fileadmin/CWM/Initiatives/CWMNewsletter2.pdf>

The newsletter starts by an interview with one of CWM's members, Petra Bonfert-Taylor. Petra is responsible for managing the CWM web page. Petra tells us about her personal journey as a woman in mathematics and her various experiences in mathematics research and education. We hope that you find this interview as interesting as we did. It continues with "News from CWM" and "Other News and Announcements". The last pieces of this issue are two articles about the Gender Gap in Science project. The first article by Marina Menga reviews the final meeting of the Gender Gap in Science project that took place in ICTP, Trieste. The second article by Merrilyn Goos focuses on the good practices database of the Gender Gap in Science project.

We invite your feedback and suggestions about the Newsletter. Hope you enjoy reading it! Please distribute it in your country and your scientific network.

CWM Meeting

The last CWM meeting took place on November 9-10 at ICTP, Trieste. It was the first face-to-face meeting of the CWM members for the period 2019-2022. Eight members of CWM (M-F. Roy, C. Araujo, P. Bonfert-Taylor, T. Ezome, J. Kagunda, M. Kotani, N. Nataraj, E. Ozman) along with IMU president Carlos Kenig and Julia Pevtsova, member of the Local Organizing Committee of ICM 2022, physically attended the meeting. The last two CWM members, C. Praeger and A. Adem, could not attend but had prepared actively for the meeting. The agenda of the meeting featured presentation of CWM members, including activities for women in mathematics in which they have been involved, summary of CWM activities that took place in the last years, plans for future CWM activities until

and during ICM2022 including the second World Meeting for Women in Mathematics and discussions about the Gender Gap in Science project. An electronic CWM meeting will take place during October 2020.

4. NEWS FROM THE CDC

Revision of the IMU definition of Developing Countries

This October, the IMU Executive Committee endorsed the proposal made by the Commission for Developing Countries ([CDC](#)) regarding the definition of Developing Countries to be used by IMU during the next 4-year period. The list consists of all the countries classified by the World Bank (WB) in the categories: *Low income* (<USD 1.025), *Lower middle income* (USD 1.026 – 3.995), and *Upper middle income* (USD 3.996 – 12.375) in accordance with the WB Database by July 2019. These are all countries with Gross National Income (GNI) per capita in USD, not exceeding USD 12.375, with the WB data of 2018. See <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>.

As in the previous term, the following subdivision in priority groups has been established, for different purposes:

- Priority 1 (WB *Low income*) - GNI per capita in USD below 1.025
- Priority 2 (WB *Lower middle income*) - GNI per capita in USD 1.026 – 3.995
- Priority 3 (WB *Upper middle income, A*) - GNI per capita in USD 3.996 – 6.785
- Priority 4 (WB *Upper middle income, B*) - GNI per capita in USD 6.786 – 9.575
- Priority 5 (WB *Upper middle income, C*) - GNI per capita in USD 9.576 – 12.375

The list of Developing Countries with indication of their priority classification can be found in <https://www.mathunion.org/cdc/about-cdc/definition-developing-countries>.

At any moment, IMU member countries can ask the IMU to consider inclusion/exclusion as a Developing Country. The application should be motivated and, based on the evidences presented by the country, CDC would make a recommendation to EC for a case-by-case decision. If a country's World Bank status as a Developing Country has changed between the data used to decide on developing countries and the time of the request, this information should be included as part of the evidence.

New call of the IMU-CDC Graduate Assistantships in Developing Countries Program (GRAID)

The Program provides modest support for emerging research groups, working in a developing country listed in Priority 1 or 2 of the IMU [Definition](#), making it possible for them to fund their most talented students to study full-time and pursue a Master or PhD graduate degree in mathematics.

We invite applications from teams consisting of a Principal Investigator plus his or her research group and an International Partner by **March 15, 2020**.

The Principal Investigator should be a university professor in mathematics holding a PhD, working at a university or research centre in a developing country listed in Priority 1 or 2 of the IMU Definition, who is already training mathematics Master's or PhD students and who is part of a research group.

The International Partner should be a mathematician working at a university or research centre not based in any of the countries listed in Priority 1 or 2 of the IMU Definition. At the time of application, there should be an active and ongoing collaboration between the International Partner and the Principal Investigator.

This program is managed by the GRAID Subcommittee and the [American Mathematical Society](#).

For more information please visit <https://www.mathunion.org/cdc/scholarshipsgraduate-scholarships/graduate-assistantships-developing-countries> .

Call for Donations to the GRAID Program

Funding for GRAID is provided by voluntary donations from mathematicians or mathematical institutions worldwide. IMU-CDC acknowledges and encourages donations to GRAID that can be made via the Friends of IMU website <http://friends-imu.org/donate/#graid> .

