

International Mathematical Union

Preparing a Bid to Host an International Congress of Mathematicians (ICM)

- ICM Bidding Guidelines -

Endorsed by the IMU General Assembly on July 30, 2018, Amended by the IMU Executive Committee on September 14, 2019 & February 27, 2022 & November 10, 2023.¹

1. Introduction

The ICMs are among the most important mathematical conferences worldwide. They cover all areas of mathematics, and, with a few exceptions due to political events, they are held once every four years. The first ICM took place in Zurich, Switzerland in 1897. The International Mathematical Union (IMU) considers the organization of the ICMs as its most important activity. An ICM should reflect what is going on in mathematics in the world at the time when it takes place, present the best work of all mathematical subfields and different regions of the world, and thus point to the future of mathematics. The structure of the ICM is determined by the Structure Committee, the invited speakers at the Congress are carefully selected by a Program Committee that is supported by section panels. These speakers are mathematicians of the highest quality, able to present current trends of research to a broad mathematical audience.

The scientific prizes awarded by the IMU are the highest distinctions in the mathematical world, and they are presented at the Opening Ceremony of an ICM: Fields Medals (two to four medals have been awarded at each ICM since 1936), the IMU Abacus Medal² (since 1982), the Carl Friedrich Gauss Prize (since 2006), and the Chern Medal Award (since 2010). At the closing ceremony of the ICM, the Leelavati Prize, for excellence in mathematical outreach, is awarded (since 2010).

Prior to the ICM, the IMU hosts a two-day meeting of its General Assembly (GA), which is the governing body of the IMU. There is a free day between the GA and the opening of the ICM, used since 2018 for the satellite event "World Meeting for Women in Mathematics (WM)²". The bid should include both the GA and the ICM.

ICMs have become increasingly complex and expensive to organize. The IMU welcomes also more moderate proposals, keeping however the number of talks and duration of the ICM unaltered. Moreover, the IMU is open to innovative proposals, in particular on the virtual component of the congress (see section 2.8 below).

2. Preparing a bid

The best general guidance in preparing a bid may be found in the following summary: the bid document has to have two main components, namely,

- An existence proof (or at least a good sketch of one) that the inviting consortium can actually manage all aspects of the Congress;
- Features that make the Executive Committee of the IMU (IMU EC) and the GA think that the present bid is not only feasible, but also better than other potential bids.

Of course, there is no unique measure of the quality of a bid. Every bid will have various facets, it should point out particular highlights but also address honestly potential weakness or difficulties. Every ICM site selection committee consists of experienced mathematicians who will be able to judge and balance the weak and strong points of a bid.

¹ The IMU Executive Committee is entitled to amend the ICM Bidding Guidelines when necessary.

² Previously called the Rolf Nevanlinna Prize.

The document submitted should thus address aspects such as the following ones.

2.1 Inviting bodies & Local organizing committee

The bid should define the set of inviting bodies, i.e., those who submit the bid. In most cases this set consists of a coalition of bodies (like learned societies, associations, academies, universities, official national or provincial authorities). This aspect is to ensure that the invitation has sufficiently broad support in the proposed host locations and that all major parties concerned with mathematical research stand behind the bid. Also of importance is the involvement of the local and other regional mathematical communities around the ICM, with a view to attracting more participants and creating a welcoming ambiance at the meeting.

The bid should include details of the Committee that will organize the ICM. It is expected that the Committee represents a wide area of mathematical fields and diversity.

2.2 Scientific infrastructure

The bid document should present the scientific infrastructure in the bidding host location that will be supporting the Congress. This is to demonstrate the presence of a sufficiently large group of mathematicians in the host location to provide local backup of the scientific program. In particular, the bid document should clarify whether there is a substantial core of mathematical researchers in the host location with experience in international meetings and provide convincing reasons why the ICM should be hosted in this location; up-to-date details about universities, research centers and the state of mathematical research in the host location are welcome. The involvement of volunteers at an ICM is an important issue from two points of view: are young students of mathematics involved and is relevant help for the organization provide? Therefore, the bid should show the capacity to attract over 300 volunteers from the region where the ICM takes place.

