

## **IMU News 112: March 2022**

A Bimonthly Email Newsletter from the International Mathematical Union

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### **1. EDITORIAL: ON THE IMU GENERAL ASSEMBLY AND THE ICM 2022**

The IMU condemns in the strongest possible terms the Russian invasion of Ukraine. It is a violation of international law, with the most terrible consequences for millions of innocent people affected by this aggression. Our deepest sympathy goes to our Ukrainian colleagues and the Ukrainian people in these grave circumstances.

The IMU Executive Committee had its scheduled annual meeting on 24–27 February 2022. Due to the pandemic, the meeting was again held virtually, and – with a truly international EC, covering 17 time zones – the meeting had to extend over several days. The most difficult question was of course how to deal with the planned General Assembly (GA) and ICM 2022, both scheduled to take place in St Petersburg, Russia, in July this year.

While it was evident to the EC that it would be impossible to hold any event in Russia in July, the EC had to study seriously the options of what to do instead.

According to the statutes, the GA has to be carried out every four years. While the IMU Secretariat had started contingency preparations for a fully virtual GA due to the pandemic, the EC considered it very important to meet in person if at all possible. We do expect that the current development of the pandemic will allow such a meeting to take place. Thus, the EC decided to organize the GA as a traditional in-person event outside Russia. After we had published this decision, we received several offers to host the GA. We are very grateful for this, and ultimately we decided to accept the very generous offer from Helsinki, Finland.

The ICM is a much more complex and extensive event than the GA. We discussed various options of how to organize it. We did not consider it likely that the situation would normalize in a way that would make it possible to delay the ICM by a year. Furthermore, to host an ICM is a gigantic and very expensive

undertaking, and the IMU completely lost its funding source (that was being provided by the Russian organizers). We did not consider it feasible to find an alternative host with a suitable venue and with the required funding, at short notice. Finally, we did not want to cancel the ICM – speakers have been selected, and we wanted to follow the tradition of reporting on the most exciting mathematical developments since the last ICM in 2018. Modern technology – and in particular the experience we have all gained during the pandemic – makes it possible to carry out a fully virtual ICM, following the original schedule. Speakers can choose to submit recorded talks, or give their talk live. We understand that different time zones will make this problematic for many, but an ICM has a tight program, and we see few alternatives. It has however been decided that participation in this virtual format will be free of charge, with admission open to all mathematicians.

Several of our colleagues have started to organize in-person and online events to complement the virtual ICM 2022. As satellite events, the IMU cannot provide financial or organizational support to these activities, but we wholly commend the organizers for their efforts and are grateful for their engagement. A. Borodin, M. Hairer, and T. Tao are moderators of the Satellite Coordination Group, which is coordinating these efforts.

Traditionally, the opening ceremony of the ICM is a highlight of the congress, where all the recipients of the coveted IMU prizes are announced. In the current situation we have decided to host an IMU Award Ceremony as an in-person event in Helsinki, on the day between the GA and the opening of the ICM, namely 5 July. This event will be streamed and recorded.

With all Fields and Abacus Medalists in Helsinki, we have scheduled their plenary talks to take place in front of a live audience in Helsinki as part of the opening day of the virtual ICM on 6 July.

The planning and execution of all the events given above will take place without any financial support from Russia or any organizational assistance involving Russian authorities. Thus, the current situation has left the IMU in a difficult financial situation, and put severe strain on IMU personnel. We have currently started to develop the digital platform for the ICM 2022, and will give more details as soon as they are available. We ask for your understanding in this big and challenging undertaking.

Updated information can always be found at [icm2022.org](https://icm2022.org).

Note the dates:

**3–4 July:** The IMU General Assembly, Helsinki, Finland

**5 July:** The IMU Award Ceremony, Helsinki, Finland

**6–14 July:** The virtual ICM 2022

Berlin, 30 March 2022

*Carlos E. Kenig*  
*President of the IMU*

*Helge Holden*  
*Secretary General of the IMU*

## 2. STATEMENTS OF THE IMU

Two statements concerning ICM 2022 and IMU GA 2022 issued in February 2022 by the IMU are reproduced below. These statements were sent out to the Adhering Organizations as Circular Letters 5/2022 and 6/2022.