Mentoring African Research in Mathematics (MARM)

The [London Mathematical Society](#), in association with [the African Mathematics Millennium Science Initiative](#), has opened the sixth round of the MARM program, partly funded by the IMU CDC. The call for prospective mentors will be open until 20th December 2019. Four mentoring partnerships are to be awarded by the MARM Board. See full details and download an application form at <https://www.lms.ac.uk/news-entry/08112019-1550/marm-partnership-grants-call-prospective-mentors>.

5. INSIDE THE IMU

On the history of the IMU and the ICM – freely available books

Three books deal with the history of the International Mathematical Union and the International Congress of Mathematicians:

Donald J. Albers, Gerald L. Alexanderson, and Constance Reid wrote the first one: "An Illustrated History 1893-1986". The book gives a two-page account of each congress and its highlights, from the pioneering meeting in Chicago in 1893 to the Berkeley ICM in 1986. The book was published in 1987 and it is electronically available in the IMU webpage for free by kind permission of Springer Verlag.

Olli Lehto, former Secretary of the IMU, authored the second one, "Mathematics without borders, a history of the International Mathematical Union", after he reorganized the IMU Archives. The book gives a detailed account of the historical course of the Union, and it is warmly recommended to those interested in the history of IMU. The book was published in 1998, and it is electronically available in the IMU webpage for free by kind permission of Springer Verlag.

The third book is "Mathematicians of the World, Unite! The International Congress of Mathematicians — A Human Endeavor", written by Guillermo P. Curbera. The book has its origin in an exhibition on the ICM organized at the Madrid 2006 ICM. The narrative of the exhibition as well as its collection of 400 illustrations constitute the core of the book. The book was published by AK

Peters in 2009. It has very recently been made electronically available for free by kind permission of Taylor & Francis.

All three books can be found on the webpage <https://www.mathunion.org/organization/imu-history>.

6. HEIDELBERG LAUREATE FORUM: CALL FOR APPLICATIONS

The Heidelberg Laureate Forum ([HLF](#)) annually connects promising young researchers in mathematics and computer science with the top scientists in their fields. The 8th HLF will take place in the week September 20-25, 2020. The Heidelberg Laureate Forum Foundation (HLFF) invites the recipients of the Abel Prize, the ACM A.M. Turing Award, the ACM Prize in Computing, the Fields Medal, and the Nevanlinna Prize to join 200 carefully selected young researchers. The HLF's focus is to provide an informal atmosphere where the most accomplished minds of mathematics and computer science thoroughly interact with the brightest minds of the next generation.

The application period for the 8th HLF runs from November 14, 2019, until February 14, 2020. Young researchers at all phases of their careers (undergraduate/pre-master, graduate PhD or postdoc) are encouraged to complete and submit their applications by **February 14, 2020** (midnight at the dateline) via the following link: <http://application.heidelberg-laureate-forum.org>.

7. GRUBER COSMOLOGY PRIZE: CALL FOR NOMINATIONS

The [Gruber Cosmology Prize](#) honors a leading cosmologist, astronomer, astrophysicist or scientific philosopher for theoretical, analytical, conceptual or observational discoveries leading to fundamental advances in our understanding of the universe.

The [Gruber Foundation](#) invites nominations on behalf of individuals whose achievements in Cosmology, Genetics, or Neuroscience would make them suitable candidates for recognition through the **2020 Gruber International Prize Program**. Each prize, which is accompanied by a \$500,000 unrestricted monetary award, is designed both to recognize groundbreaking work in each field and to inspire additional efforts that effect fundamental shifts in knowledge and culture. Recipients are selected by a [committee](#) of distinguished experts in each field. IMU nominates a member of the Cosmology Selection Advisory Board. We encourage nominations that reflect the breadth of the fields and the diversity of those working within them.

Nomination forms should be completed and submitted online. Please go to <http://gruber.yale.edu/prize-nominations> for complete details and access to forms.

Further information on the Foundation and the individual Prizes is available at www.gruber.yale.edu.

The deadline for nominations is **December 15, 2019**.

8. SUBSCRIBING TO IMU-NET

There are two ways of subscribing to IMU-Net:

1. Click on <http://www.mathunion.org/organization/IMU-Net> with a Web browser and go to the "Subscribe" button (at the bottom) to subscribe to IMU-Net online.
2. Send an e-mail to imu-net-request@mathunion.org with the Subject-line:
Subject: subscribe

In both cases, you will receive an e-mail to confirm your subscription so that misuse will be minimized. IMU will not use the list of IMU-Net emails for any purpose other than sending IMU-Net, and will not make it available to others.

IMU-Net is the electronic newsletter of the International Mathematical Union.
More details about IMU-Net can be found at <http://www.mathunion.org/organization/imu-net/>.
You can find here, for instance, detailed information about subscribing to the IMU-Net mailing list and unsubscribing from it.