2.3 Venues

The bid should indicate possible venues offered by the host location (institutions at which the Congress would take place), describing their advantages and disadvantages in relative terms. This includes a presentation of the technical Congress facilities:

- Auditorium for the plenary lectures
- Rooms for the parallel sessions
- Congress office
- Speakers' preparation room
- Free and fast WLAN throughout the venue for all participants
- It is advised that the program is distributed to participants on an app, and that this app is updated daily. The program should also be displayed on screens throughout the venue
- Registration space
- Exhibition space
- Poster area
- Space for informal discussions of small groups of participants
- Catering areas for coffee breaks/light lunches.

2.4 Access to Internet

It is important that the organizers can guarantee free and unrestricted access to the Internet during the ICM and the GA. This requirement should specifically be addressed in the bid.

2.5 Accommodation and transportation

The bid should indicate the variety of local accommodation facilities, ranging from inexpensive student residence type accommodation to high-class international hotels, for approximately

3,500-4,000 rooms, 3 to 5 stars. Closest metro/bus/train stations should also be included. Aspects of transportation to the site as well as on the site are extremely important.

The bid document should address other local concerns, such as the security of participants, local accessibility, climate, and cultural and recreational attractions.

2.6 Visa restrictions

Visa restrictions have always been an important concern. Therefore, the potential organizers should establish some connections with the appropriate authorities in order to facilitate the entrance of participants in the host location. The IMU expects that no mathematician willing to participate in an ICM should be denied access to the host location to attend the Congress. The organizers should offer a safe environment to all participants irrespective of ethnic background, gender, religious belief, or sexual orientation and state this explicitly in the bid.

2.7 Logistic infrastructure

The bid document submitted should outline the logistic infrastructure of the Congress in order to demonstrate that a sufficiently advanced, varied, and capable organization system is in place to deal with all matters pertinent to the local organization of a multi-faceted and complex Congress of about 4,000 participants.

The bid should indicate details about the main social event during the Congress, namely the Opening Ceremony. The Opening Ceremony includes the awarding of IMU prizes and should be streamed live. In addition, the bid can also make further suggestions regarding social events, such as a banquet for participants.

2.8 Virtual component and format

Given the technological advancement and experience with virtual formats in recent years, the IMU is open to proposals regarding the virtual component and the format of the ICM. The technological capabilities come 2030 will no doubt be even greater and more advanced than now, so innovative proposals are welcome.

The IMU wants the ICM to be an in-person event with in-person lectures. However, the bid may include proposals for virtual participation. Such participation could then be subject to special registration fees and allow registered participants or institutions to follow lectures streamed live and also ask questions.

The <u>2023 Structure Committee report</u> makes further suggestions in this regard and also on the format of the Congress, under sections 3.4 and 3.8, which may be considered in the bid.

2.9 Insurance

The organizer's bid should provide for an insurance that covers incidents at the venues involving participants at the ICM and the GA as well as staff and volunteers. Participants at the ICM and the GA should be required upon registration to tick-off that they have valid travel and health insurance for the participation at the ICM and the GA.

2.10 Outreach activities (public lectures, exhibitions)

Issues such as outreach activities (public lectures, exhibitions) and press coverage should be addressed in the proposal.

2.11 Proceedings & Recording

The bid should describe arrangements for the proceedings, which must be made freely available to the IMU to publish on its website with open access. Each article as well as the volumes themselves should be equipped with a Digital Object Identifier (DOI). The IMU should

own all rights for the proceedings. All ICM sessions (ceremonies, lectures, panels) should be recorded, with the videos published on a dedicated online channel such as IMU's YouTube channel at the end of the Congress at the latest. All recorded materials must be made available to the IMU for free and unrestricted use. Photos of all prizewinners should be made freely available for the IMU, and with the IMU retaining all rights. It is required that bidders and eventually the organizers ensure that all images and video material used for publicity do not infringe copyrights.