### **Decision of the Executive Committee of the IMU on the upcoming ICM 2022 and IMU General Assembly.**

The Executive Committee of the International Mathematical Union (IMU) has decided that:

1. The International Congress of Mathematicians (ICM) 2022 will take place as a fully virtual event, hosted outside Russia but following the original time schedule planned for Saint Petersburg.
2. Participation in the virtual ICM event will be free of charge.
3. The IMU General Assembly (GA) will take place as an in-person event outside Russia.
4. A prize ceremony will be held the day after the IMU GA, at the same venue as the IMU GA, for the awarding of the 2022 IMU prizes.
5. The dates for the ICM and the GA will remain unaltered.
6. We will return with further practical information regarding the two events.

The 18th General Assembly of the IMU decided in 2018 to award the ICM 2022 to Russia, with the venue being Saint Petersburg. The preparations have been carried out with admirable dedication by our Russian colleagues, battling a global pandemic, and the plans were in place to host a successful ICM in July 2022. We are very thankful to them for this. Preceding the ICM, a meeting of the IMU GA had also been scheduled for Saint Petersburg in July. An ICM is a unique meeting place for mathematicians from all over the world to assemble, put political and cultural differences aside, and discuss mathematics. The IMU GA is the highest body of the IMU, and at the GA important decisions for the IMU are taken for the coming four years, including elections and budgets.

However, recent developments in Russia and Ukraine have changed the situation dramatically. The actions of Russia have been condemned worldwide, and have made an in-person event in Russia impossible. Indeed, the Secretary General of the UN issued the following [appeal](#) directly to the Russian government on 23 Feb. 2022 "In the name of humanity bring your troops back to Russia. In the name of humanity do not allow to start in Europe what could be the worst war since the beginning of the century". This call has not been heeded. We, the Executive Committee of the IMU, have analyzed the situation carefully. We strongly condemn the actions by Russia. Our deepest sympathy goes to our Ukrainian colleagues and the Ukrainian people.

Given this situation, it is impossible for the IMU to host the ICM and the GA as traditional in-person events in Russia. We have considered the possibility of postponing the ICM by one year, similar to what happened with the Warsaw ICM. However, it is unclear how the situation will evolve within a year, and thus this is not a feasible option. Another option discussed was to cancel the ICM completely. The IMU considered this option as unnecessarily drastic, and it would not serve the mathematical community. In this day and age, we have the option of carrying out a fully virtual ICM, following the original schedule of the ICM. Speakers can choose to submit recorded talks, or give live talks. We understand that different time zones will make this problematic for many, but an ICM has a tight program, and we see few alternatives. Participation in a virtual format will however be free of charge. As this requires substantial organizational work, we will return with further details as soon as they are available. As for the General Assembly, we consider it of vital

importance to meet in person. However, as we cannot meet in Saint Petersburg, we will find an alternative venue outside Russia for the GA.

Berlin, 26 February 2022

*The Executive Committee of the International Mathematical Union*

**A further statement from the IMU regarding the ICM 2022 and IMU General Assembly.** We have received a few questions regarding our statement communicated to the Adhering Organizations in CL 5/2022.<sup>1</sup>

The Executive Committee of the IMU wants to state the following:

1. The IMU General Assembly and the ICM will be conducted without any financial contribution from the Russian Government.
2. No official or representative of the Russian Government will be part of the organization or activities of the ICM.
3. All mathematicians are welcome to participate in the activities of the ICM.
4. ICM satellite conferences are and have always been outside the purview of the IMU.

*Helge Holden*

*Secretary General of the International Mathematical Union*

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### **3. NEWS FROM THE COMMISSION FOR DEVELOPING COUNTRIES (CDC)**

**Travel Support Programs.** [IMU-CDC](#) has three different programs for one-month research visits that are open continuously with several deadlines per year.