2.12 Satellite conferences

The organization of satellite conferences on special mathematical topics has become an ICM tradition. As regards dates and format, satellite conferences should be organized so as to be compatible with the general organizational scheme of the congress. Satellite conferences cannot overlap in time with the ICM. The approval of satellites resides with the local organizers. Moreover, organizers of satellite conferences should encourage participation at the ICM as well.

2.13 General Assembly (GA)

Arrangements for a two-day meeting of the GA prior to the ICM should be included in the bid. In particular, a budget plan, local arrangements and transport of the GA participants between the GA and the ICM venues should be provided. Irrespective of where the GA is organized, there should be one free day between the GA and the opening of the ICM. The GA is a rather technically demanding event, and it is advised to study carefully the GA Guidelines, and, in particular, the technical requirements prior to making a bid. These requirements should be addressed specifically in the bid.

2.14 Financial infrastructure

The bid should describe the financial infrastructure of the Congress, indicating the size of the funds that are expected to be available to the Congress and listing the organizations, institutions, and bodies of the host that are ready - or may be expected - to support the Congress in terms of money, services, equipment, or manpower. The bid should also address the specific issue of possible support to participants from the developing world as well as the expected level of registration fees for Congress participants.

Clearly, costs vary considerably from location to location and the suggested format. Part of the costs can be raised through registration fees, and revenue from exhibitors. Again, these numbers may go up or down according to local costs and facilities as well as in-kind contributions. The budget may show considerable variation depending on the conditions of the host. It is asked that the budget is made robust with regard to the number of expected participants.

The host should be prepared to provide facilities such as free lodging and to waive the registration fee for a number of young research mathematicians from developing countries, at a cost roughly equating to 10% of the registration fee income. Recipients are selected by the local organizers with advice from the IMU's Commission for Developing Countries. Some additional support for their travel expenses may be available from the IMU through dedicated specific funds.

Registration fees are waived for all invited speakers. Also, in special cases, invited speakers are expected to receive some financial support for attending the meeting when other funds to cover their expenses are not available.

On the other hand, it is to be noted that there is an IMU subvention to the ICM. There is also some provision in the IMU's budget to defray costs of the GA meeting that takes place just

before the Congress. Further sharing of expenses between the IMU and the host should be discussed.

2.15 External sponsoring

The IMU recognizes that there may be a wish to allow commercial sponsors as part of the financing of the ICM. Currently, there is an increased global focus on the ethical standards of companies and foundations. The IMU is very concerned about potential sponsors that could affect the ethical reputation of our community, and the IMU asks that external sponsors be scrutinized carefully before any contracts are signed.

Commercial sponsors should not be part of the official program of the ICM, i.e., the Opening and Closing Ceremony, plenary and invited lectures, and IMU sponsored panel discussions. However, the sponsors may be mentioned during the Closing Ceremony. Outside the official program of the ICM, commercial sponsors and their material are welcome, provided they uphold the ethical standards mentioned above. Commercial material should not be displayed or distributed during the official program, and should not appear on par with the IMU and ICM logos.

2.16 The Principle of Freedom and Responsibility in Science

The IMU is a member of the International Science Council (ISC). As such, the bid should include as a separate document a formal statement of compliance with the Article 7 of the Statutes of the ISC, namely "The Principle of Freedom and Responsibility in Science".

3. Selection procedure

All potential hosts interested in making a bid are strongly encouraged to do so.

Requests for further information about the preparation of a bid can be addressed at any time to the IMU Secretary General (IMU SG).

Potential hosts considering submitting a bid should be aware of the following procedure and the corresponding deadlines (see also item 4. Tables):

- To be considered by the Site Selection Committee (SSC), these bids must be received by the IMU Secretary General (Email: <u>secretary@mathunion.org</u>) by November 30, 2025. Only electronic bids are eligible.
- For an application to be valid, the organizers have to include a statement that they abide by Article 7 regarding the Principle of Freedom and Responsibility in Science in the <u>ISC</u> <u>Statutes and Rules of Procedure</u>.
- The IMU EC nominates a Site Selection Committee (SSC) consisting of members of the IMU EC and the President of the Local Organizing Committee of a previous ICM.
- The SSC appoints a Site Visiting Committee (SVC) that visits all sites.
- Site recommendations by the IMU EC are made in 2026. The SVC can give feedback to bidders in order that the bidders have the chance to improve their bid. Improved bids should be received no later than one month after the site visit.
- The SSC, after all bidding institutions have reacted to the feedback remarks/questions, finalizes its recommendations. The IMU Secretary General communicates these recommendations to the IMU Adhering Organizations prior to the GA.
- The final decision is taken by the General Assembly to be held in 2026.
- The IMU has secured the domain name icm2030.org that will be made available to the host and must be used for the Congress when it is awarded.

- In all material, including posters, it should be clearly stated that the ICM is organized under the auspices of the IMU, and the IMU logo should be displayed.
- After the decision by the GA no substantial changes should be made to the arrangements described in the successful bid documents without explicit prior approval of the IMU EC. An agreement of understanding will be signed between the local organizers and the IMU.

More details about the organization of an ICM, and, in particular, about the interface between the local organizing committee and the Program Committee can be found in the PC/OC Guidelines.³. Similarly, the GA Guidelines.⁴ describe the details of the organization of a meeting of the GA.

4. Tables

4.1 Table I: Example timeline (exact dates are negotiable)

November, year Y-7	Official call to the AOs for bids for the ICM in year Y
November, Y-6	Optional informal letter of interest to host the ICM ${\bf Y}$ sent to IMU SG
November, Y-6 – October, Y-5	Optional consultation with IMU SG regarding bid development for ICM Y
November 30, Y-5	Deadline for submitting bids for the ICM Y
December Y-5 – January, Y-4	Site visits of SVC
February, Y-4	Deadline for amended bids
May, Y-4	IMU EC preselects ICM Y site
August 12-13, Y-4	Meeting of the IMU General Assembly
August 13, Y-4	IMU GA decides on ICM Y site
August 14, Y-4	Free day between IMU GA and the ICM Y-4
August 15, year Y-4	ICM Y-4 Opening Ceremony
December 31, year Y-4	Signing of agreement of understanding between IMU EC and LOC

4.2 Table II: Format (roughly) of past ICMs

(Day 1 = Day of the ICM Opening Ceremony)

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Day -1	Rehearsal of the Opening Ceremony with the winners of the IMU prizes
Day 1	Opening Ceremony (incl. IMU prizes), at an auditorium with sufficient capacity, and depending on the chosen format
Day 5	Free
Day 9	Closing Ceremony
Expected participants	Up to 4,000 persons depending on the chosen format
Plenary speakers (60 min lectures)	~ 20 persons. ⁵
Invited speakers (45 min lectures)	 At most 200 persons.⁶, between 3 and 14 invited lectures in each session, and 20 special lectures

³ www.mathunion.org/activities/icm

⁴ www.mathunion.org/organization/general-assembly/

⁵ Minor changes may occur.

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	 Up to 10 invited lectures in parallel Rooms for invited lectures for about 300 persons each
Short Communications and posters	 Are associated to the sessions, may be in parallel (between 15 and 30 in each session) Each room for Communications to hold at least 40 persons
Satellite conferences	 45 conferences at ICM 2018 51 conferences at ICM 2014 32 conferences at ICM 2010 64 conferences at ICM 2006
Proceedings	 One volume with the plenary lectures Two or three volumes with the invited lectures One volume with the Communications Electronic versions of the Proceedings and all Multimedia material available for the IMU
General Assembly	 Expected participants: 220 persons Budget: about 300 kEUR Contribution from IMU: about 20 kEUR