The **Abel Visiting Scholar Program** is funded by the [Niels Henrik Abel Board](#) (Norway) and designed for postdoctoral mathematicians in the early stages of their professional careers: the applicant *should be under 35 years of age*; the maximum age may be increased by up to three years in the case of an individual with a broken career pattern. *Next deadline:* April 30, 2022, for visits between September 1 and December 31, 2022.

The **IMU - Simons African Fellowship Program** is funded by the [Simons Foundation](#) (USA) and designed for mathematicians from African countries employed in Africa. *Next deadlines:* April 15, 2022, for research visits starting after August 1, 2022, and July 15, 2022, for research visits starting after November 1, 2022.

The **Individual Travel Fellowship Program** supports travel expenses only. Host institutions are generally responsible for living expenses, but due to the economic crisis, during 2022, requests for partial living expenses may also be considered for evaluation. *Next deadlines:* April 15, 2022, for research visits starting after August 1, 2022, and July 15, 2022, for research visits starting after November 1, 2022.

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<sup>1</sup> Reproduced above

Check details and subsequent deadlines at the [travel grants webpage](#) of IMU-CDC.

[Olga Gil-Medrano](#)

[Secretary for Policy of the CDC](#)

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

**Condolences – Yuliia Zdanovska.** [CWM](#) deeply regrets the death of 21-year-old Yuliia Zdanovska, who was a silver medalist at the [European Girls' Mathematical Olympiad](#) (EGMO) in 2017. Yuliia was a brilliant young mathematician with a successful future ahead of her. The young woman refused to leave Ukraine amid the war and, working as a volunteer, died in a fire caused by a Russian missile that hit her residential area in the eastern city of Kharkiv. CWM expresses its sympathy with the family and the math community as a whole, united in mourning and honoring Yuliia.

**(WM)<sup>2</sup> will take place fully virtually on July 1st, 2022.** With the recent tragic developments, and IMU's decisions about the ICM 2022, the [second edition of the World Meeting for Women in Mathematics](#) - (WM)<sup>2</sup> - becomes a fully virtual event taking place on July 1, 2022. The (WM)<sup>2</sup> was originally planned to take place on July 5, 2022, the day prior to the ICM 2022. The date changed to accommodate the IMU Award Ceremony for the IMU Prizes (Fields Medals, Abacus Medal, Carl Friedrich Gauss Prize, Chern Medal Award and Leelavati Prize), taking place on July 5, 2022. The organizing committee is currently discussing the necessary changes, but hopes to keep the spirit and the program of (WM)<sup>2</sup> as originally conceived.

**OAL Prize established and awarded at (WM)<sup>2</sup> 2022.** Olga Alexandrovna Ladyzhenskaya (1922–2004) occupies a very special place in the history of mathematics and mathematical physics worldwide. Her theorems shaped the modern theory of partial differential equations in mathematical physics. Through her lectures, seminars, and students, she inspired extraordinary advances in many other branches of mathematical physics, including Quantum Field Theory and Statistical Physics.

The year 2022 marks the 100th birthday of Olga Alexandrovna. To celebrate this, a prize was established in honor of Ladyzhenskaya, which in its inaugural edition will be awarded during [\(WM\)<sup>2</sup> 2022](#), on July 1, 2022, with funding provided by the [Simons Foundation](#). See more [here](#).

[Marie-Françoise Roy](#) and [Carolina Araujo](#)

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

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#### 5. NEWS OF THE INTERNATIONAL DAY OF MATHEMATICS

**Call for proposals for the theme of IDM 2023.** It is now time to decide the theme of the 2023 [International Day of Mathematics](#) (IDM 2023). A call for proposals for the theme of IDM 2023 is now open with the deadline of May 31, 2022. Suggestions for a theme, together with a short justification, can be sent by email to [idm@mathunion.org](mailto:idm@mathunion.org).

As a reminder, the IDM 2020, 2021 and 2022 themes were [Mathematics is Everywhere](#), [Mathematics for a Better World](#) and *Mathematics Unites*. As an element of context, IMU is one of the founding partners of the [International Year of Basic Science for Sustainable Development 2022](#) (IYBSSD 2022), which was proclaimed by the General Assembly of the United Nations in December 2021 and whose launch will take place on July 8, 2022. Hence a theme related to IYBSSD 2022 would be welcome.

**Celebrations of IDM 2022.** Celebrations took place around Monday, March 14, 2022, under the theme *Mathematics Unites* with a mixture of virtual and onsite events, as well as celebrations in schools: more than 1800 events from over 90 countries were posted on the [International Day of Mathematics website](#).

The [Global Online Celebration](#) started on the [IDM website](#) at 00:00 in Oceania and lasted 48 hours. It live-blogged pictures and videos from IDM events worldwide in different languages, posters, announcements and more. Altogether more than 32000 people attended the [Global Celebration](#) on the website. Many more joined by posting on [Facebook](#), [Twitter](#), and [Instagram](#) using the hashtag **#idm314** or tagging the official IDM account.

The main event of the online celebration consisted of five series of short talks streamed through the IDM website, targeting a general audience, and featuring mathematics and how *Mathematics Unites*. There were five sessions in five different languages: Arabic, Portuguese, English, French, and Spanish, with 900, 2370, 5400, 450 and 700 views for the five respective languages. People can still watch the videos here.

The [Mathematics Unites Photo Challenge](#) generated over 3200 photos. Some of the best pictures are exhibited in galleries or can be explored through an interactive map.

[Press releases](#) were published in six languages.

The tool kit [Mathematics for Action: Supporting Science-Based Decision Making](#) published by UNESCO was [launched on IDM 2022](#). The Open Access tool kit consists of a collection of lively two-page briefs highlighting the role of mathematics in addressing the SDGs of the UN 2030 Agenda, for instance, how to draw maps of poverty, to monitor an epidemic, to model climate change or to measure biodiversity.

A special series of online teacher trainings with participants from Africa and South America will accompany the IDM this year. It will start with a Portuguese workshop for primary and secondary mathematics teachers from Mozambique, Angola, Portugal, Cape Verde and São Tomé and Príncipe and will be followed by more activities throughout the year. This series is supported by the [Simons Foundation](#) with the goal to further involve the Global South in the IDM and to expand the network for local IDM celebrations.

[Christiane Rousseau](#)

Chair of the [IDM Governing Board](#)

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## 6. DENNIS PARNELL SULLIVAN AWARDED THE 2022 ABEL PRIZE

[Dennis Parnell Sullivan](#), Distinguished Professor in the College of Arts and Sciences Department of Mathematics at Stony Brook University and Albert Einstein Chair in Science and Distinguished Professor of

Mathematics at the City University of New York Graduate Center, is the recipient of the [2022 Abel Prize](#) “for his groundbreaking contributions to topology in its broadest sense, and in particular its algebraic, geometric and dynamical aspects”.

Sullivan is a member of the US National Academy of Sciences, the Brazilian Academy of Sciences, the New York Academy of Sciences, a fellow of the American Academy of Arts and Sciences, a corresponding member of the Irish Royal Society, an honorary member of the London Mathematical Society and was vice-president of the American Mathematical Society.

Sullivan’s notable awards include the Institut de France's inaugural Élie Cartan Prize in 1981, the 1993 King Faisal International Prize in Science, the USA's National Medal of Science in 2005, the 2006 Steele Prize for Lifetime Achievement from the American Mathematical Society (AMS), the 2014 Balzan Prize for Mathematics and the 2010 Wolf Prize.

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## **7. IMU SIGNS THE DECLARATION ON RESEARCH ASSESSMENT (DORA)**

IMU signed the [Declaration on Research Assessment](#) (DORA), following a recommendation from the IMU [Committee on Electronic Information and Communication](#). You can find the full declaration [here](#).

DORA recognizes the need to improve the ways in which the outputs of scholarly research are evaluated. Its vision is to advance practical and robust approaches to research assessment globally and across all scholarly disciplines.

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## **8. SUBSCRIBING TO IMU NEWS**

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